ANALYTICAL PERSPECTIVES ON THREE GROUNDBREAKING COMPOSERS FOR GUITAR: VILLA-LOBOS, MARTIN, AND BRITTEN

By

Thomas Robert Becker

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Chairperson Dr. Deron McGee

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Dr. Paul Laird

_____
Dr. Scott Murphy

_____
Dr. Roberta Schwartz

_____
Dr. Thomas Volek

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ABSTRACT

It can be said that Heitor Villa-Lobos, Frank Martin, and Benjamin Britten all have a musical aesthetic premised on tonal unity; however, each of these composers subvert the security of a homogenous tonal syntax by placing mechanisms of conflict into their musical language. This integration of chronologically distant musical structures brings about a conflict between old and new, and it is this conflict that is vital to all of the music examined in this study. When the coexistence of old and new structures is irreconcilable, the analytical approach taken is tailored to address this conflict as a continual disunity. However, the coexistence of chronologically distant structures may also be ameliorated as well, through analytical approaches that, in some respects, unite elements of old and new.

Examined herein are Villa-Lobos's Études Nos. 1 and 12, and Préludes Nos. 2 and 3, from *Twelve Études for Guitar* (1929) and *Cinq Préludes for Guitar* (1940), Martin's first and fourth movements from *Quatre Pièce Brèves* (1933), and Britten's first movement from *Nocturnal after John Dowland* (1963). In an effort to unlock the structural imperatives of these three composers, this study follows the lead of other analysts dealing with similar musical settings and adopts an approach that allows tonal interpreters to express components that contribute to a traditional tonal reading without asserting that all components so contribute, while, conversely, allowing post-tonal analytical strategies to express nontraditional components without asserting the work is atonal. The evaluation of elements of conflict is aided by this study's chief organizational system: that of hierarchical organization, and since the musical structures are both tonal and post-tonal,

both prolongational and associational models are considered. Further aiding the investigation of conflicting musical structure is Joseph Straus's notion of "misreading," herein defined as a transformation or recomposition of salient aspects of traditional tonal music.

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CHAPTER I

INTRODUCTION

The motivation behind this study stems from a desire to see the music for the classical guitar establish more of a presence in the vast store of scholarly/analytical writing, where the guitar's literature is arguably underrepresented. As a theorist and guitarist, I find it difficult to be satisfied with the quantity and, more emphatically, the quality of scholarly writing devoted to the theory and analysis of guitar literature. Of that which prevails, most is scattered among the numerous guitar periodicals, and, as a rule, this body of work is not directed toward a scholarly audience. Primarily, this work has no theoretic or analytic agenda, offering only descriptions of structural events, and it can be argued that those writings in this arena that do claim a critical agenda fall short of any significant contribution to scholarly publication. This same situation also pervades academic writing, referring mostly, but not limited, to theses and dissertations, as gleaned from the academic writing devoted to the theory and analysis of guitar music over the past four decades. Certainly, there are some compelling contributions that do establish criteria for insightful investigation; however, most of these contributions, as informative as they might be, generally come in the form of short illustrative examples servicing some higher agenda unrelated to guitar music analysis *per se*.[1] Indeed, the dearth of convincing prose

[1] Notable exceptions come from Philip Rupprecht's dissertation: "Tonal Stratification and Conflict in the Music of Benjamin Britten" (Ph.D. diss., Yale University, 1993); and his subsequent article: "Tonal Stratification and Uncertainty in Britten's Music," *Journal of Music Theory* 40/2 (1996): 311-46, where he examines *Nocturnal* (1963) for guitar. Other noteworthy contributions come from Guy Capuzzo's investigation of Elliott Carter's *Changes* (1983) for guitar: "Variety within Unity: Expressive Ends and Their Technical Means in the Music of Elliott Carter, 1983-1994" (Ph.D. diss. University of

dealing *directly* with the theory and analysis of guitar music is dire enough to warrant concern from those who are inclined to think that the music of the guitar deserves to be better represented academically.[2]

Partially to blame for this impoverished state of affairs is the lack of a significant, or rather serious, repertoire for the guitar before the turn of the twentieth century. Before this time, guitar composition was primarily an activity for the guitar player; this was due to the fact that guitarists were the only ones who understood the guitar's techniques well enough to write for the instrument. Unfortunately, however, those composer/guitarists who were writing, although producing a significant quantity of charming music,[3] are not generally of the caliber, compositionally, to warrant pursuit for scholarly purposes. In addition, by the middle of the nineteenth century the guitar had retreated into obscurity, after having enjoyed what Brian Hodel has described as a "golden age" in the first half of the century. During this time the guitar's popularity soared—"its voice appropriate to the scope of early romanticism [*sic*]."[4] However, as Hodel states,

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Rochester, Eastman School of Music, 1999); "The Complement Union Property in the Music of Elliott Carter," *Journal of Music Theory* 48/1 (Spring 2004): 1-24; and "Registral Constraints on All-Interval Rows in Elliott Carter's *Changes," Intégral: The Journal of Applied Musical Thought* 21 (2007): 79-108. Capuzzo also examines the pedagogy of jazz guitarist Pat Martino: see "Pat Martino's *The Nature of the Guitar:* An Intersection of Jazz Theory and neo-Riemannian Theory," *Music Theory Online* 12/1 (February 2006), http://mto.societymusictheory.org/ (Consulted 14 October 2008).

[2] Similar concern was expressed more than four decades ago; see Michael Mosley, "Twentieth-Century Guitar idioms as Reflected in Compositions by Berkeley, Britten, and Martin" (M.M. thesis, University of Indiana, 1969), 2.

[3] This music, which primarily comes from the late-eighteenth to the mid-nineteenth centuries, does not represent music on the cutting edge for that time period.

[4] Brian Hodel, "Twentieth Century Music and the Guitar. I: 1900-1945," *Guitar Review* 117 (Summer 1999): 9.

> Subsequent developments overtook the guitar and quickly passed it by. The second half of the century, dominated by the gigantism of Wagner, saw the instrument's decline to an anachronism and novelty. It simply could not speak in the language of ultra-chromaticism and titanic energy. By the time Richard Strauss and Gustav Mahler brought romanticism to its culmination, the guitar was totally irrelevant to the central thrust of Western Art Music. Its demotion from the ranks of acceptable concert instruments was to have a devastating effect on guitarists felt to this day.[5]

Another contributing factor to the guitar's dubious pedigree—and this resonates today as well as in the nineteenth century—is that the guitar is not an orchestral instrument, and therefore the guitar's literature accommodates a specialized audience.

The absence of a significant repertoire by representative compositional personages did not begin to be remedied until after the turn of the twentieth century, more specifically, in the 1920s, when the burgeoning career of the great Spanish virtuoso André Segovia (1893-1987), who is considered the father of modern classical guitar, demanded a serious formal repertoire. Still, even though Segovia feverishly pursued commissions from well-established non-guitarist composers, Segovia's rigid musical tastes allowed only for works of a non-experimental nature, mostly in the Spanish Romantic genre. Indeed, a steady stream of literature was produced; however, this literature was *passé* at the time it was written, which perhaps explains why it has received no scholarly attention.

Fortunately, the need to establish a strong modern literature was not overlooked by younger guitarists who broke with Segovia's strict conservative tastes. These guitarists understood the necessity of establishing a repertoire composed by major contributors to modern musical trends. Since this generation of guitarists who directly followed Segovia, many of whom had the foresight to see the direction twentieth-century guitar

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[5] Ibid.

composition needed to take,[6] through the generations of guitarists to date, who have ever increasingly commissioned new works, there has been an avalanche of major works for the guitar by such names as Britten, Berio, Berkeley, Rawsthorne, Henze, Searle, Babbitt, Bennet, Arnold, Tippet, Brindle, Walton, Ohana, Argento, Foss, Ginastera, Takemitsu, Carter— and the list goes on.[7] It would seem that this repertoire might have something to offer, not only to guitar performers, but to "performers" in scholarly circles as well. However, the music for the guitar is off the academic radar screen, and the scholarly community knows little of this modern literature.

Meaningful analytical insight into the modern literature for guitar, and the subsequent publication thereof, are essential steps toward establishing this literature's scholarly reputation. It is my hope that the scholarly community will soon embrace the modern literature of the guitar as a rich and valuable analytical resource, and that this music increases in stature and prominence. Perhaps, at some future date, the guitar's eloquent modern literature will approach the same academic standing as the piano's literature, since it can safely be said that the twentieth century has established a repertoire for the guitar that equals in quality that of any other solo medium.

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[6] English guitarist Julian Bream (b. 1933-) deserves mention here.

[7] Villa-Lobos and Martin are excluded from my list of composers simply because their music for the guitar predates this representative surge of compositional activity. However, for the present study, the selected composers for examination (Villa-Lobos, Martin, and Britten) represent a logical starting point for this analytical contribution to the guitar's literature.

1. Why Groundbreaking

Of the three composers on which this study focuses, two have had at least some measure of scholarly attention: Heitor Villa-Lobos (1887-1959) and Benjamin Britten (1913-1976). It is not surprising that these two composers are among the most investigated. Villa-Lobos's works are some of the most performed and recorded music in the guitar's repertoire, and Britten's solo composition, *Nocturnal*, has for some time now represented a technical and interpretive benchmark that guitarists must conquer in order to have "arrived" as performers. Both composers' work can be described as groundbreaking. For Villa-Lobos, this description is most closely linked with his set of twelve etudes, completed in 1929; however, the techniques developed within these etudes were further explored later in his five preludes from 1940. Villa-Lobos had an intimate relationship with the guitar; he had been an accomplished guitarist since his youth. He knew all the tricks of the trade and was fearlessly experimental, pioneering a previously unheard of type of technical wizardry. He broke new compositional ground with his idiomatic ingenuity and his highly stylized application of pitch and rhythmic material. As for Britten—possibly the most prestigious composer to have penned a work for solo guitar—it is fitting to describe his work as groundbreaking due to the power of his single solo creation: *Nocturnal* (1963). This masterpiece has gained an undisputed international reputation as one of the greatest works written for guitar. A testament to this work's

significance appeared immediately after its premier in 1964, in Jeremy Nobles's *Musical Times* review.[8]

The third composer to be discussed is Frank Martin (1890-1974), and, indeed, like so much of what has been written about the guitar works of Villa-Lobos and Britten, what has been written about Martin's only composition for solo guitar, *Quatre Pièce Brèves,* is predominantly descriptive in nature. Martin's work should be considered no less than groundbreaking. Written in 1933, it was the first guitar piece influenced by twelve-tone technique, which placed it at the vanguard of guitar composition. However, the significance of Martin's achievement was to lay unnoticed for more than thirty years.[9]

Contributions to the guitar's literature that represented current musical trends were just beginning to be developed during this early time in the twentieth century. Martin, who wrote his work hoping that Segovia might include it into has concert repertoire, composed *Quatre Pièces Brèves* at a time when the only concert guitar repertoire accepted by the general public was that which Segovia was performing, which meant a steady dose of conservative music. Segovia lived in Martin's native city of Geneva in the early 1930s, and as Jan de Kloe recalls from a conversation with Martin's wife, Maria:

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[8] Jeremy Noble, "Aldeburgh Festival," *The Musical Times* 105/1458 (August 1964): 592-594.

[9] Michael Donley discusses this work in a series of articles: "Frank Martin Quatre Pièces Brèves Part one," *Classical Guitar* 20/8 (2002): 20, 22, 24-25; "Frank Martin Quatre Pièces Brèves Part two," *Classical Guitar* 20/9 (2002): 22, 24, 26-27; "Frank Martin Quatre Pièces Brèves Part three," *Classical Guitar* 20/19 (2002): 26, 28-29. For an early account of Martin and Britten's work, see Michael Mosley, "Twentieth-Century Guitar Idioms as Reflected in compositions by Berkeley, Britten, and Martin" (thesis, Indiana University, 1969), 63-90. In an early account of Martin's style, Janet Tupper exemplifies portions of Martin's guitar piece; see "Stylistic Analysis of Selected Works by Frank Martin" (Ph. D. diss., Indiana University, 1964), 25-28, 54-56, 59-60, 99, 100-101, 108-109, 113, 115-116.

> Maria Martin doesn't know if Segovia asked for a composition, or if Frank Martin took the initiative to write a piece for the guitarist. . . . When Martin sent Segovia the resulting QPB [*Quatre Pièces Brèves*], the composer never received any confirmation or thank-you note. When they crossed each other in a street one day, Segovia greeted Martin with a short *au revoir* and walked the other way as if to avoid a discussion. At this point Martin thought that maybe the piece was unplayable.[10]

Martin's reservation about his work as a playable guitar piece is inferred from his cool encounter with Segovia. Martin's unfailing belief in his work as a strong composition, however, was not in question; and this led Martin to arrange it for the piano, giving it the title *Guitare—Suite pour le piano (portrait d'Andrés Segovia).*[11] Martin's friend, conductor Ernest Ansermet, persuaded Martin to also write an orchestral version, which was premiered in 1934, one year after the original composition. Fortunately, Martin's original version did not remain in obscurity. Since Julian Bream's 1967 recording of *Quatre Pièces Brèves,* there has been little doubt of the importance of this groundbreaking work, and since that time, it has been a standard in the international repertoire. It is unfortunate that it took Martin's work over thirty years to reach this status, which indicates how powerful Segovia's influence was on musical tastes (in terms of guitar literature) and on restricting the development of modern guitar music.[12]

This study now turns to the crucial tie that binds the music of Villa-Lobos, Martin, and Britten together. Other than the fact that all three composers can arguably be considered

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[10] Jan de Kloe, "Frank Martin's Quatre Pièces Brèves: a Comparative Study of Available Sources," *Soundboard* 20 (1993): 19-20.

[11] Donna Sherrell Martin presents an account of the piano version of *Quatre Pièces Brèves* in "The Piano Music of Frank Martin: Solo and Orchestral" (D.M.A. diss., University of Cincinnati, 1993), 27-53.

[12] It was not until Julian Bream began steering guitar composition in a new direction through commissions beginning in the 1950s that the guitar's repertoire began to show a modernist influence. The most important of Bream's commissions arguably being Britten's *Nocturnal*, a work to which he continually returns.

to have made groundbreaking contributions to the guitar's repertoire, a common element underlies their work.

2. Conflict

Villa-Lobos, Martin, and Britten all have a musical aesthetic premised on tonal unity; however, each of these composers subvert a homogenous tonal syntax by placing mechanisms of conflict into their musical language. This subversion of tonal unity began at the turn of the modern era. In the search for something new, composers at the beginning of the twentieth century pioneered new sonic landscapes by turning away from traditional tonal procedures. These composers felt that the course of traditional tonal practice had come to complete fruition, and that continuing in that tradition would be fruitlessly academic. Hence, composers began to assault the classical rules of composition from all sides. Voice-leading rules were violated by parallel progressions of fifths and octaves. Dissonance became a substantial part of the musical language. The need for resolution was discarded; therefore, consonance and dissonance were on a more equal footing. There was no urgency for functional harmonic progression; sonorities for their own sake overrode traditional relations of harmony and voice leading. Harmonies extended beyond tertian to include chords built of seconds, fourths and fifths. Even further, any pitch-class collection could be exploited for its intervallic characteristics. However, many composers did not completely sever their ties with the music of their predecessors by forfeiting the accumulated knowledge of their historical past. Old and new merged, and a new musical dialectic was thus created. The conflict of old and new, in its many guises, became the vehicle for many composers in their search for originality.

It should be noted that it was not the modern era that set the precedent for originality, that precedent had already been set in the nineteenth century. As Carl Dahlhaus states:

> The pre-eminent aesthetic principle of the nineteenth century was the dogma of originality, an ideal which gave rise to a constant search for novelty. The seal of aesthetic authenticity was placed on what was unfamiliar; imitation was no longer, as in the past, applauded as a pious honoring of tradition, of what was 'old and true,' but condemned as epigonism, the products of which were intellectually disreputable, however faultless they might be technically.[13]

We can certainly see the nineteenth century's search for originality in the works of composers such as Liszt, Wagner, Mahler, and Strauss, for example. However, it is possible to contend that a common musical language bound the music of nineteenth-century composers together—namely, that of common practice tonality—and that no matter how far nineteenth-century composers expanded this tonal system, their music appears predominantly governed by this system's unifying principles.

The break with traditional tonal practice, albeit not clean, is the mark of the modern era; this era propelled an even greater sense of urgency for composers to create highly individual musical languages, an urgency caused by their "conception of common-practice tonality as a finite and nonrenewable resource."[14] Composers had to innovate, confront their own nature, foster their own particular brand of self-consciousness, and seek originality in unorthodox compositional strategies lying far outside the sphere of common practice.[15] For many composers, this struggle for a highly individual musical language translated into a conflict between old and new, resulting in a paradigm shift in

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[13] Carl Daulhaus, *Between Romanticism and Modernism* (Berkeley: University of California Press, 1980), 97-98. In quoting this passage, I have taken my lead from Neil Minturn who quotes this same passage in his book *Music of Sergei Prokofiev* (New Haven: Yale University Press, 1997), 14. It should be noted that a portion of Daulhaus's statement, itself, is a paraphrase, taken from Kurt von Fischer's "Versuch über das Neue bei Beethoven," *Kongressbericht Bonn* (1970): 3ff.
[14] Minturn, *Music of Prokofiev,* 17.
[15] Ibid.

musical aesthetic. Gone was the unity of a single tonal syntax. The stage was now set for a disunited musical landscape.

The music of Villa-Lobos, Martin, and Britten fits into this particular mold of modernism: all are composers who accepted the challenge of balancing the conflict of old and new elements. For each composer, traditional tonality, in varying degrees, remains a vital entity within their musical language; however, at the same time, each composer breaks with tradition, thus creating musical contexts that operate through conflicting forces. It is important to note that none of these composers subscribed to the more radical musical aesthetic embraced by Schoenberg, which eschews tonality altogether; this is particularly important to note in the case of Martin, an issue that will be discussed later in this study.

We are therefore looking at conflict as a positive contributor to a modern musical aesthetic,[16] a musical aesthetic that allows the coexistence of musical elements that are in direct conflict. As suggested by Kofi Agawu, "Conflict and the co-existence of dialectical opposites are . . . not just positive measures, but strongly positive ones. To reduce away these conflicts is . . . to attack that which is most essential."[17]

One source from which conflict issues is the work of literary critic Harold Bloom, whose writings deal with the anxiety of modern poets as they struggle to relate to, compare with, and triumph over an overwhelming pre-modern poetic tradition.[18] Among

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[16] V. Kofi Agawu speaks of conflict as contributing positively to the development of a theory for Stravinsky's music; see "Stravinsky's 'Mass' and Stravinsky Analysis," *Music Theory Spectrum,* 11/2 (Autumn 1989): 162.
[17] Ibid.
[18] Bloom presents his study on poetic influence in the following works: *The Anxiety of Influence: A Theory of Poetry* (New York: Oxford University Press, 1973); *A Mapping of Misreading* (New York: Oxford University Press, 1975); *Poetry and Repression:*

those interested in applying principles of Bloom's poetic theory to musical analysis, Joseph Straus has a strong voice.[19] He applies principles of Bloom's theory to the analysis of twentieth-century music, particularly, the analysis of twentieth-century music that presents the dichotomy of having post-tonal and common practice elements within the same musical context. Music such as this, with no single embracing system, presents a challenge, since unity—oftentimes with strong organic implications as well as methodological ones—premises much musical analysis. However, according to Straus, "Bloom makes possible the shift of critical focus from the demonstration of organic unity to the evaluation of elements of conflict and struggle within a work."[20] This sensitivity to conflict allows old and new to not reconcile; according to Straus, "Coherence . . . is won through a continual struggle."[21]

Arnold Whittall corroborates the notion of modern music as irreconcilable relational events as opposed to self-contained organic ones. According to Whittall, "The past and present . . . may actually be, and need to be, in conflict."[22] He continues, "My argument is that to regard past and present as irreconcilable in certain musical contexts can be a

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Revisionism from Blake to Stevens (New Haven: Yale University Press, 1976); *Kaballah and Crticism* (New York: Seabury Press, 1975); *Agon* (New York: Oxford University Press, 1982); *The Breaking of Vessels* (Chicago: University of Chicago Press, 1982).

[19] We will make mention later in this introduction of another scholar who has adapted Bloom's principles for musical analysis: namely, Kevin Korsyn.

[20] Joseph Straus, *Remaking the Past* (Cambridge: Harvard University Press, 1990), 16.

[21] Ibid.

[22] Arnold Whittall, "The Theorist's Sense of History: Concepts of Contemporaneity in Composition and Analysis," *Proceedings of the Royal Musical Association* 112/1 (1986-87): 2.

valuable way of enhancing the perceived contemporaneity of the result [the result referring to modern music]."[23]

[23] Ibid., 5.

3. Analytical Strategy

Given that conflict is a vital entity to all of the music examined in this study, the analytical approach taken must be sensitive to the understanding of conflict as defined by the coexistence of irreconcilable relational events (old and new), and be tailored to address conflict as a continual disunity.[24] However, the conflict of chronologically distant elements in the same musical context may also be ameliorated as well, through various analytical approaches that, in some respects, unite elements of old and new. The following analytical strategy is designed to address both the disunity and unity of old and new structures.

Music that incorporates both old and new elements is an analytical challenge, because there is no single prescribed analytical approach for such disunity. Often times, analysts examine music of this nature by considering first its tonal implications, acknowledging the inconsistencies of that approach, and then perceiving the same material from a pitch-

[24] Analysts of pre-modern music have adopted an analytical approach stressing disunity as well. For example, the polemics of disunity over unity, in the traditional tonal canon, appears in recent publications of *Music Analysis*. Robert Morgan ignites the controversy with his arguments against disunity as five separate scholars present it: see "The Concept of Unity and Musical Analysis," *Music Analysis* 22/1 and 2 (March 2003): 7-50. The five scholars then respond to Morgan's criticism: Kevin Korsyn, "The Death of Musical Analysis? The Concept of Unity Revisited," *Music Analysis* 23/2 and 3 (July 2004): 337-351; Daniel K. L. Chua, "Rethinking Unity," *Music Analysis* 23/2 and 3 (July 2004): 353-359; Jonathan D. Kramer, "The Concept of Disunity and Musical Analysis," *Music Analysis* 23/2 and 3 (July 2004): 361-372; Joseph Dubiel, "What We Really Disagree About: A Reply to Robert P. Morgan," *Music Analysis* 23/2 and 3 (July 2004): 373-385; and Kofi Agawu's response, published separately in this same issue, "How We Got Out of Analysis, and How to Get Back in Again," *Music Analysis* 23/2 and 3 (July 2004): 267-286.

class set-theoretic standpoint.[25] Consideration of both analytical strategies need not insist that any one strategy be subservient of the other, as Neil Minturn acknowledges: "We need not demand . . . that the approach take sides."[26]

In an effort to unlock the highly individual structural imperatives of our three representative composers, we can adopt an analytical approach that allows tonal interpreters to express components that contribute to a traditional tonal reading without asserting that all components so contribute, while conversely allowing post-tonal analytical strategies to express nontraditional components without asserting the work is atonal.[27] Both approaches will have a measure of currency, which provides the flexibility needed when working with disparate musical contexts.[28]

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[25] Studies with such an approach, influential here, include the aforementioned Minturn, *Music of Prokofiev,* and Straus, *Remaking.* Others include: James Baker, *The Music of Alexander Scriabin* (New Haven: Yale University Press, 1983); Richard S. Parks, *The Music of Claude Debussy* (New Haven: Yale University Press, 1989); Joseph Straus, "The 'Anxiety of Influence' in Twentieth-Century Music," *The Journal of Musicology* 9/4 (Autumn 1991): 430-447; and Paul Wilson, *The Music of Béla Bartók* (New Haven: Yale University Press, 1992).

[26] Minturn, *Music of Prokofiev,* 23.

[27] Both Minturn, in *Music of Prokofiev*, 61, and Wilson, in *Music of Bartók,* 20, express their approach in such a way.

[28] Despite the stylistic dissimilarities between our three composers, their nonfunctional structures and processes can be approached through pitch-class set theory. Aspects of pitch-class set theory first arose in the mid-twentieth century in the writings of composers dealing with issues of 12-tone composition, as for example the writings of Milton Babbitt, George Perle, and Pierre Boulez; however, it was Allen Forte who formalized a notable general outline of pitch-class set theory in *The Structure of Atonal Music* (New Haven: Yale University Press, 1973). Following Forte's contribution are two other important general outlines of pitch-class set theory: John Rahn, *Basic Atonal Theory* (New York: Longman, 1980); and Joseph Straus's work, which first appeared in 1990 and is now in its third edition: *Introduction to Post-Tonal Theory,* 3rd ed. (Upper Saddle River, New Jersey: Pearson Prentice Hall, 2005). Important extensions of pitch-class set theory have been made by Lewin and Morris: David Lewin, *Generalized Musical Intervals and Transformations* (New Haven: Yale Unversity Press, 1987); and Robert Morris, *Composition with Pitch Classes* (New Haven: Yale University Press, 1987).

Since "tonality" will have more than one meaning in this study, we must define the varied uses of this term. As for traditional, or functional, tonality, we will assume this only when, as Minturn states, "Tonal elements are bound together by tonal process."[29] For nontraditional, or nonfunctional, tonality, we can adopt a suitable definition from Richard Parks, which comes from his study of Debussy's music. When referring to music that is not functional in a traditional sense, the term tonality will describe "pitch materials, processes, and contexts that project into prominence one or more pitch classes to significantly greater extent than (or at the expense of) other pitch classes."[30] Parks asserts that tonality arises from a composition's "internal conditions."[31] Indeed, these conditions do not have to be of a functional eighteenth- or nineteenth-century type for one to perceive that the composition is capturing aspects of tonality. In the study of the aforementioned three composers, we will encounter diverse internal conditions, which in turn produce highly individual "tonal" relationships.

The present study's chief organizational system for tonal and post-tonal considerations will be that of hierarchical organization, as invoked from the theories of Heinrich Schenker. Schenker's use of hierarchical levels to inform traditional tonal relationships is, for the most part, accepted; however, hierarchically informed non-tonal relationships have encountered some resistance, which will be addressed below. One augury for an analytical approach that features hierarchically informed nonfunctional relationships comes to us in Rahn's comments on Stravinsky analysis: "Satisfactory analyses of the

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(Note: Indeed, pitch-class set theory can address any group of note, diatonic groupings; however, when diatonicism is found, traditional tonal practice will be employed.)

[29] Minturn, *Music of Prokofiev*, 19.

[30] Parks, *Music of Debussy*, 3.

[31] Ibid.

preserial works of Stravinsky will, when they finally appear, employ theories that graft nontonal referential collections and unique Stravinskian transformation rules into a wildly Schenkerian-derived kind of theory of pc [pitch-class] set 'prolongation' in various pitch-structural and rhythmic-structural 'levels'."[32] One can certainly agree that Rahn's comments have a wider application, since a similar approach could inform the music of any number of post-tonal composers; however, a problem arises when Schenker's traditional concepts of prolongation and hierarchical levels are applied to nonfunctional contexts.

The two most fundamental concepts of Schenker's theory are that of prolongation and hierarchical levels, and in Schenker's theory it is prolongation that enables hierarchical levels to form.[33] Prolongation is where some musical entity remains in force even though it is not explicitly present, and these controlling entities are the structural pillars of each successive hierarchical level. Prolongation occurs because traditional musical structures have different structural weight. If event X has more structural weight than event Y, then, in the succession of X to Y, Y does not displace X, but merely prolongs it. X is not displaced until another structurally significant event arrives.

Scholars have convincingly argued that post-tonal contexts do not create hierarchical levels based on Schenker's tonal-prolongational model. Joseph Straus supports this argument in his 1987 article "The Problem with Prolongation in Post-Tonal Music."[34]

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[32] Rahn, *Basic Atonal Theory*, 79.
[33] This study will soon discuss how hierarchical levels form in nonfunctional settings where prolongation is not a precondition.
[34] Joseph Straus, "The Problem with Prolongation," *Journal of Music Theory* 31/1 (Spring 1987): 1-22. Two authors prompt Straus's polemics; both apply Schenker's theory of prolongation and hierarchical levels to music of the twentieth century: Felix

On the one hand, Straus argues that in non-tonal environments the essential conditions for prolongation, based on Schenker's model, do not exist because all twelve chromatic pitches have the same structural weight. On the other hand, we understand through functional theory that within the diatonic system certain pitches express tonality, or the key of a work, while others lie outside that tonality. Obviously, pitches outside the key have less structural weight than those that are diatonic; however, even those pitches that are diatonic, as Straus points out, express varying degrees of structural weight based on conditions of (1) consonance and dissonance, (2) scale degree hierarchy, (3) properties of embellishment, and (4) clear distinctions between the vertical and horizontal dimensions. Straus concludes that these four essential conditions have to exist in order for a musical context to express hierarchy-based prolongation, and they only reside within the diatonic system.[35]

Salzer, *Strucutral Hearing: Tonal Coherence in Music,* 2nd ed. (New York: Dover, 1962); and Roy Travis, in a series of three articles: "Directed Motion in Schoenberg and Webern," *Perspectives of New Music* 4/2 (1966): 85-89; "Tonal Coherence in the First Movement of Bartok's Fourth String Quartet," *Music Forum* 2 (1976): 298-371; and "Toward a New Concept of Tonality?" *Journal of Music Theory* 3 (1959): 257-284. Another author who addresses the same issue found in Straus's "The Problem" from a different tactic, but who nevertheless concurs with Straus the important issues, is James Baker: see "Schenkerian Analysis and Post-Tonal Music," in *Aspects of Schenkerian Theory,* ed. David Beach (New Haven: Yale University Press, 1983), 153-186. Other authors are also careful to acknowledge the problem of modifying the Schenkerian model of prolongation when addressing the issue of hierarchy in twentieth century music: Parks, *Music of Debussy,* 3-4; Agawu, "Stravinsky's 'Mass'," 161; and also Allen Forte, in his article "New Approaches to the Linear Analysis of Music," *Journal of the American Musicological Society* 41/2 (Summer 1988): 315-348. A reconciliation of prolongational models of hierarchy in post-tonal contexts can be found in Olli Vääisälä's article "Concepts of Harmony and Prolongation in Schoenberg's Op. 19/2," *Music Theory Spectrum* 21 (Autumn 1999): 230-259.

[35] Straus's conclusions have suffered some criticism; see Steve Larson, "The Problem of Prolongation in 'Tonal' Music: Terminology, Perception, and Expressive Meaning," *Journal of Music Theory Theory* 41/1 (Spring 1997): 101-136. Also see Joseph Straus, "Response to Larson." *Journal of Music Theory* 41/1 (Spring, 1997): 137-139.

Straus, however, does not believe that post-tonal contexts are without hierarchical levels of activity. He states that in order to discuss hierarchical levels in post-tonal music "we will have to retreat to a less comprehensive but more defensible model of voice leading, one based on association rather than prolongational claims."[36] Straus goes on to explain that "musical tones separated in time may be associated by a variety of contextual means, including register, timbre, metrical placement, dynamics, and articulation."[37] It is through these means of association that hierarchical levels form in post-tonal settings. Paul Wilson points out that Straus's list of associations fails to include one other force for coherence. As Wilson states, Straus's three main examples in his 1987 article involve this other force of coherence: "the impact of a recognizable design linking the associational elements."[38] Recognizable designs in the present study will primarily come in the form of a particular pitch-class set or set class that is composed out over certain time spans.

Wilson also points out that Straus's urgency for a hierarchical model based on associations stems from his essay's broad musical context, which essentially includes the entire corpus of post-tonal music; this causes Straus to formulate his associational model in terms weaker than those that may otherwise be formed in music that incorporates both old and new.[39] Hierarchical structures in the music of Villa-Lobos, Martin, and Britten have the potential for a characterization that is perhaps stronger than associational. All composers are bound by the traditional tonal system; therefore, hierarchical levels in all three composers have the possibility of a prolongational formation. We should therefore

[36] Straus, "The Problem," 13.
[37] Ibid.
[38] Wilson, *Music of Bartók*, 45.
[39] Ibid., 46.

assume a dual stance in our search for hierarchical structures in the music of Villa-Lobos, Martin, and Britten: a stance that includes the possibility of uncovering prolongational models of hierarchy as well as associational models.

Recent studies increasingly take a dialectical approach. As Kevin Korsyn observes, "These studies focus on relatively concrete intertextual phenomena: quotation, borrowings, compositional modeling. Other studies cast a wider net, discussing genre or the use of conventions."[40] Indeed, intertextuality goes beyond the limits of literal transhistorical crossings of texts. Influence plays a big role in intertextuality, as well as our perception of a work in terms of what we bring to the music. Intertextuality is often thought of as the past influencing the present; however, the reverse is also possible: a later work may actually have an influence on the way we hear an earlier one, a hearing that was nonexistent before the later work; therefore, intertextuality can be ahistorical.[41] In any event, as Joseph Straus has acknowledged in his studies of intertextuality, "No easy accommodation is possible across the stylistic gulf that separates the traditional tonal music of the eighteenth and nineteenth centuries from the new post-tonal music of the twentieth century."[42]

Straus has applied Harold Bloom's poetic theories, which one might interpret as intertextual, to the study of twentieth-century music, and Bloom's notion of conflict, as extended by Straus, can inform musical contexts presenting both old and new elements.

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[40] Kevin Korsyn, "Toward a New Poetics of Musical Influence," *Music Analysis* 10/1 and 2 (March-July 1991): 6.
[41] Michael L. Klein, *Intertextuality in Western Art Music* (Bloomington: Indiana University Press, 2005), 8.
[42] Joseph N. Straus, "The 'Anxiety of Influence' in Twentieth-Century Music," *The Journal of Musicology* 9/4 (Autumn 1991): 431.

Straus continues to penetrate the analytical conundrum of examining old and new in the same musical context still further, through the adaptation of another Bloom concept: that of "misreading." For Bloom, a misreading is when "the later poet asserts freedom from the domination of a precursor by revising or transforming the precursor's work."[43] Through Straus, we acknowledge the "musical" misreading as a transformation or recomposition of salient aspects of traditional tonal music. So on the surface, conflicting tonal and non-tonal elements present the "continual struggle," through which modern music coheres, as Straus concludes; however, certain non-tonal events may still be linked to normative common-practice procedures by way of misreading, therefore, ameliorating, to some extent, the disunity of old versus new, and forming a more united context.

Bloom's theory of misreading involves six revisionary ratios, or strategies, "by which to test and measure the exact relationship between a poem and the poems it anxiously misreads."[44] However, Richard Taruskin, the author of the previous quote, takes issue with Straus's application of Bloom's theory of misreading. The problem, in Taruskin's view, is that "a strong misreader irrepressibly represses the old to produce the new. Straus co-opts the new theory [that of misreading] to retell very old tales."[45] Taruskin feels that "what [Straus] has produced is actually a work of revisionist history, addressing . . . the problem of neoclassicism in the musical culture of the twentieth century."[46] Taruskin points out that, according to Bloom, the modern poet's stance toward the poems

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[43] Ibid., 438.
[44] Richard Taruskin, review of "Toward a New Poetics of Musical Influence," by Kevin Korsyn; and *Remaking the Past: A Musical Modernism and the Influence of the Tonal Tradition,* by Joseph N. Straus, *Journal of the American Musicological Society* 46/1 (Spring 1993): 119.
[45] Ibid., 126.
[46] Ibid., 124.

of his predecessors is primarily adversarial, and this is not accurately portrayed in Straus's musical adaptation of Bloom's theory of misreading. Taruskin's explanation of Bloom informs us that the necessary maneuvers the modern poet must take for his own self preservation translates into Bloom's six revisionary ratios—which repress the old—and that these revisionary strategies are involuntary, which is exactly why Bloom refers to these strategies as misreadings: "The artist does not apply them. His anxiety causes them."[47] Bloom's ratios neutralize the past; however, Straus's approach is that of remaking the past. Taruskin says that it is "no surprise to discover that Straus jettisons Bloom's revisionary ratios and substitutes his own; that [Straus's] so-called revisionary ratios do not measure the relationship between particular works but define general style characteristics and technical procedures."[48] Taruskin states that "Bloom is simply irrelevant to Straus's methods and procedures."[49]

Straus's appropriation of Bloom's concepts of conflict and misreading to define stylistic characteristics and technical procedures is not irrelevant, however; it is of practical value as a theoretic-analytic approach to the interpretation of the conflict of old and new. Straus states in the exposition of *Remaking* that "my concern . . . is with specifically musical strategies of reinterpretation."[50] Straus's substitution of his own set of, what ends up being, eight revisionary strategies does not contend to be a literal exposition of Bloom's theory; instead, Straus subjects Bloom's theoretical apparatus to

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[47] Ibid., 127.
[48] Ibid.
[49] Ibid., 126.
[50] Straus, *Remaking,* 17.

figurative extension.[51] It seems apparent that what Taruskin views as Straus's weakness might well be his strength: the wider application of Bloom as a way to get an analytical hold on the musical conflict of old and new generates a formidable approach to music analysis. Straus's analytical goal is that of reinterpretation not repression. It is precisely Straus's "misreading" of Bloom that makes Bloom relevant to the analysis of modern music's mixed elements and procedures.[52]

Support of Straus's flexible appropriation of Bloom's theories comes by way of Adam Krims,[53] although his discussion of Straus is a critical review.[54] Krims states:

> Taruskin's polemics get out of hand when he claims that 'Bloom is simply irrelevant to Straus's methods and purposes'; Straus's version of Bloom, although certainly a selective one, is by no means entirely removed from the ideological strains of the

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[51] Alan Street, review of "Remaking the Past: Musical Modernism and the Influence of the Tonal Tradition," by Joseph N. Straus, *Tempo* no. 179 (December 1991): 32.

[52] For a literal, and painstaking, musical interpretation of Bloom's six revisionary ratios within a common-practice framework, see Korsyn, "Toward a New Poetics," 26-59. Korsyn's application of Bloom enjoys Taruskin's support (see Taruskin, 120-124); however, Korsyn is not without criticism: see Martin Scherzinger, review of "Toward a New Poetics of Musical Influence," by Kevin Korsyn. *Music Analysis* 13/2 and 3 (July-October 1994): 298-309.

[53] Adam P. Krims, "Post Structuralism(s), and Music Theory," *Music Theory Online* 0/11 (November 1994), http://mto.societymusictheory.org/ (Accessed 15 November 2007).

[54] One should note that the criticism Krims has leveled at Straus's *Remaking the Past,* which primarily concerns the inconsistency of Bloom's post-structuralist approach and Straus's analytical, and therefore, structuralist approach, has been addressed by Straus in his article "Post-Structuralism and Music Theory (A Response to Adam Krims)," *Music Theory Online* 1/1 (January 1995), http://mto.societymusictheory.org/ (Accessed 6 December 2007). Straus's response to Krims is essentially a brief defense of theory-based (structuralist) analysis in a postmodern (post-structuralist) world in order to ease the "confrontation between ideological systems" that Krims describes. In his response, however, Straus does not acknowledge Krims's defense of his approach to Bloom, which indicates that Straus is not so much concerned with Krims's acceptance of his (Straus's) adaptation of Bloom's theory, but that Straus's concern lay with the implied post-structuralist ban on traditional (which in this case includes post-tonal) analytical methodologies.

> original theory. (What stock one should put in the value of 'fidelity to the original theory' is itself another, and much bigger question.)[55]

It is fair to point out the inconsistency of Straus's structuralist adaptation of Bloom's post-structuralist position, as Krims states: "He [Straus] consistently discusses and analyzes pieces according to principles of their internal structural coherence."[56] Krims, however, continues to come to Straus's defense:

> A lesson we can take from Straus . . . is the surprisingly high degree to which Bloom may be fitted to mainstream [structuralist] music-theoretical ideology. . . . certain aspects of his influence theory can be embraced wholeheartedly, without a great deal of discomfort, while others (the more characteristically post-structuralist) can be effectively side-lined. Otherwise put, Bloom allows us mainly to continue what we [music theorists] are doing, changing the slant of our discussion a bit, but not questioning (or transforming) the very premises of our activity. This is not to impugn the motives of those who use Bloom's theories. Straus, for example, has never claimed that his work is post-structuralist; so the basic conservatism of "his" Harold Bloom is not necessarily a reproach to him.[57]

Krims makes sure to caution those of us who are comfortable with Straus's approach:

> It is possible for us to convince ourselves that by adopting his [Bloom's] ideas, we are coming to terms with post-structuralist literary theory generally. This would be a mistake . . . We should simply be careful "not" to believe that by adopting (and adapting) Bloom's influence theory we are necessarily coming to terms with the bulk of the challenges that post-structuralist theories hold for us. We may, instead, be producing work-as-usual, with the belief that we are doing otherwise.[58]

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[55] Krims, "Post Structuralism(s), and Music Theory," 2.7. Note: in lieu of page numbers, *Music Theory Online* numbers each section and paragraph, with whole and decimal numbers (as 2.7 represents).
[56] Ibid., 2.2.
[57] Ibid., 3.0.
[58] Ibid., 3.2-3.3.

Krims then closes with a "why not":

> On the other hand, as long as we are aware of what we are doing—as long as we do not convince ourselves that using Bloom will bring us face to face with the vast bodies of post-structuralism—then why not incorporate his [Bloom's] work? Certainly if we are to talk about influence, notions of rhetorical evasion and misreading will be invaluable to our work. And, indeed, if we wish to rest securely with mainstream music-theoretical ideologies, Bloom can easily be adopted to our use. There is room for applying Bloom's ideas.[59]

The present study adopts Straus's structuralist-reinterpretational approach to misreading; however, as far as adherence to Straus's eight revisionary strategies, these strategies, or musical tropes, will only act as guides for the present study. They will not be used to label misreadings in a specific sense; their role here remains passive.

[59] Ibid., 3.4.

4. Summary

The conflict of old and new is a vital entity to all of the music examined in this study. When old and new coexist as irreconcilable relational events, the analytical approach taken must be tailored to address this conflict as a continual disunity, and employ analytical tools that are both conventionally tonal and post-tonal; this provides a convenient and concise way of working with disparate musical contexts. However, unity, to some extent, may also issue from contexts of old and new when Straus's notion of misreading applies. Straus's misreading is defined as a reinterpretation of salient aspects of traditional tonal music, and, because we are following Straus's lead, this study does not align musically with Bloom's six ratios; this particular alignment, which is so painstakingly addressed in Korsyn's article,[60] is not the stance I wish to take. This analytical convenience eliminates any obliged interpretation of influence an approach such as this would seem to require, which eliminates any potential misrepresentation of the value of the misreading.[61]

A work's internal conditions will determine that work's tonality, whether tonal or non-tonal, therefore defining the elements within that tonality as such; however, no matter how attenuated or strengthened either type of tonality might become, events emblematic of traditional tonal practice (the use of triads, step-wise voice leading, diatonic fragments, etc.) carry with them external conditions that evoke the notion of traditional tonality. Finally, the present study's chief organizational system will be that of hierarchical

[60] Korsyn, "Toward a New Poetics," 26-59.
[61] When neo-Riemannian practices are discussed, another unifying strategy surfaces, in the notion of "interplay."

organization, and, because the contexts examined are both tonal and post-tonal, we should be prepared for both prolongational and associational hierarchical models.

The above analytical strategy will best serve this study's goal, which one might refer to as an analytical pragmatism—in other words, an active and observable goal, as opposed to a contemplative one.

CHAPTER II

IDIOMATIC TECHNIQUES AND THEIR MUSICAL MEANING IN THE GUITAR MUSIC OF HEITOR VILLA-LOBOS

1. Introduction—The Guitar Music of Heitor Villa-Lobos: A Musical Synthesis

Unlike Martin and Britten, who both wrote only one solo work for guitar, Villa-Lobos wrote five, including a guitar concerto, 1951.[1] Noteworthy is the fact that these works span over forty years. This extended commitment to guitar composition casts light not only on Villa-Lobos's highly individual compositional style but also on his musical aesthetic. Villa-Lobos's approach to guitar composition was exceptional. He was the first to break away from the nineteenth-century European bias toward the guitar, which endorsed outdated compositional practices as well as holding steadfastly to conventional guitar techniques. Villa-Lobos's works set a radical new standard; they are innovative in style and experimentation, and strongly reflect the nature of the man who wrote them.

Villa-Lobos's guitar music speaks a self-assertive musical language replete with imaginative power, and, indeed, it can be argued that many aspects of this language were without precedent. Villa-Lobos's guitar compositions serve as ambassadors of the multifaceted musical expression found in Villa-Lobos's beloved country of Brazil. They weave a fabric of folkloric, urban-popular, and native Indian song and dance integrated into the complex tonalities of modern art music. The solo guitar works represent over

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[1] The number of works here only takes into account Villa-Lobos's published solo works. For a complete list of compositions for guitar by Villa-Lobos, compiled by Hermínio Bello de Carvalho, see Turibio Santos, *Heitor Villa-Lobos and the Guitar,* trans. Graham Wade (Gurtracloona: Wise Old Owl Music, 1985), 59-63.

forty years of composing that are, for the most part, stylistically nonexclusive. All of Villa-Lobos's musical experiences, influences, and experiments are encapsulated within this music, making it, in a sense, nonlinear, as the time intervals between the various sets of works do not necessarily delineate a compositional progression. Whether these compositions were written in an early, middle, or late period seems to matter only in terms of chronology.[2]

The number of guitar works by Villa-Lobos is few in comparison to the total output of this Brazilian master, where estimations range from 1000 to 3000 total works, depending on the method of cataloging. The number is also small in relation to the amount of guitar music produced by some contemporaries of Villa-Lobos who were writing for Segovia, such as Mario Castelnuovo-Tedesco (1895-1968), Federico Moreno Torroba (1891-1982), and Manuel Ponce (1882-1948). However, perhaps due to Segovia's influence, it can be argued that such composers were a continuation of nineteenth-century practices.[3]

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[2] Different compositional periods for Villa-Lobos cannot be categorized in, say, a Stravinskian sense, where one period is replaced by the next.

[3] Indeed, Villa-Lobos and Segovia became friends, although, at times, their relationship might be described as a clash, of sorts, of two titans. And, it is true that not long after they first met, c. 1923, Segovia did indeed request a study from Villa-Lobos; however, the development of the monumental *Twelve Études* over the course of the next six to seven years appears to be born from Villa-Lobos alone; and athough they bear a dedication to Segovia, Segovia apparently had little musical or even editorial effect on them. In regard to the latter, Segovia, himself, states in the preface to these works that he did not change any of the fingerings Villa-Lobos indicates, noting Villa-Lobos's perfect knowledge of the guitar, and that one must strictly obey Villa-Lobos's instructions.

The concerto, on the other hand, was a collaborative effort, a piece that was written only after repeated requests to the composer by the guitarist. Indeed, it appears Villa-Lobos was not very enthusiastic about the project, presumably because of his apprehension toward combining such uneven performing forces: see Gerard Béhague, *Heitor Villa-Lobos: The Search for Brazil's Musical Soul* (Austin: Institute of Latin American Studies University of Texas at Austin, 1994), 142-143. Moreover, according to a conversation I had in 1985 with the famous Uruguayan guitarist Abel Carlevaro (1916-2001), who knew and studied with the composer, Villa-Lobos's inspiration was for a concerto for guitar

Unlike these contemporaries, Villa-Lobos embraced change; he was not limited to the guitar's conventions. While other guitar composers remained fettered to a common practice language and conventional guitar techniques, Villa-Lobos was willing to contradict the past in both respects. Villa-Lobos's guitar music fused an explorative compositional spirit with a fantasy of sounds and influences unknown in the guitar's past.

This unshackled approach to guitar composition also defines Villa-Lobos's overall compositional approach. A lust for experimentation combined with an uncompromised Brazilian expression created for Villa-Lobos his own style, a style that was adopted by his nation to promulgate Brazilian nationalism. However, Villa-Lobos's nature was not inclined to serve Brazil but to have Brazil serve him. Admittedly, this suggests Villa-Lobos's nature was fueled by his own self-worth; indeed, support of this claim lies in Villa-Lobos's own words: "There are only two great composers in the world, namely, 'Bach and I'."[4] Self-assertion, however, served Villa-Lobos well; it became as important to his compositional identity as any other analyzable trait and was a large part of what brought him to international success.

Villa-Lobos's apprenticeship on the guitar began at a young age, alongside his study of the cello. His father, Raul, guided the young boy's music lessons, but he did not accept the guitar, insisting it was an instrument unworthy of respect. Villa-Lobos was forced to conceal his interest in the guitar until after his father's death in 1899; it was at

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and percussion alone; however, Segovia rejected this idea, and Villa-Lobos's inspiration never came to fruition. According to Carlevaro, after giving in to Segovia's request for a piece for guitar and orchestra, Villa-Lobos said that the guitar concerto was "Segovia's piece," indicating a sort of self-separation from the finished product.

[4] Quoted from Lisa Peppercorn's *Villa-Lobos: Collected Studies by L. M. Peppercorn* (Cambridge: Scolar Press, 1992), 14.

this time that he began to outwardly pursue his eclectic musical tastes. Through the guitar, Villa-Lobos experienced the musical atmosphere of Rio de Janeiro. He first listened to the music of the *choroes* (literally, "weepers"), the performers of popular music. Later, he sought to take part in the *choro* itself (the jam session). To play in the *choro* was not easy; it required considerable skill as an accompanist as well as a soloist, all of which was improvised. One could not participate if one did not have the facility, and interlopers were readily cut out. Villa-Lobos's talent, however, was recognized, and he became a regular *choro* member, befriending many of the great *choroes* of the day.

Villa-Lobos's first compositions (c. 1900-1910) were for guitar; however, the manuscripts for these short pieces are lost.[5] All of these early works showed the influence of the *choro*. During this early period, Villa-Lobos also studied the classical guitar. He knew well the available methods of the nineteenth-century composer/guitarists (including Carcassi, Carulli, Sor, and Aguado), and he mastered their techniques and performed their music. However, Villa-Lobos became dissatisfied with this music and began making transcriptions of Chopin waltzes and preludes around 1910.[6] Through his study of performance, arranging, and composing, Villa-Lobos acquired an intimate knowledge of the guitar. His destiny, however, was not to become solely a guitarist; he continued diligently on the cello and used both instruments as a means of supporting

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[5] According to Béhague, *Villa-Lobos: The Search,* these works include *Panqueca* (1900), *Mazurka* in D major (1901), *Valsa Brilhante* (1904), *Fantasia* (1909), *Quadrilha* (1910), *Canção Brasileira* (1910), *Dobrado Pitoresco* (1910), *Dobrados* (1909-1912), and *Tarantela* (1910): see page 134 and footnote 49.

[6] Villa-Lobos claimed to be the first to make a guitar transcription of Bach's famous "Chaconne" from *Partita No. II in D Minor* for unaccompanied violin, an accomplishment widely attributed to Segovia.

himself. He was, however, a composer first and intuitively knew he must call on Brazil to be his teacher in order to succeed.

Accounts of this period of development, roughly 1910-1922, are sketchy at best. Popular biographical information has Villa-Lobos stomping through the jungles of Brazil with a guitar in one hand and a tape recorder (or at least pen and paper) in the other, soaking up the indigenous and exotic sounds of the wild and composing continuously. Villa-Lobos himself certainly never disclaimed these notions, and did everything to embellish a good story, whether his own or someone else's. In 1923, through a grant from the Brazilian government, he was able to live in Paris for twelve months, fulfilling a dream to study and work in this cultural center of Europe. In regard to Villa-Lobos's interest in indigenous music, Lisa Peppercorn states that it was not until his stay in Paris that Villa-Lobos had an interest in expressing "the 'soul' of Brazil in his music,"[7] and she contends that his education in indigenous music was from a seat in the Rio de Janeiro National Museum, listening to recordings and studying authentic melodies from old chronicles.[8]

However, the sources of Villa-Lobos's education are less important than the wide range of influences that inspired his creativity. From early on, his quest for individuality encouraged a combination of conventional classical methods and popular improvisational music of Rio de Janeiro's urban streets, all furthered by the influence of modern impressionism, an influence that was present before his trip to Paris, and afterwards became more pronounced. Whether Villa-Lobos was influenced by the native music of aboriginal Brazil before his trip to Paris is hard to determine; certainly, in his pre-1924

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[7] Lisa Peppercorn, *Villa-Lobos: Collected Studies*, 77.
[8] Ibid., 77-79.

guitar works, one can argue that this influence does indeed show itself, at least in spirit. How Villa-Lobos combined his diverse influences and the focus he gave to them individually distinguishes his separate sets of guitar works, but, indeed, it can be said that all of what influenced Villa-Lobos's music is present, to some degree, throughout his published works for guitar.

Gerard Béhague divides the musical language of Villa-Lobos into three style periods: (1) "Works to 1922: The Definition of Style"; (2) "The Works of the 1920s: A Period of Experimentation"; and (3) "The Works of the 1930s, 1940s, and 1950s."[9] There are three major sets of solo guitar works by Villa-Lobos, one illustrating each of these periods. The *Suite Populaire Brésilienne* (1908-1912) is an example of Villa-Lobos's first period. It is in five movements: "Mazurka-choro"; "Schottisch-choro"; "Valsa-choro"; "Gavotta-choro"; and "Chorinho." These pieces, with their appended titles, extend common European dance forms with the treatment of the *choro*, much in the way the *choroes* improvised on these same dances. They retain a conventional formal structure and include a predominance of the sorrowfully poignant melodies and ambiguous tonality of the *choro*. Both eclectic and experimental, these works introduce Villa-Lobos's penchant for improvisatory parallel chord movement.

Choros No.1 (1920)[10] is also from the first compositional period. Although not considered a major guitar work, it marks an important turn in Villa-Lobos's musical philosophy. Before Villa-Lobos, the term *choro* described a style of performance; it was used in the same way one would use the term "jazz." But Villa-Lobos began using *choro*

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[9] Béhague, *Villa-Lobos: The Search*, 45, 69, and 104.
[10] Dedicated to Ernesto Nazareth, a famous popular pianist/composer in Rio de Janeiro whom Villa-Lobos admired.

as a title, and, in doing so, Villa-Lobos took an incomparable Brazilian style and elevated it to a type of composition, thereby shedding the stylized undertones inherent in the dances of the *Suite Populaire Brésilienne* and severing the European connection to Brazilian music.[11] Brazilian art music, for the first time, had a name of its own.

Choros No. 1 varies from its counterparts in the *Suite Populaire Brésilienne* in a number of ways. It exploits the use of an arpeggiated melody incorporated into the accompaniment, a hallmark device of *choroes* musicians. Its melancholy melody interjects sections of intrepid optimism, while the perpetual harmonic motion by circle of fifths is punctuated by abrupt modulations. In addition, the symmetry of the A-B-A forms used in the *Suite Populaire Brésilienne* is compounded by the use of a rondo form, A-B-A-C-A; this highlights the A section, where *choro* characteristics are at their most effective. It is not known whether Villa-Lobos already had his monumental set of sixteen *Choros*[12] in mind when he wrote *Choros No.1*. The time span between the first and the second, 1920 to 1924, seems to indicate that he did not; however, it is possible to consider all the *Choros* as one collection. One only needs to acknowledge that *Choros No. 1* belongs within his first group of works, which helped define Villa-Lobos, while the *Choros* to follow lie within his second period of composition.

As Béhague indicates, the works of the 1920s are markedly experimental. This is certainly true for Villa-Lobos's next set of guitar works: *Twelve Études for Guitar* (1929). These pieces possess a high degree of technical and musical exploration. Villa-Lobos's solid command of the guitar's nuances, matched with his exceptional creative

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[11] The last movement of the *Suite Populaire Brésilienne,* "Chorinho," which means little *choro,* set the precedent for *Choros No. 1.*

[12] Only fourteen *Choros* are numbered; *Dios Choros (Bis)* (1928) and *Introdução aos Choros* (1929) are not.

talent, takes the etude to a level never before reached in the guitar repertoire. These pieces are equal to the most masterfully written for any instrument. The etudes present a microcosm of Villa-Lobos's musical aesthetic, which can arguably be defined in terms of Villa-Lobos's output for guitar; as Turibio Santos states: "The guitar was his great archive of music."[13]

Popular *choro* accompaniments inspired the chordal designs of Études 4 and 6, while Études 2 and 3 are modeled after the arpeggio and slur studies Villa-Lobos played by Aguado and Sor. Étude No. 5 develops a short motivic melody supported by a constantly shifting accompaniment pattern in broken thirds. This type of accompaniment is most commonly played on the *cavaquinho*, a small four-string guitar used in popular folk music in Brazil. The most well known is Étude No. 1, which is modeled after Prelude No. 1 in C major from Bach's *Well Tempered Clavier* book I. It is an ingenious use of a continuous right-hand arpeggio. The nature of this pattern, and the perpetual motion it creates, allows Villa-Lobos to achieve the limits of the guitar's dynamic capabilities. The cross-string relationships (a higher note on a lower string or vice versa) of chromatically shifting harmonies generate pulsating syncopations reminiscent of the constantly shifting rhythms found throughout Brazilian music.

The most virtuosic etudes are in the second half of the set of twelve. In these last six etudes, Brazilian figures and idiomatic techniques are developed much more extensively than in the first six studies. Sophisticated slurs, scales, and arpeggios are matched with driving Afro-Brazilian rhythms evoking images of the Amazon jungle in Études 9, 10 and 12, the last being the most explosive. In Étude No. 12, Villa-Lobos employs the

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[13] Turibio Santos, *Heitor Villa-Lobos and the Guitar,* 11.

glissandi of a complete triad as a device to provoke wild effects. Moving first by large leaps, and then by small-accelerated motions, the triadic glissandi push the practical range of the guitar to its limits. An abrupt section change hurls a repetition of short cellular melodies up and down the fingerboard with violent execution; Villa-Lobos took this type of simple, non-developmental material from native melodies. The middle section of Étude 12 has the guitarist pulling across adjacent bass strings in fast eighth-note triplets, the lower open string drumming a drone against an arching melody on the higher string. Étude 12 is indeed an unqualified example of primitivism.

Villa-Lobos's last solo compositions are *Cinq Préludes for Guitar* (1940). Their technical demands are balanced by compositional simplicity. Combining the melodic lyricism of the *Suite Populaire Brésilienne* with the harmonic exploration of the Études, Villa-Lobos sets all but the middle prelude in ternary form. Sectional and non-developmental forms are used throughout Villa-Lobos's guitar music, but in the preludes Villa-Lobos exploits section contrasts, making the A-B-A form most effective through the opposition of tonal lyricism against chromatic soundscapes. The preludes eloquently refine the experiments of the etudes, and it appears that Villa-Lobos had a special affection for these pieces, as they are dedicated to his wife, Mindinha. Villa-Lobos also gave the preludes subtitles; however, they do not appear in the published scores.[14]

The preludes "settle the listener before five windows, each open on a different Brazilian scene."[15] Prélude No. 1 entitled "Lyric Melody: Hommage to the Brazilian Countryman," is the story of the man of the *sertão*, the heart of the country. The paradox

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[14] Subtitles are provided by Béhague, *Villa-Lobos: The Search,* 140-141, and Santos, *Heitor Villa-Lobos and the Guitar,* 31-34.
[15] Simon Wright, *Villa-Lobos* (Oxford: Oxford University Press, 1992), 104-105.

of the composition's two sections is first presented to the listener with a sad, but noble, cello-like melody in the bass, characterized by an opening leap of a perfect fourth. The second section dances spiritedly before parallel chords return to the opening. Prélude No. 2 is called "Capodocia Melody: Hommage to the Scoundrel," the scoundrel being a character from the Rio de Janeiro carnival region. The A section is in the style of *Choros No. 1*, with the same circle of fifths modulatory motion supporting an arpeggiated melody that is continuously affected by sudden ritardandos. In Prélude No. 2's B section, arpeggios bursting with chromatic eruptions and syncopated rhythms conjure Brazil's carnival scene. Prélude No. 3 is entitled "Hommage to Bach." Its baroque-like figures, mixed with Villa-Lobos's tonal uncertainty, make it a miniature *Bachianas Brasileiras*;[16] this makes Prélude No. 3 distinct from the other preludes, because it serves as a keynote arch in the structure of the five-movement set. Prélude No. 4 is entitled "Hommage to the Brazilian Indian," with an echoed response to the native melody in section one, occurring in harmonics in the reprise. Returning full circle to the dances of the *Suite Populaire Brésilienne*, Prélude No. 5 is a waltz, entitled "Hommage to Social Life." It depicts the young people who frequented to theatres and concerts of Rio.

Villa-Lobos's guitar music is at all times Brazilian: a nation of extremely diverse musical influences ranging from native to modern, with styles originating from multiple continents. Villa-Lobos's freedom of expression, and more than daring experimentation, was always advanced through his guitar music. Villa-Lobos wrote out of passion for the guitar; he thought in terms of its techniques and textures. Villa-Lobos the guitarist was fundamental to Villa-Lobos the composer. And because there is so much of the man in

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[16] Villa-Lobos wrote nine Bach inspired works entitled *Bachianas Brasileiras.*

each guitar work, it seems that the limited number of works for guitar, in comparison to Villa-Lobos's total output, is of no consequence. Villa-Lobos's guitar works communicate his musical aesthetic; they express what did not exist before and what others would champion in the future.

2. Technical Excursions by Means of Idiomatic Techniques: A Musical Interpretation

The guitar music of Villa-Lobos has the ability to leave one wondering if the musical language accommodates the instrument or if the instrument accommodates the musical language.[17] As mentioned before, Villa-Lobos's experimentalist approach engendered ingenious technical excursions by means of the adroit handling of idiomatic techniques. At times, these technical excursions dominate the musical landscape to such a degree that the music seems to surrender to purely digital concerns,[18] suggesting that musical meaning is perhaps lost during these excursions.[19] However, are Villa-Lobos's technical excursions simply superficial digital activities with no inherent musical meaning, or can they be interpreted in a musical sense?

Determining how Villa-Lobos's technical excursions function is problematic: Do they indeed defy any legitimate musical interpretation and exist solely for their own sake? If so, it would seem that conflict could be defined in two ways. First, there is the conflict of old and new: opposing relational events that cannot be unified under a single embracing system; and, second, there is the conflict of events that hold musical meaning versus those events that seem to hold no musical meaning. At first glance, the second definition appears to hold true: namely, musical meaning in the form of traditional musical

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[17] As stated by John William Schaffer in "The Published Solo Guitar Music of Heitor Villa-Lobos" (MA thesis, Wayne State University, 1979), 5.
[18] Relating to the fingers.
[19] Just to clarify, this statement stems form a surface observation of only the examples addressed in this study, or, perhaps, potentially in other Villa-Lobos guitar works. However, there is nothing in a "surrender to purely digital concerns" that inherently makes any musical meaning untenable or nonviable in other musical settings.

structures battles against musical obscurity in the form of technical excursions. However, in the examples to follow, it would be dangerous to assume that technical excursions and musical meaning are mutually exclusive; indeed, Villa-Lobos's depth of knowledge of the guitar should encourage the opposite: namely, that his technical language and musical meaning can be tightly bound. In response to the above "first glance," it can be said that conflict does not necessarily have to exist in terms of the second definition if musical interpretations can be teased out of Villa-Lobos's technical excursions, and this study's analytical strategy provides a means: to be specific, we can provide meaning to what at "first glance" appears to be meaningless with the notion of misreading.

We can use the misreading to address the musical language in general terms or to form a direct relationship with some other work (or section of work) that it then brings to bear. Borrowing from Bloom, Straus refers to these two types of responses as those of style and influence, respectively.[20] According to Straus, style and influence are theoretically distinct, so they should trigger discrete perspectives, but in terms of the effectiveness of one response over the other, it would seem that a more informed misreading would be one that could pinpoint its specific origin; moreover, as Straus states, "Any attempt to misread a specific earlier work will inevitably also involve misreading elements of an earlier style."[21] Therefore, this study will attempt to avoid any possible anonymity a misreading of style alone might bring and try, where possible, to draw the misreading close to a source, which, as Straus suggests, will have benefits that are twofold.

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[20] Straus, *Remaking*, 18-20. Michael Klein examines these same distinctions in his writings on the related topic of intertextuality; however, in this context, the conceptions of style and influence are replaced by that of text and work, respectively: see *Intertextuality in Western Art Music*, 16-17.

[21] Straus, *Remaking,* 18.

2.1. The Fixed-Left-Hand Fingering

The following addresses perhaps the most fundamental idiomatic technique for guitar: the use of a fixed-left-hand fingering that shifts up and down the fingerboard. The focus is on selected instances of this idiomatic technique as interpreted through the analytical lens of musical misreading.

The guitar's digital process can inspire diverse and imaginative devices, and the variety of ways Villa-Lobos employs this single device is evidence of his musical/mechanical ingenuity. The use of a fixed-left-hand fingering makes the planing of chords a simple matter on the guitar. The planing technique, which is the parallel motion of a single sonority, allows a particular harmonic quality to dominate a musical context; and in Villa-Lobos's hands, this technique often engenders obscure musical contexts, highly charged and chromatic.[22]

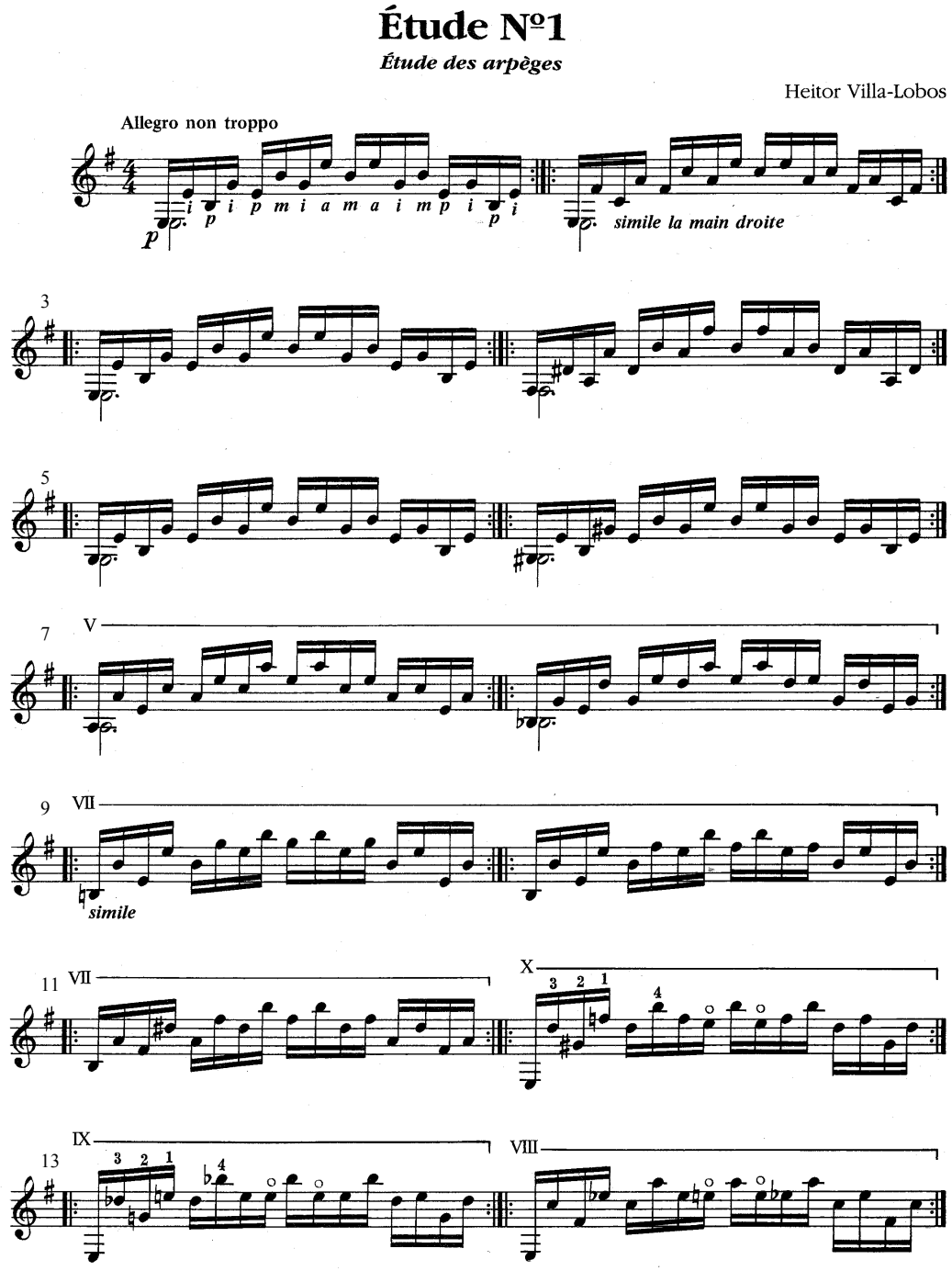
[22] Planing is a common compositional technique in modern music; it is a device Villa-Lobos makes full use of in his guitar music.

2.1a. Étude No. 1

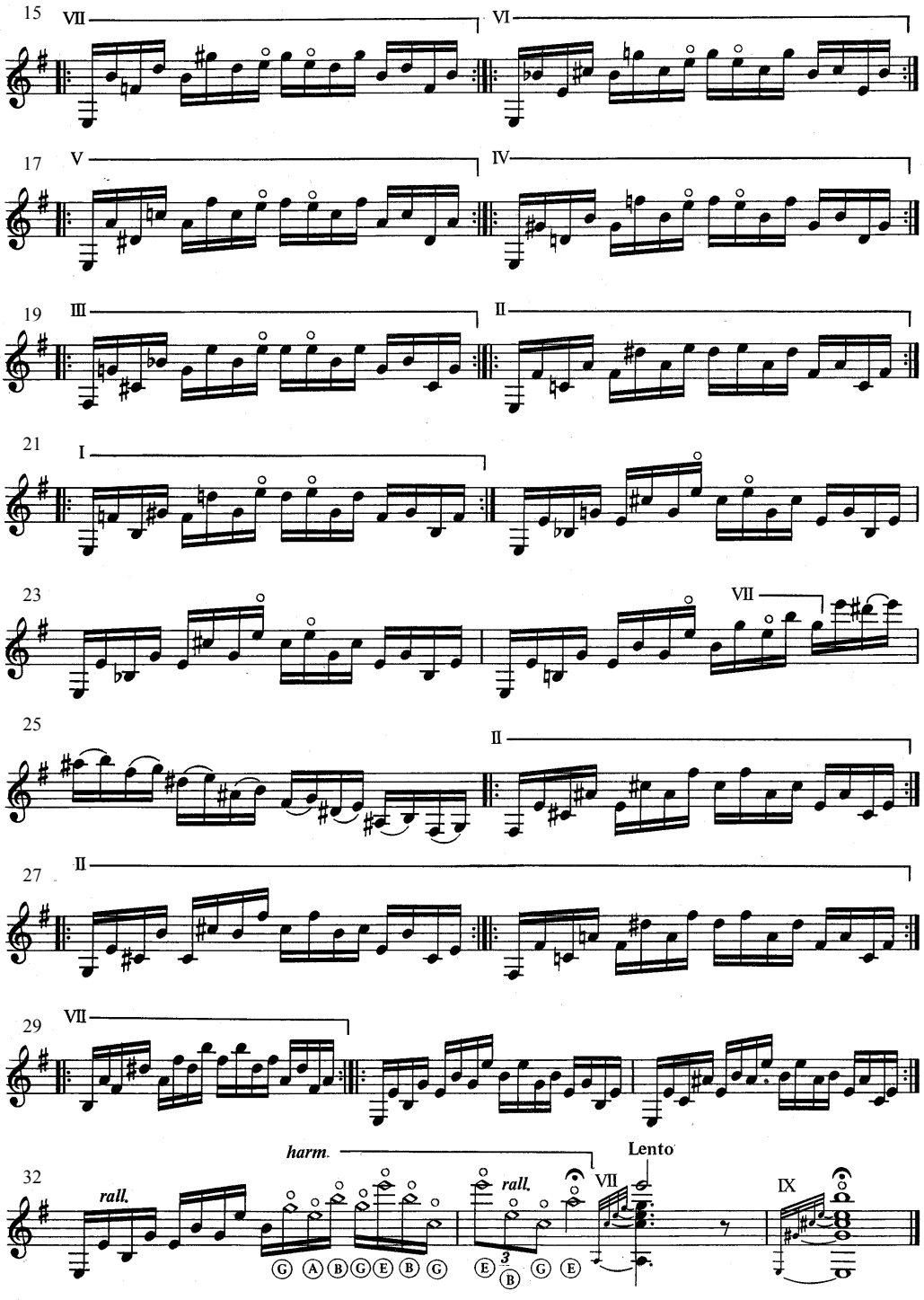
We open with a work containing one of Villa-Lobos's more distinctive examples of planing, beginning with a quick account of this work's tonal exposition. Example 1 presents the first of Villa-Lobos's *Twelve Études for Guitar* (1929). This piece is a definite nod toward Bach's C major Prelude from the first book of *Well Tempered Clavier,* with arpeggiated chords in repeated one-measure segments.[23] The piece opens with a clear exposition of its E minor tonality. Measures 2-3 prolong the initial tonic minor chord with a neighboring II^7 over a tonic pedal in m. 2 and a return to tonic in m. 3; tonic is further prolonged by $V^{4/3}$ moving to I^6 in mm. 4-5. In m. 6, the secondary dominant, V/IV, in first inversion, allows continued chromatic voice leading into A minor, in m. 7. Once arriving in m. 7, cadential function begins and, subsequently, concludes with an evaded cadence. The cadence begins with A minor moving to a linear passing chord in m. 8, to the cadential $V^{6/4}$ in m. 9. In m. 10, there is an idiosyncratic voicing of a 4-3 suspension over the dominant with the fourth doubled an octave lower, which resolves to the dominant seventh in m. 11; however, the dominant is denied its resolution to tonic, and this cadential passage ends prematurely. Thus, in the first eleven measures, we witness the exposition of E minor, brought about by a traditional presentation of two harmonic processes: tonic prolongation and an evaded cadential progression.

[23] Mm. 22 and 23 are identical. To be consistent, the edition should have placed a repeat sign at the end of m. 22; instead, the repeat of m. 22 was written out as m. 23.

Example 1. Étude No. 1, from *Twelve Études for Guitar*



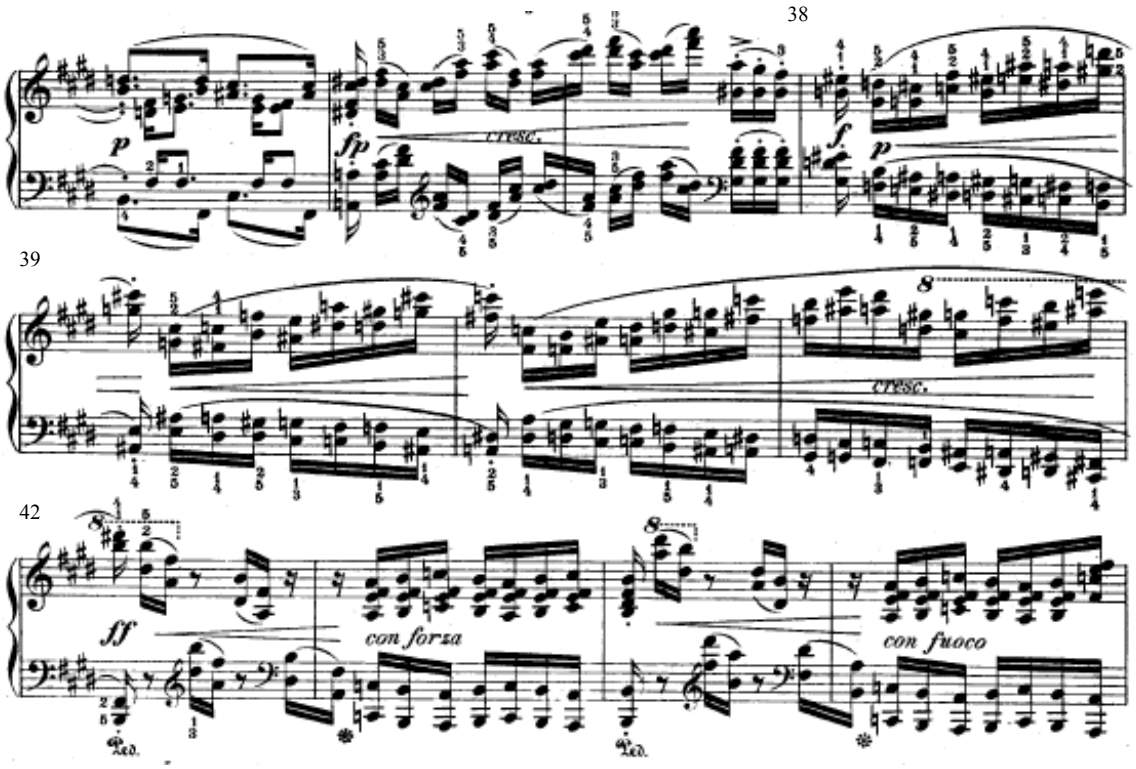
Example 1. Étude No. 1 (cont.)



In the passage following this E minor exposition (mm. 12-23), a fixed-left-hand fingering planes downward in a concatenation of half steps, one measure at a time; the fingering results in a diminished seventh chord. This idiomatic passage destabilizes the traditional tonal context by responding to the previous E minor tonality with an uninterrupted stream of chromaticism.

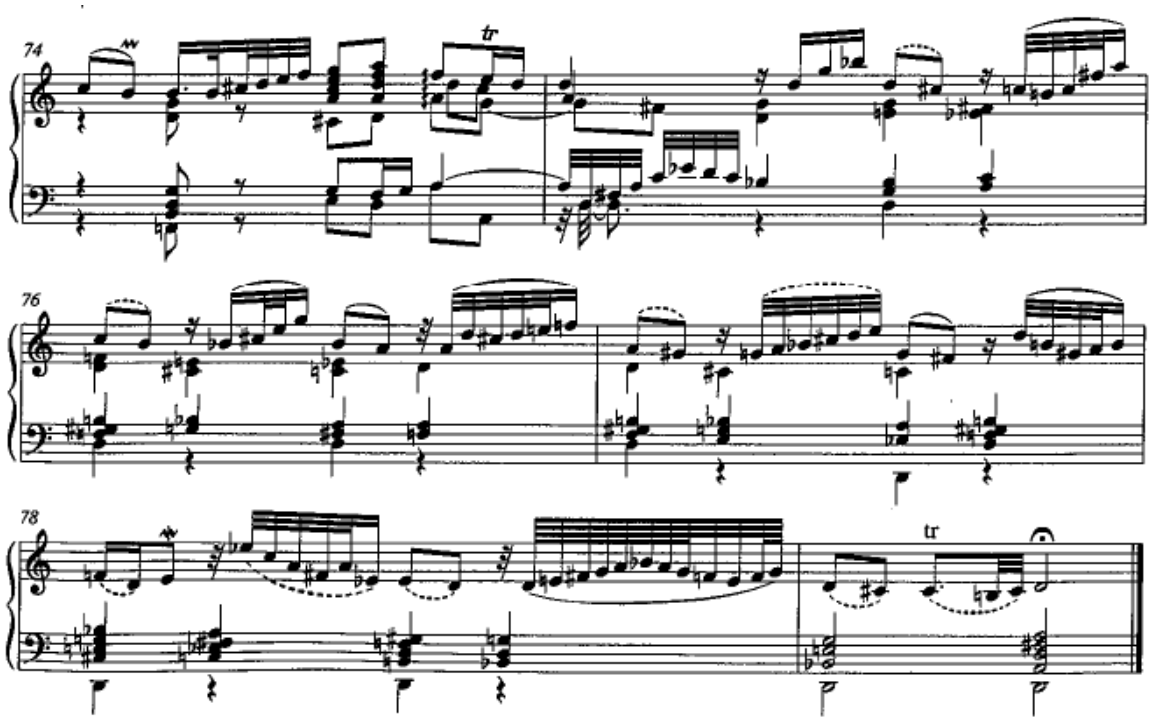
Of course, passages of cascading diminished seventh chords in parallel motion can be found before the modern era: for example, in Chopin's Etude in E major Op. 10, No. 3. Example 2 illustrates a passage of parallel diminished sevenths chromatically streaming in a sixteenth-note rhythm, in mm. 38-41, prolonging the move to dominant, which arrives on the downbeat of m. 42.

Example 2. Diminished seventh cascades, Chopin, Etude Op. 10, No. 3, measures 38-41



One can find diminished-seventh cascades in earlier music as well. Example 3 illustrates the conclusion of the Fantasy of J. S. Bach's *Chromatic Fantasy and Fugue* in D minor, where fully-diminished seventh chords, serving a prolongational function over a tonic pedal, descend chromatically in primarily a quarter-note rhythm (save for the fourth beats of mm. 76 and 78), beginning in the second half of m. 75 and continuing through m. 79.

Example 3. Descending diminished sevenths, Bach's *Chromatic Fantasy and Fugue* measures 75-79

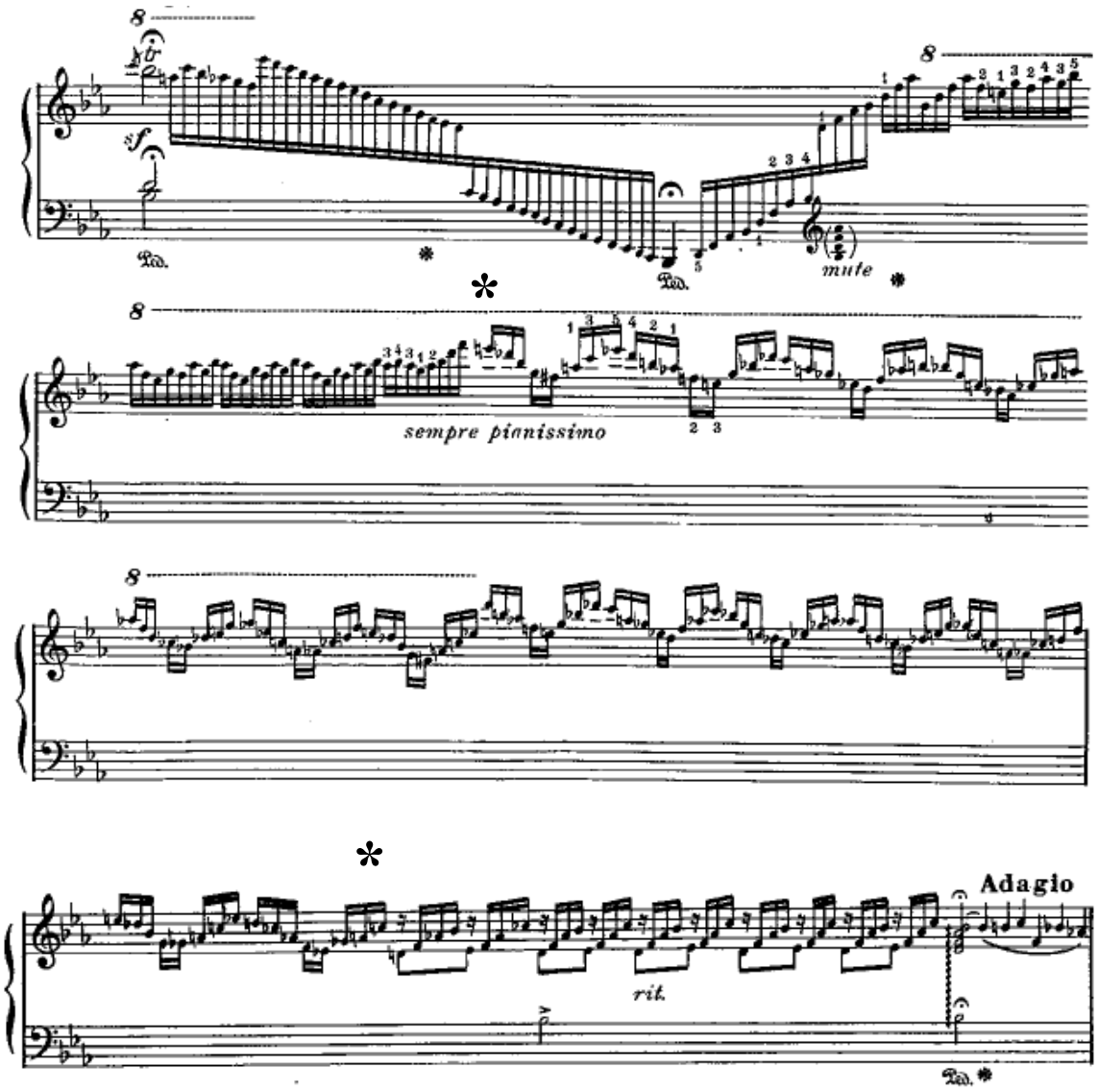


We can consider the string of diminished sevenths in mm. 12-23 of Villa-Lobos's Étude No. 1 as serving a prolongational function along the same lines as the diminished

seventh cascades in the Chopin and Bach examples, and the particular juxtaposition of events in the Villa-Lobos supports this view. As described above, the three measures before mm. 12-23 prolong the dominant through a gradual resolution of the cadential $V^{6/4}$ in mm. 9-10, which results in the dominant seventh in m. 11. Directly following m. 11 is the string of diminished sevenths, which continue the prolongation of the dominant until the arrival of the tonic in m. 24.

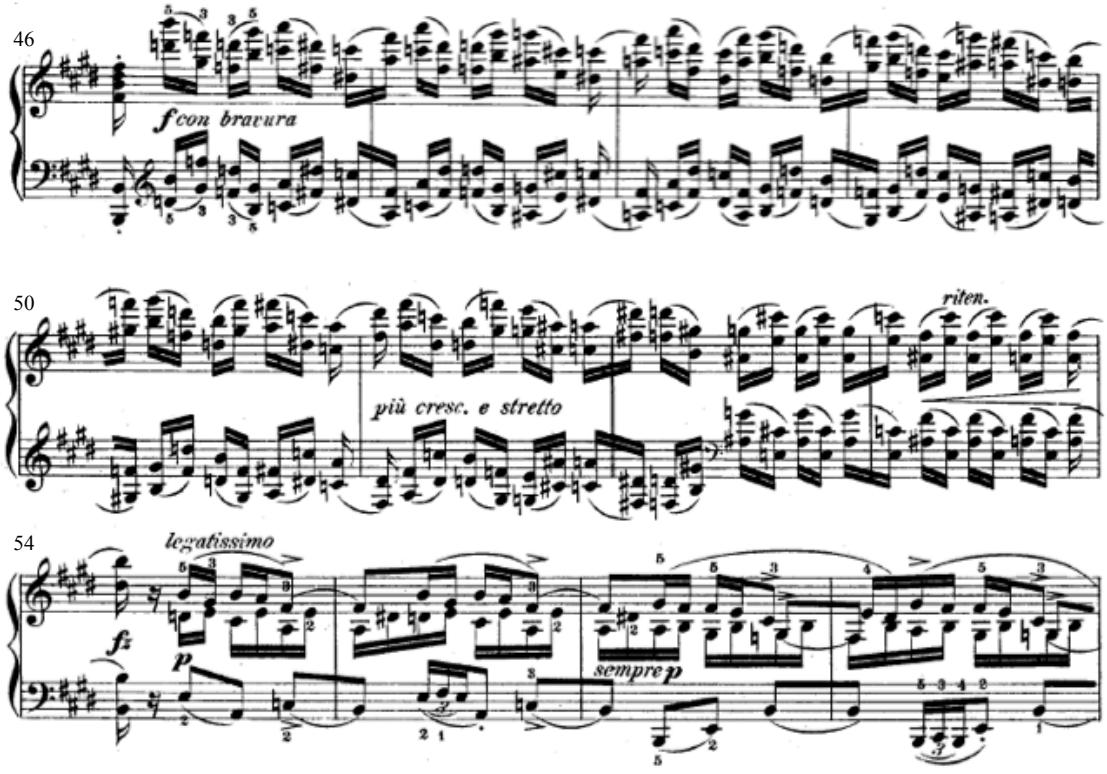
Although we can find precedent in the common practice era for Villa-Lobos's string of diminished sevenths, traditional tonality is challenged in the Villa-Lobos passage because its excessive length is out of proportion with the overall length of the work, which dissociates it from traditional practice. Admittedly, examples of extended chromatic descents of diminished sevenths can be found in traditional practice, such as in Czerny's variations *La Ricordanza,* shown in Example 4 (see between the two asterisks: systems two and four); however, in a case such as this, the extension is stylistically predictable, since it lies within the context of a cadenza.

Example 4. Extended chromatic descent of diminished sevenths, Czerny variations, *La Ricordanza,* cadenza



In Example 5, another cadenza extends a free passage of diminished sevenths in Chopin's Etude Op.10, No. 3 just five measures after that cited in Example 2 above. The diminished sevenths serve to prolong the dominant from the downbeat of m. 46 to the

Example 5. Cadenza passage of diminished sevenths prolonging the dominant, Chopin, Etude Op. 10, No. 3, measures 46-54



downbeat of m. 54. The use of diminished seventh chords is quite drawn out here; however, the prolongation is only eight measures out of a piece of seventy-seven measures. This passage, like the others cited above, clearly functions in a subordinate manner. The diminished seventh excursions in the Chopin, Bach, and Czerny never threaten their stylistic norms. However, this is arguably not the case in the Villa-Lobos etude; the length of Villa-Lobos's string of diminished sevenths—in such a limited tonal context—is excessive and produces a chromatic division that jeopardizes the tonal stability of the work.

The bombardment of chromaticism generated by the diminished sevenths in the Villa-Lobos lasts twenty-two measures (including repeats), which matches the length of the tonal exposition. This extended chromatic passage subsumes the E minor tonality of the exposition save for the E3 and E5 pedal points.[24] In addition, this tonally ambiguous passage comprises more than a third of the sixty-one sounding measures that make up the entire piece,[25] thus, encouraging a form-proportional misreading. The diminished sevenths divide this piece almost exactly into three parts and, arguably, in doing so forge their own section, a section that presents a near complete move away from the tonal exposition. The length of this move sets high expectation for the return to tonal order; thus, we sense that the closing section after the diminished sevenths resolution in m. 24 is a type of return to the beginning, even though it is not literal. The extended section of diminished sevenths in mm. 12-23 is a misreading of the prolongational function to such an extent that it has a powerful effect on the form of this piece: a form that is fundamentally through-composed is sectionalized enough that it gives the impression of an A-B-A structure.

The listener's awareness of this string of diminished sevenths is conceivably more in tune to the excessive length of this passage and its tonal disruption than to the way this passage might be said to function in a traditional sense; however, a Schenkerian approach can help ameliorate the ambiguity this string of diminished sevenths brings and lend support to the notion that this passage is a form-proportional misreading of a dominant prolongation. Example 6 presents a graph of mm. 11-24 in Étude No. 1. The graph

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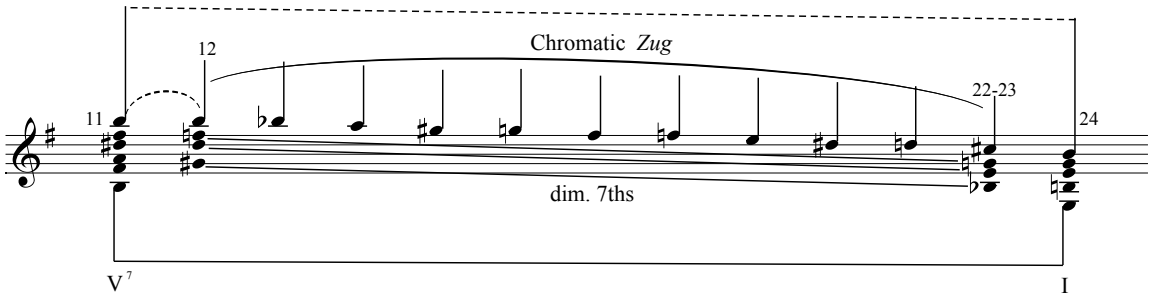
[24] These are written pitches; the guitar sounds an octave lower than written.
[25] There are thirty-four written measures in Villa-Lobos's first etude; however, only twenty-seven have repeats; therefore, there are sixty-one sounding measures.

begins on the dominant seventh from the tonal exposition and illustrates the diminished sevenths as harmonizations of a chromatic linear progression, or *Zug,*[26] that horizontalizes the interval of an octave from the dominant harmony: B5 to B4. The *Zug* prolongs the dominant over the course of these measures. The lengthy prolongation is the result of Villa-Lobos's pre-compositional plan to move one chord per measure, and it seems logical to assume that Villa-Lobos's intention was to showcase this section.

Example 6. Chromatic *Zug*: B5 to B4, Étude 1, measures 11-24



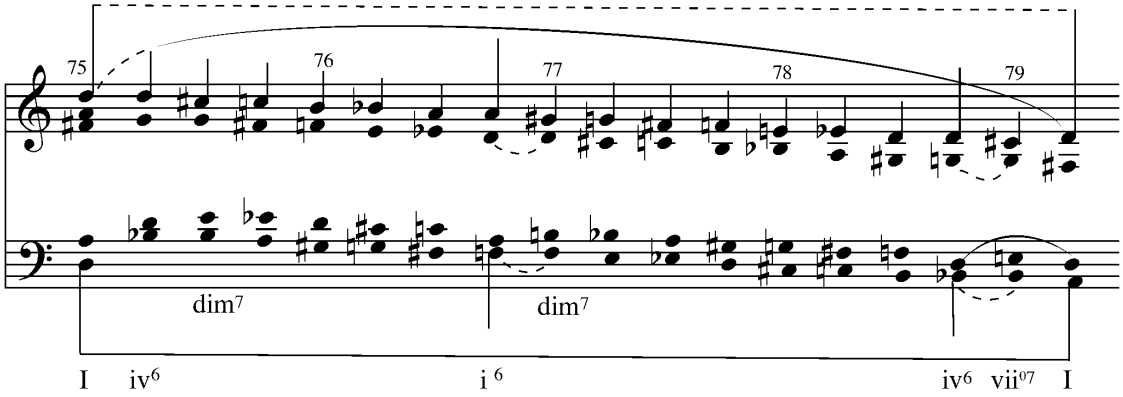
It should be noted that not all of this linear progression is chromatic. The move from the penultimate note, C♯, to the B in the tonic triad is, of course, a whole step; therefore, the diminished seventh involving C♯ results in a common-tone diminished seventh, leading to tonic. If the half step between C♯ and B had been provided, a more cadential VII^{o7} to tonic would have resulted. The reason for the missing half step is a technical matter: the guitarist simply runs out of neck to descend any farther. Supplying the VII^{o7}

[26] The *Zug* function in Heinrich Schenker's theory refers to a stepwise progression of a third or greater connecting structural notes of one or more harmonies.

would involve re-fingering the chord, which would significantly alter the arpeggiated figure, interrupting the fluidity of the passage.

The earlier Bach excerpt in Example 3 supports the Schenkerian interpretation of Example 6. Like the Villa-Lobos, the Bach evinces a chromatic *Zug*. Example 7 graphs Bach's linear progression in the same manner as the Villa-Lobos excerpt in Example 6;

Example 7. Chromatic *Zug*: D5 to D4, Bach, *Chromatic Fantasy and Fugue* in D minor, measures 75-79



however, here each diminished seventh voicing is given to clarify the descent.[27] Like Example 6, the top voice in Example 7 is a horizontalization of a structurally significant interval: in this case, the octave from the tonic triad, D5 to D4. One noteworthy difference between the Bach and the Villa-Lobos examples is that Bach ameliorates the tonal ambiguity of the chromatically descending diminished sevenths by recalling the tonic triad in the middle of the descent: a break in the chromatic descent occurs on the

[27] Examination of the score reveals that Bach's strict parallel motion of the diminished sevenths is somewhat obscured by doublings, which the graph eliminates. The graph also eliminates the D pedal.

fourth beat of m. 76 and allows the first-inversion tonic D minor to appear. There is another break in the diminished seventh's descent: the first inversion subdominant, which is on the fourth beat of m. 78, interrupts before the descent to the last diminished seventh chord. In comparing the Bach and the Villa-Lobos excerpts, one can see that Bach maintains control over the chromatic cascade by inserting tonal reference points; however, Villa-Lobos avoids such reference points, and the chromatic cascade takes control.

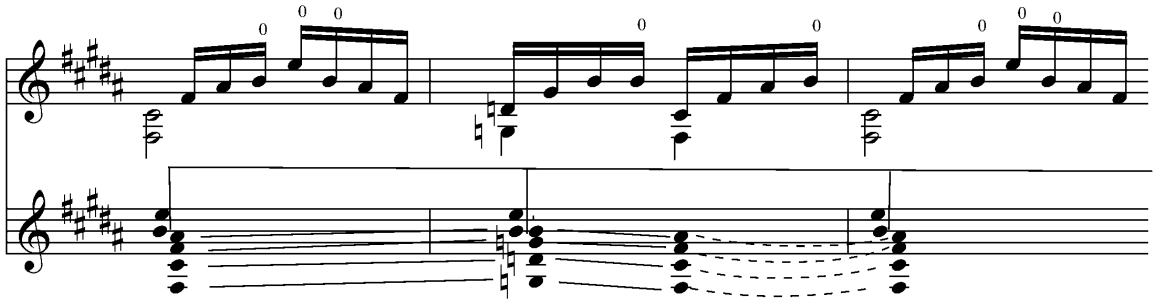
2.1b. Prélude No. 2

We now turn to a more abstract misreading of traditional tonality. Prélude No. 2 from Villa-Lobos's *Cinq Préludes pour Guitare* (1940) provides another example of fixed-left-hand fingering, this time within a much different musical context. In Prélude No. 2, the planing technique generates the B section of a straightforward A-B-A form. The planing shuts down functional harmonic and voice-leading procedures and creates a section with two fundamental aspects: first, the B section transforms tonality into an association of diverse subsets of the major scale; second, the succession of these harmonies—notwithstanding their seemingly traditional characteristics—essentially fails to generate any tonally directed motion for a significant amount of time. Both of these issues will be addressed shortly.

Example 1 details the planing technique with the first three measures of the B section, which is made entirely of arpeggiated figures.[28] The top staff presents the music as written; the bottom staff presents a reduction. The reduction shows a fixed triadic voicing moving up and down in parallel motion, while two open strings sound B4 and E5; thus, the construction of the B section is through various positions of a block voicing combining with the two pedals. The pedals themselves are not functioning as much as discrete elements against the block voicings as they are invariant members of each sonority—this should become clear as our analysis unfolds.

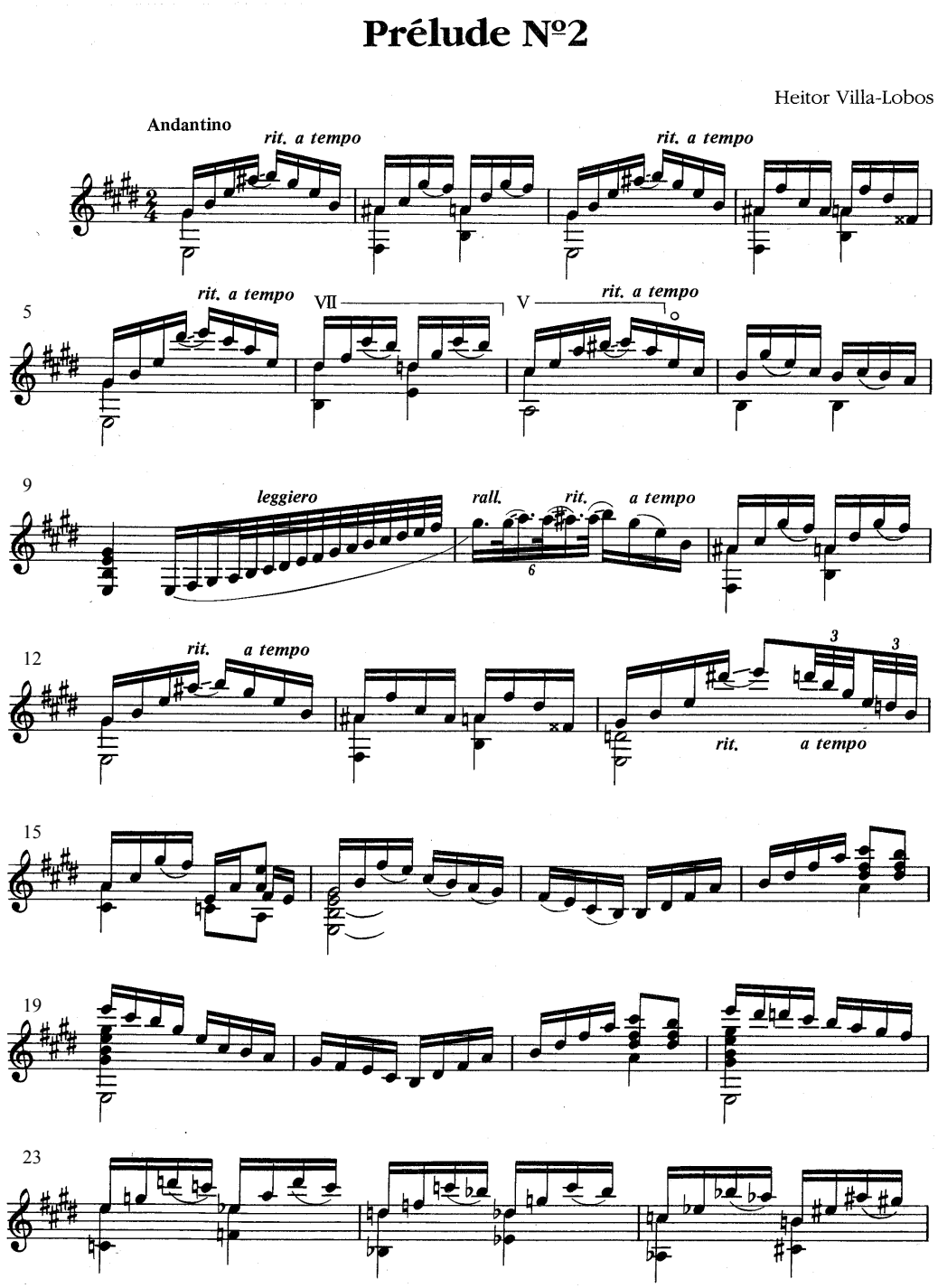
[28] The zeros in the upper staff of Example 1 are indicating open strings.

Example 1. B section, graph of planing technique in first three measures, Prélude No. 2

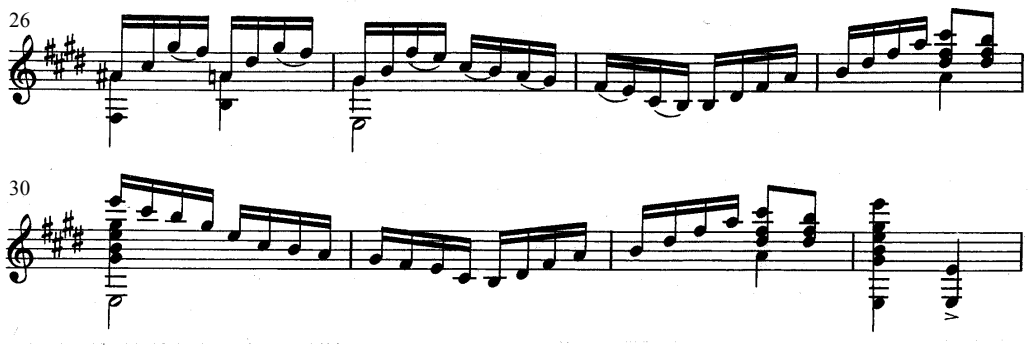


A few words about the opening A section are in order at this point, although only cursory harmonic issues need be addressed. Shown in Example 2, the A section is a traditional harmonic design, and except for the single occurrence of a subdominant move to minor in measure 15, all harmonies are major. In this section, arpeggiated secondary dominant to dominant to tonic progressions appear as surface level embellishments of a middleground prolongation of the E major tonic. The section has no real sense of continuation or cadential closure; a basic idea is simply presented and prolonged. The opening section acquires no momentum; thus, the extended tonic prolongation sets up strong expectations for ensuing material that will destabilize this opening. In addition, the unwavering E tonality promotes the likelihood that succeeding material will also be tonal; however, when Villa-Lobos finally answers the call for change, he does so with a cannonade of chromaticism.

Example 2. A section, Prélude No. 2, measures 1-33



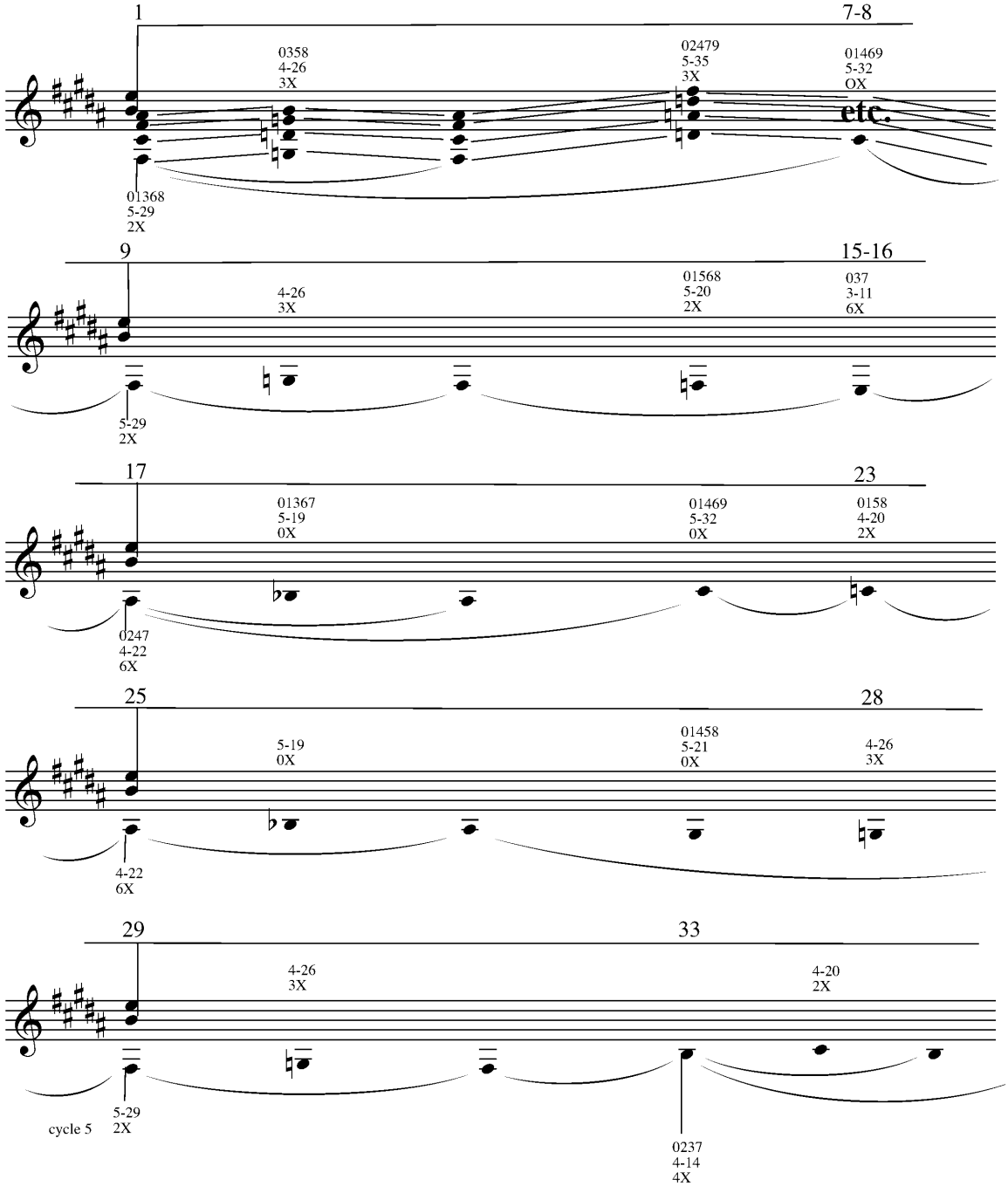
Example 2. A section, Prélude No. 2, measures 1-33 (cont.)



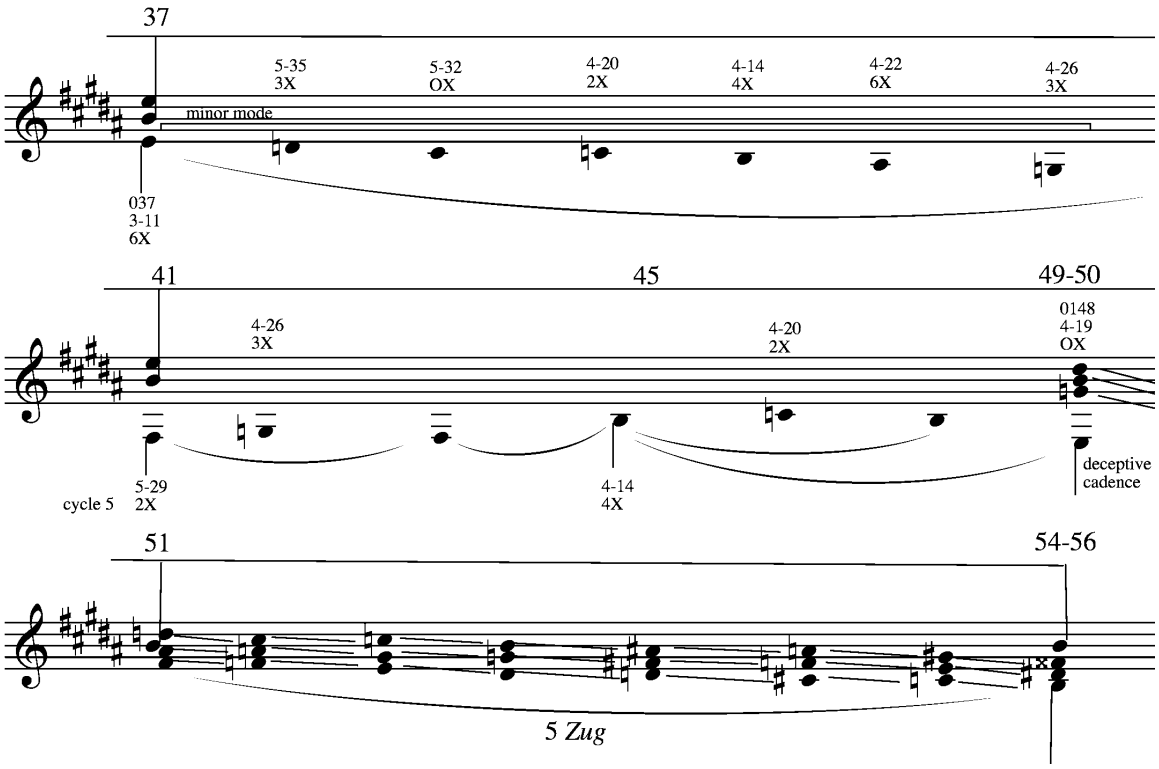
Example 3 illustrates the essential musical events of the tonally cryptic B section.[29] A bass line outlines the succession of chords, and prime forms and set-class names reference the sonorities; however, hereafter only set-class names will be used.[30] The example also supplies the number of times each set class is embedded within the major scale (by transposition or inversion); this is marked with a number followed by an X.[31] The reason this study compares the harmonic content of the B section to the major scale will be discussed momentarily.

[29] Measure numbers start from the beginning of the B section.
[30] The issues of prime form, set class, and set-class names are addressed in Forte, *The Structure of Atonal Music*, part one.
[31] "Embedding," defined as the function EMB, can be found in Lewin, *Generalized Musical Intervals and Transformations*, 105-106.

Example 3. B section reduction, planing technique, Prélude No. 2



Example 3. B section reduction, planing technique, Prélude No. 2 (cont.)



First of all, the key signature of B major is not an indication of tonal center; no harmonic process tonicizing B is present. The B section is primarily made up of eleven set classes created through the block planing of a fixed major triad, set-class 3-11, combined with the invariant pitches B4 and E5. Figure 1 presents these eleven set classes and lists them in order of appearance in the left column. The right column gives the interval-class vector of each set class, and a tally of each interval class is provided below.[32] The tally provides an account of this section's aural characteristics, as revealed through interval-class concentration. The tally indicates that interval-class 5 is the most concentrated, with 25

[32] Forte discusses interval class and interval-class vector in *The Structure of Atonal Music,* part one.

occurrences. Interval-class 3, with 18 occurrences, and interval-class 4, with 17, are also prominently featured. The dominance of interval classes 5, 4, and 3 generates strong tonal references in the traditional sense, much of which are brought about through the planing of set-class 3-11, which is built from the three dominating interval classes.

Figure 1. B Section, set-class constituency and interval-class total, Prélude No. 2

Set Class	Interval-Class Vector
5-29	1 2 2 1 3 1
4-26	0 1 2 1 2 0
5-35	0 3 2 1 4 0
5-32	1 1 3 2 2 1
5-20	2 1 1 2 3 1
3-11	0 0 1 1 1 0
4-22	0 2 1 1 2 0
5-19	2 1 2 1 2 2
4-20	1 0 1 2 2 0
5-21	2 0 2 4 2 0
4-14	1 1 1 1 2 0
total	10 12 18 17 25 5

Encouraging the next step in this analysis—namely, the aforementioned comparison of the B section's set-class constituency to the major scale, set-class 7-35—are several

factors, all of which are emblematic of traditional tonality, a condition that associates these factors with the major scale. With no intended order of importance, the first factor is the concentration of interval-classes 5, 4, and 3; these interval-classes, as just mentioned, generate strong tonal references in the traditional sense. A second is the dominance of set-class 3-11, in the form of the major triad; perhaps, nothing is more emblematic of traditional tonality than the use of triads. Another important factor is possibly the most tangible: namely, the bass line, as defined by a traditional phrase structure. The bass line phrases in eight-measure phrases, and these eight-measure phrases highlight specific scale degrees that compose out a specific tonal resource, which will be elaborated upon below. A fourth factor is the B section's use of the B major key signature; indeed, it has been mentioned that there is no traditional harmonic process tonicizing the key of B; however, Villa-Lobos's use of this key signature suggests a paradigmatic, traditional tonal move: namely, the tonic key of an A section moving to the dominant in the B section.[33]

The mix of these emblematic tonal elements suggests that traditional tonality has been fragmented in the B section, and the consideration of set-class 7-35 enriches this view. It can be argued that the role of this set class here reflects its role in a traditional tonal context: as an underlying controlling force. Hence, the tonal references on the surface would not stand alone, battling, as is the case in much modern music, against an otherwise non-tonal background. One might now consider that 7-35 resides in the background through the reference of emblematic surface events, the most revealing of

[33] We will discuss shortly how the B section becomes more and more tonal sounding, and ultimately ends with what is arguably a retransition to dominant harmony, preparing the return of the A section.

which is a set-class constituency that is contained within this proposed background. Tonality, here, is certainly not functioning in a traditional sense; however, because of the rich mix of emblematic components, we can consider that the B section is generating a misreading of a traditional tonal setting; in fact, this misreading can be more finely tuned.[34]

To say only that the B section is a misreading of a traditional tonal setting risks being too general and fails to take this analysis one step further with a direct comparison of the B section to the A section. It has been mentioned that the A section contains only major harmonies; in the B section, the planed formations of 3-11 controlling the surface are also all major. Moreover, the fundamental structural design of the A section is an arpeggiated harmonic design; the B section is also an arpeggiated harmonic design. Another factor weighs heavily into the mix: mm. 29, 33, and 37 of the B section herald a distinctively tonal II-V-I bass motion in the tonic key of E major; in the A section, II-V-I motions saturate the foreground. Thus, there are enough structural parallels to propose that the B section specifically misreads the A section, and consequently the misreading is more informative.

One aspect of the B section's planing technique is the way chord progression is affected. In the first series of five sonorities in Example 3, mm. 1-8, an interesting interaction between set class and bass motion develops. The first sonority built on F♯, set-class 5-29, establishes tonal focus through an embellishing F♯-G-F♯ motion; the

[34] Looking at the set-class constituency through the lens of 7-35 does not preclude that, say, another seven-note set might also contain just as many of these smaller sets; however, the B section's rich mix of emblematic traditional elements on the surface, encourages the analytical approach of misreading, and positing the traditionally emblematic 7-35 on the background intensifies this approach.

upper neighbor G supports set-class 4-26. Although not as self-evident, the ensuing motion of set-class 5-35 on D, moving to set-class 5-32 on C♯, repeats a similar upper neighbor motion, given that the sonority built on C♯, mm. 7-8, has more structural weight than the preceding sonority built on D.[35] Indeed, C♯ appears structurally significant because it is in a traditional V to I relationship with the ensuing F♯ bass note, m.9; therefore, C♯'s preceding bass note, D, seems only to embellish C♯'s dominant function. Example 3's first sonority built on F♯, set-class 5-29, occurs twice in 7-35; its upper neighbor built on G, set-class 4-26, occurs three times in 7-35. Because 4-26 is in a closer relationship with the referential collection than 5-29, one might borrow a tonal expression and say that 4-26 is more "consonant" than 5-29.[36] In a traditional setting, neighbor embellishments establish a dissonant motion away from a consonance; however, in the case here, 4-26 might be interpreted as more consonant than its chord of resolution: 5-29. This role reversal intensifies. The subsequent upper neighbor built on D, set-class 5-35, occurs three times in 7-35; in addition, 5-35 and 7-35 are complement related;[37] thus, these sets have a proportional distribution of intervals, making them intervallically similar. However, the chord of resolution built on C♯, set-class 5-32, in mm. 7 and 8, is the first of only three set classes in the B section that are *not* subsets of 7-35.[38] Thus, it appears that the progression of the first five sonorities misreads the traditional role of embellishing neighbors by reversing the consonant-dissonant

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[35] Recall this study's discussion of structural weight on pp. 16-17.
[36] It is perhaps dangerous to analogize subset saturation (T_n and T_nI equivalent subsets in a set) with consonance; however, this mild machination allows for a descriptive terminology that set theory lacks.
[37] For complement relations, see Forte, *The Structure of Atonal Music,* part one.
[38] In stating that there are only three set classes outside the referential collection, I am taking into account only the primary portion of the B section formed by the planing of set-class 3-11.

interrelationship: in other words, we cannot map the traditional sense of a consonant vs. dissonant relationship onto the structural vs. embellishing relationship.

The next series of five sonorities in mm. 9-16 begins after the aforementioned V to I motion resolves 5-32 over C♯, from mm. 7 and 8. The resolution returns us to 5-29 over F♯ on the downbeat of m. 9, which begins the new series. Here again, the more consonant 4-26, over G, is a neighbor to the more dissonant 5-29. Measures 9-16 end with a passing chord built above F, set-class 5-20, moving to the simple triad built on E, set-class 3-11. 5-20 occurs twice in 7-35, and 3-11, of course, is fundamental to 7-35, occurring six times. This passing chord motion inaugurates the more traditional rendering of an embellishing consonant-dissonant relationship, since 5-20 may be considered more dissonant than its chord of resolution: the obviously consonant 3-11.

Set-class 3-11 (E major) in mm. 15 and 16, however, does not constitute a return to the tonic E major of the opening section: no harmonic process reestablishes the E tonal center. The motion preceding the E major triad is equivocal: it does not anticipate or define a tonic arrival; it simply tapers off the first fifteen measures. If E major has a tonal parallel it would be realized only in retrospect at the downbeat of measure 17, when the bass note A arrives, supporting set-class 4-22. Here, one might interpret the E major triad to be functioning like a secondary dominant, but, certainly, no sense of tonic can be attributed to E major at this point.

As shown in Example 3, mm. 17-28 parallel the first sixteen measures. The first sonority, set-class 4-22, is a highly concentrated subset of set-class 7-35, occurring six times. This tonally accentuated set class joins with the only three set classes in this

section that are not subsets of 7-35: 5-19; a return of 5-32; and 5-21.[39] This "dissonant" contrast throws the tonal accentuation of set-class 4-22 into relief, and this surface characteristic maintains a degree of separateness for mm. 17-28 when comparing these measures to their structural parallel: mm. 1-16.[40] However, neither passage is convincingly distinct in terms of structural weight.

In the case of our two parallel passages, one might be tempted to suggest that mm. 17-28 prolong mm. 1-16, but prolongational conditions—which arguably depend on functional harmonic and voice-leading procedures—do not exist; therefore, the second passage cannot convincingly prolong the first, nor can it convincingly provide a sense of arrival in the sense that it has *more* structural weight than the first passage. Thus, it would appear that the first twenty-eight measures are tonally static.

Although the theory of prolongation is problematic in a non-tonal setting, another Schenkerian concept might be employed here. The reason mm. 1-28 might be viewed as tonally static may not be just the obvious lack of functional harmonic and voice-leading procedures; certainly, music lacking traditional tonal resources can generate motion and a sense of arrival. One explanation for the tonal stasis in question may lie in the bass motion itself, which can be analyzed according to Schenker's notion of *Stufe,* or scale-step.[41]

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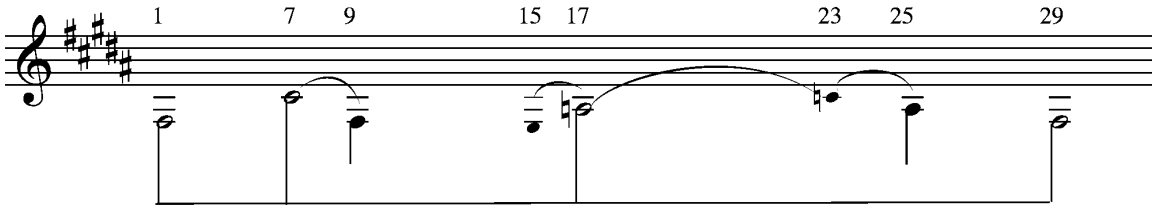
[39] A comparison of non-subset set classes to the referential set-class 7-35 using other similarity relations, such as those found in Robert Morris's "A Similarity Index for Pitch-Class Sets," *Perspectives of New Music* 18 (1979/1980): 445-60, could be useful in a deeper analysis of set-class constituency; however, it is not necessary for the current study.

[40] The score reveals that these two passages have more surface differences than shown in Example 4; these differences, however, are of no consequence to the discussion here.

[41] The mature concept of *Stufe* lies in the theoretical writings of Heinrich Schenker.

Example 4 puts us deep into the background of the first twenty-eight measures (the example has been extended through m. 29 in order to show the complete cycle of events). The texture has been reduced to the principal bass notes of this section, based on a *Stufe* analysis and the concept of reduction. Invoking the harmonic concept of *Stufe* provides us with the framework to perceive these twenty-nine measures as a composing out of the harmony based on the second scale degree of the E major scale. In Example 4, the beamed open note heads designate the F♯ minor triad lying at the most background level. The stemmed closed note heads designate recurring, middleground appearances of certain chord tones. The two stemless pitches invoke two other traditional concepts: the E tonicizes the third of the chord, and the C♮, a mediant relation, prolongs the third.[42] The temporal appearance of chord tones, F♯-C♯-F♯-A-F♯, serves to reestablish the root of the "II *Stufe*" after each move away. This analysis acknowledges an allusion to tonal process and provides a workable explanation for the tonal stasis in this section with the suggestion that the bass defines only a single harmony in twenty-nine measures.

Example 4. B section, *Stufe* analysis, bass line, Prélude No. 2, measures 1-29



The reason the II *Stufe* survives our reduction is because Villa-Lobos does not stray from a traditional phrase structure. As mentioned above, his eight-measure phrasing

[42] Here, the notion of prolongation is compatible with the *Stufe* perspective.

highlights the bass line, as illustrated in Example 4. At the beginning of the first eight measures, Villa-Lobos presents the tonic of the *Stufe*: F♯. At the end of these first eight measures, the fifth of the *Stufe*, C♯, aligns itself with the tonic in mm. 7 and 8. Measure 9, the beginning of the next eight measures, resolves C♯ back to the tonic F♯, and, after a varied repetition of the first eight measures, measures 9-16 close with what is arguably a secondary dominant in the form of set-class 3-11 on E. E then resolves to A, the third of the *Stufe*, and A begins each of the following eight measure groupings, at mm. 17 and 25, respectively. The second half of the final eight measures reestablishes the tonic F♯, which begins at m. 29. Hence, a traditional eight-measure phrase structure demarcates the composing out of the II *Stufe*.

Referring back to Example 3, we can see that tonal stasis eventually gives way to goal directed motion beginning in m. 29, where our sense of tonality becomes enriched when the planed sonorities start a cycle-5 motion. Beginning on F♯, Villa-Lobos recalls the aforementioned II-V-I motion from the surface of the opening A section. Set-class 5-29 is again above the F♯, which, as noted, occurs twice in 7-35. Above the dominant, in m. 33, is set-class 4-14, which twice increases the inclusion relation of 5-29, occurring four times in 7-35. When 3-11 arrives above E in m. 37, the inclusion relation is three times that of 5-29 (as noted, 3-11 occurs six times in 7-35). The progressive increase in the number of times these three set classes occur in 7-35 transfers a 2X-4X-6X embedding sequence onto the II-V-I bass motion: namely, a progression of decreasing tension. This sequence is interesting if one is inclined to regard the progressive decrease of tension of this chord succession as a misreading of normative tonal progression, where the chord with the most tension is placed next to the chord that is most reposed, at the end of the

progression; instead, here, although the chord succession outlines a conventional II-V-I motion, the chord with the most tension and the chord that is most reposed are positioned as bookends.

Indulging in this idea of an embedding sequence one step further, we see that after E major arrives in m. 37, the chords plane through a minor-mode descent between mm. 37 and 40. The inclusion relationship in this descent, combined with that of the embedding sequence described above, may be perceived as a wave of tension and release, as defined by the number of times each sonority is embedded in the referential set-class 7-35: namely, those chords embedded the least number of times generate the most tension, while those embedded the most number of times are the most reposed.[43] The initial sequence, 2X-4X-6X, produced in mm. 29, 33, and 37, falls to its point of most repose with set-class 3-11 (6X), and then, in quick succession, the sequence abruptly rises in tension in mm. 37-40 through chords embedded first 3 times and then 0 times. Immediately the sequence repeats its descent, 2X-4X-6X, and then again rises in tension with a chord embedded 3 times, resulting in a wave of embedding relationships: 2X-4X-6X-3X-0X-2X-4X-6X-3X.

Referring back to Example 3 once more, we see a final wave generated between mm. 41-50, through the sequence 2X-3X-4X-2X-0X. The sonority highest in tension, at the end of this sequence, creates an effective deceptive resolution with the E bass supporting

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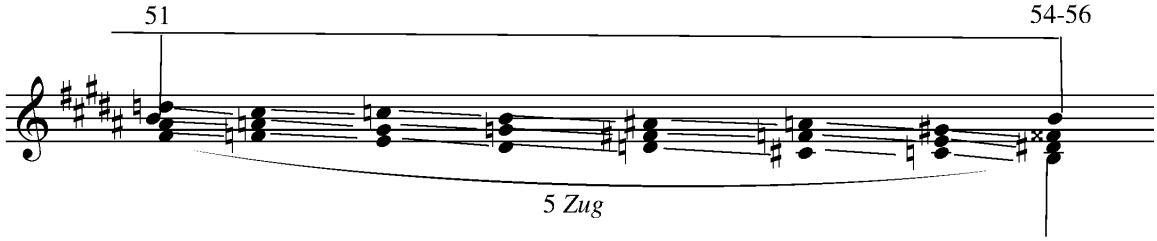
[43] The notion of a wave is inspired by Richard Cohn's article "Transpositional Combination of Beat-Class Sets in Steve Reich's Phase Shifting Music," *Perspectives of New Music* 30/2 (Summer 1992): 146-177. Here, Cohn discusses a composite rhythm comprised of a repeated beat-class set sounding against a series of its transpositions, and, in terms of how many total attacks per metric cycle, the effect is that of a pushing ahead, falling back, rushing forward, and falling back again, thus, effectively creating a wave.

set-class 4-19. At this point, the major triadic formations stop and an augmented triad emerges from 4-19, in m. 51. The augmented triad, coupled with a B4 pedal, is now planed chromatically down in mm. 51-56 affecting a type of retransition to the dominant of E major, with a final augmented triad over a B bass; this final chord implies a half cadence, which sustains for the last two measures of the section.

These final measures mark another allusion to traditional tonal process, and Schenker's concept of *Zug* helps to clarify this event. Example 5 highlights mm. 51-56 according to a *Zug* analysis. The bottom voice of the descending augmented triads horizontalizes the fifth from the dominant triad, F# to B, and can be seen to function as a *Zug* that composes out the dominant over the course of these measures. Hearing the dominant as being composed out is aided by the fact that the final sonority is a root position dominant augmented triad. One can clearly hear that the second half of the B section brings traditional tonality much closer to the surface than does the first half; however, traditional tonal procedures are not restored until the return of the A section.

Example 5. B section, chromatic 5 *Zug,* Prélude No. 2, measures 51-56



* * *

The tonal transformations brought about by the fixed-left-hand planing technique form links with traditional tonality that might be said to range from the abstract to the specific. In the first twenty-eight measures of the B section of Prélude 2, we can observe tonality as being misread in a highly abstract sense: through the reference of subsets from the diatonic scale, set-class 7-35, combined with the use of tonally emblematic components. However, the abstract tonality of the first twenty-eight measures is perhaps ameliorated by the *Stufe* analysis, which helps echo a tonal message. Ultimately, though, when cycle-5 motion built on the II-V-I of the opening key begins in m. 29, a direct connection forms between the A and B sections, which in turn proposes a more defined origin for all of the B section's tonally emblematic components; consequently, the misreading becomes more finely tuned, and the overall musical context becomes more united.

2.2. The Fixed-Left-Hand Fingering: Crossing Paths with Neo-Riemannian Theory

In Prélude No.2, the consonant triad (set-class 3-11) is the essential component of the planing technique. As we further explore the planing technique, as derived through the fixed-left-hand fingering, we will find that Villa-Lobos continues to favor consonant chords common to diatonic practice. Like so much of the repertoire from the Romantic period on, Villa-Lobos's music often embeds diatonic sonorities into a tonally indeterminate harmonic syntax. In such settings, these sonorities are not governed by the syntactic routines of diatonic tonality. This study will now adopt a method of analytical practice that provides the tools needed to dig deeper into the harmonic contexts engendered by the fixed-left-hand fingering, contexts where chords common to diatonic practice form relationships, though embedded in tonal indeterminacy.

Characteristics such as tonal indeterminacy and the use of consonant harmonies are primarily associated with the 12-note triadic repertoire of Wagner, Liszt, and Mahler, among others; and, as one might expect, an analytical approach toward such music is problematic. Richard Cohn states that music of this type often "lures the attentions of analytical models designed for diatonic music"; however, this music is "also notoriously unresponsive to such attentions."[44] Responding to the analytical difficulties posed by tonally indeterminate triadic music is a resurrection of transformational theories under the rubric of neo-Riemannian theory. Initiated by David Lewin and Brian Hyer,[45] neo-

[44] Richard Cohn, "Introduction to Neo-Riemannian Theory: A Survey and a Historical Perspective," *Journal of Music Theory* 42/2 (Autumn 1998): 168.
[45] See David Lewin's, *Generalized Musical Intervals and Transformations,* 175-180, and Lewin's earlier essay, "A Formal Theory of Generalized Tonal Functions," *Journal of*

Riemannian theory advances a group-theoretic approach to triadic transformations and arose in response to the problems posed by music that presents triadic structures within a tempered 12-note universe as opposed to the traditional diatonic universe. The connection to the late nineteenth early twentieth century theorist Hugo Riemann (1849-1919) is through Riemann's system of *Schritte* and *Wechsel* transformations, which essentially translate into the transposition and inversion of triads, or *Klänge,* as Riemann and other theorists of the nineteenth century referred to them. Common neo-Riemannian transformations considered are Relative, Parallel, and Leittonwechsel[46]—labeled REL, PAR, and LT: three contextual inversions[47] that, respectively, (1) map a triad into its relative major or minor; (2) map a triad into its parallel major or minor; and (3) map a major triad to its minor mediant, and by the same, but reciprocal, motion, map the minor triad back to the major. (These operations will be fleshed out shortly.) Also considered is the transformation labeled DOM: T_5 relationships. Neo-Riemannian theory helps answer the question posed by triadic12-note music: If this music does not adhere to traditional diatonic tonality, then to what other principles might it unify?[48] For neo-Riemannian theorists, the answer to this question lies in a description of triadic relations that was also of primary concern to nineteenth century theorists: namely, a description of consonant-chord relationships through common-tones and parsimonious voice leading.

Music Theory 26/1 (Spring 1982): 23-60. Also see Brian Hyer's, "Tonal Intuitions in 'Tristan und Isolde'" (Ph.D. diss., Yale University, 1989), 175-226.

[46] Leittonwechsel comes directly from Riemann's terminology.

[47] REL, PAR, and LT are termed "contextual inversions" because each generate an inversional axis defined in relation to the component pitch classes, as opposed to a fixed point in pitch-class space. (Note: Initiated by Hyer, REL, PAR, and LT are commonly represented as simply R, P, and L.)

[48] Cohn, "Introduction to Neo-Riemannian Theory," 169.

Fundamental to neo-Riemannian theory is the issue of parsimonious voice leading, an issue that is the point of departure for work initially developed by Richard Cohn.[49] Cohn observed parsimonious voice leading in the three contextual inversions of Lewin and Hyer. Each contextual inversion, or transformation, retains two common tones and moves the third voice by step: in the case of P, two voices hold the pitch classes that form the perfect fifth, and the third voice moves by half step, creating same-root triads; in the case of L, two voices hold the pitch classes that form the minor third, and the third voice moves by half step, creating root-distinct triads; and, in the case of R, two voices hold the pitch classes that form the major third, and the third voice moves by whole step. These transformations have the ability to generate extended single-voice-motion triadic progressions and, thus, these progressions have been termed parsimonious.[50] This study will adopt the neo-Riemannian concept of parsimonious voice leading and adapt it to the analysis of harmonic conditions presented by the fixed-left-hand fingering, but, before launching into this type of analysis, we will first investigate the nature of parsimonious constructions.

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[49] Although Cohn's essay "Maximally Smooth Cycles, Hexatonic Systems, and the Analysis of Late-Romantic Triadic Progressions," *Music Analysis* 15/1 (March 1996): 9-40 assumes the general notion of parsimonious voice leading, it is Cohn's subsequent work that advances parsimony as a concept: "Neo-Riemannian Operations, Parsimonious Trichords, and Their 'Tonnetz' Representations," *Jounal of Music Theory* 41/1 (Spring 1997): 1-66. Richard Cohn's work with parsimonious constructions also includes "Weitzmann's Regions, My Cycles, and Douthett's Dancing Cubes," *Music Theory Spectrum* 22/1 (Spring 2000): 89-103.

[50] Apart from Cohn's, "Maximally Smooth Cycles," "Neo-Riemannian Operations," and "Weitzmann's Regions," also see Jack Douthett and Peter Steinbach, "Parsimonious Graphs: A Study in Parsimony, Contextual Transformation, and Modes of Limited Transposition," *Journal of Music Theory* 42/2 (Autumn 1998): 241-263.

Neo-Riemannian research reveals that a limited number of set classes are able to participate in parsimonious voice leading. Cohn points out that only three pair of set classes participate in what he refers to as maximally smooth cycles, which is his term for parsimonious, single-voice-motion progressions: namely, set class 1-1 and its complement 11-1; set class 3-11 and its complement set class 9-11; and set class 5-35 and its complement set class 7-35.[51] As Cohn explains, one pair is trivial: the set class of cardinality one and its complement of cardinality eleven. The remaining four, to use Cohn's words, "constitute a society of exceptional pedigree."[52] Cohn further explains that of the four set classes, three of them represent high breeding: 3-11 (the consonant triad), 5-35 (the pentatonic collection), and 7-35 (the diatonic collection), all of which are privileged by traditional common practice. The remaining set class, 9-11 (3-11's complement), Cohn references as insufficiently "lean and nimble to be of any value."[53] Of the three set classes charged with high breeding, however, only set-class 3-11 contains a property often associated with parsimony—namely, set-class 3-11 is a minimal perturbation of a symmetrical division of the octave: the T_4 cycle.[54] Specifically, each one of set-class 3-11's twenty-four members displaces—by a single half step—one of the four T_4 cycles. In this sense, then, set-class 3-11 is distinct, because the other

[51] Cohn, "Maximally Smooth Cycles," 16-17.
[52] Ibid., 16.
[53] Ibid.
[54] Indeed, set-class 3-11's complement, set-class 9-11, is also a minimal perturbation of a symmetrical division of the octave (the enneatonic collection); however, 9-11 lacks attention from neo-Riemannian scholarship. The enneatonic collection, on the other hand, has been addressed; for example, see Douthett and Steinbach, "Parsimonious Graphs," 241-263; also see Capuzzo, "Pat Martino's *The Nature of the Guitar*." (In Capuzzo's essay the enneatonic is referred to as the nonatonic.)

parsimonious set classes mentioned (set class 5-35 and 7-35) are not minimal perturbations of symmetrical divisions.[55] (We will refer to this property again.)

A unique property of set-class 3-11 is that it is the only set class, of the three practical set classes associated with parsimonious voice leading, able to form more than one parsimonious cycle. Our tonal tradition informs us that the diatonic collection, set-class 7-35 (along with its complement the pentatonic collection, set-class 5-35), moves in parsimonious, single-voice motion through the cycle of fifths, forming a solitary, single-voice-motion cycle through all members of its set class. The unique property of set-class 3-11 is that single-voice motion does not exhaust all members of the set class; instead, single-voice motion of set-class 3-11 partitions its members into co-cycles, a property that is compositionally and analytically significant.[56]

Single-voice-motion co-cycles are formed by combining transformations. The combination of the two transforms that move by half step, P and L, results in what Cohn refers to as a hexatonic cycle, because this cycle's total pitch-class content generates a hexatonic collection.[57] Four hexatonic co-cycles partition set-class 3-11, one for each

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[55] Three places where the term "minimal perturbation" occurs: Cohn's, "Introduction to Neo-Riemannian Theory," 177; "Weitzmann's Regions," 101; and "Maximally Smooth Cycles," 39, fn. 40.

[56] Cohn, "Maximally Smooth Cycles," 16-17. At this point, it is worth making the distinction between "maximally smooth" and "parsimonious." For Cohn's maximally smooth cycles, the transition between chords involves only the semitone motion of a single voice, and, while this motion is parsimonious, parsimonious voice leading can also describe transitions between chords where more than a semitone is displaced. In fact, parsimonious relations are flexible not only in the amount of displacement between chords (measured by the number of half and/or whole steps) but they are flexible in the number of voices that move and in the number of voices that remain common. Therefore, parsimonious voice leading is a general reference to chord relationships that involve common tone(s) and step motion.

[57] Ibid., 13-23. Also see Cohn, "Neo-Riemannian Operations," 37-42.

hexatonic collection, and each of these consist of six triads.[58] The combination of the half-step transform P with the whole-step transform R results in a cycle of eight triads, whose total pitch-class content generates an octatonic collection—three octatonic co-cycles partition set-class 3-11, one for each octatonic collection.[59] One other combination of two transforms remains: the alternation of half step L, with whole step R.[60] This progression cycles through all 24 members of set-class 3-11, and, in this respect, is analogous to 7-35's single-voice-motion cycle: the cycle of fifths. There is also the ternary cycle of <LRP>, which generates twelve co-cycles of six triads; in this ternary cycle, each triad, or member set, participates in three co-cycles.[61] The point to be made is that even in the briefest exposition of parsimonious voice leading, like the one above, it is clear that parsimony lends itself to multiple levels of examination.[62]

Since triadic relationships initiated the neo-Riemannian enterprise, it is the investigation of these relationships that is most prevalent, especially the relationship between two triads that holds two common tones and moves the third voice by step. Most typical is the triadic relationship that holds two common tones and moves the third voice by half step; this relationship is seemingly more parsimonious than the relationship that holds two common tones and moves the third voice by whole step. Theoretically,

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[58] Douthett and Steinbach also discuss these cycles, see "Parsimonious Graphs," 245, 248.
[59] Cohn, "Neo-Riemannian Operations," 37-42. Douthett and Steinbach, "Parsimonious Graphs," 246, 247.
[60] Cohn, "Neo-Riemannian Operations," 36-37. Douthett and Steinbach, "Parsimonious Graphs," 249.
[61] Cohn, "Neo-Riemannian Operations," 42-46. Douthett and Stienbach, "Parsimonious Graphs," 249.
[62] Also embedded in the way set-class 3-11 moves is that set-class consistency remains in the event of either half- or whole-step single-voice motion. However, 7-35 and 5-35 can only move in half-step single-voice motion and retain set-class consistency.

however, there are four scenarios for triadic parsimony described in neo-Riemannian accounts: (1) the relationship that holds two common tones and moves the third voice by half step; (2) the relationship that holds two common tones and moves the third voice by whole step; (3) the relationship that holds one common tone and moves two voices by half step; and (4) the relationship that holds one common tone and moves a second voice by half step and a third voice by whole step.[63]

Aiding the examination of diverse parsimonious constructions is a notation system that is still evolving. Early unpublished notations by Douthett later became $DOUTH_n$ notations in Lewin's writings.[64] More recently, neo-Riemannian scholars are using a notation system modeled after Lewin's, where *P* modified by a subscript, P_n, indicates parsimony and the number of voices that move by half step, and this notation proves sufficient in many cases; however, it has its limitations, since it cannot take into account both half-step and whole-step motion. Douthett and Steinbach have generalized P_n notation by embracing $P_{m,n}$ notation.[65] Therefore, when two triads are in a parsimonious relationship, the common tones between them will remain fixed, and *m* voices will move by half step and *n* voices will move by whole step.[66] $P_{m,n}$ notation clearly portrays the four scenarios for triadic parsimony described in neo-Riemannian accounts: (1) $P_{1,0}$ describes the relationship that holds two common tones and moves the third voice by half step; (2) $P_{0,1}$ describes the relationship that holds two common tones and moves the third

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[63] Douthett and Steinbach mention all four of these parsimonious types; see Figure 1 in "Parsimonious Graphs," 244.
[64] David Lewin, "Cohn Functions," *Journal of Music Theory* 40/2 (Autumn 1996): 181-216.
[65] Douthett and Steinbach, "Parsimonious Graphs," 241-263.
[66] Note that this generalization now uses *n* to indicate number of voices that move by whole step.

voice by whole step; (3) $P_{2,0}$ describes the relationship that holds one common tone and moves two voices by half step, and (4) $P_{1,1}$ describes the relationship that holds one common tone and moves a second voice by half step and a third voice by whole step.

Varying types and degrees of parsimony have been explored more in a general functional compositional sense than in specific examples from the literature. Presentations of *P* relations and *P* networks in graph-theoretic form seem to outweigh presentations of analytical application. $P_{1,0}$- and $P_{0,1}$-triadic relations, though, have garnered a considerable amount of analytical attention. However, $P_{1,0}$- and $P_{0,1}$-triadic relations are only part of the parsimonious definition; indeed, the four parsimonious scenarios stated above indicate a flexible interpretive nature. Moreover, parsimonious scenarios transcend purely triadic concerns, as neo-Riemannian practice has also addressed parsimonious voice leading among consonant seventh chords.[67] Douthett and Steinbach have graphed $P_{1,0}$, $P_{0,1}$, and $P_{2,0}$ relations between half-diminished, minor, and dominant seventh chords;[68] and David Lewin, Adrian Childs, and Edward Gollin are among those who have presented graph-theoretic, as well as analytical applications specifically for set-class 4-27: the set class of dominant sevenths and their inverse, the half-diminished seventh.[69] Cohn points out that set-class 4-27 shares a property with set-class 3-11: both minimally perturb a symmetrical division of the octave. As already mentioned, set-class 3-11 minimally perturbs the T_4 cycle; as for set-class 4-27, these

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[67] Research addressing seventh chords generalizes neo-Riemannian triadic methodology.
[68] For seventh chords, $P_{1,0}$ and $P_{0,1}$ relations hold three common tones, while $P_{2,0}$ relations hold two common tones.
[69] See Douthett and Steinbach, "Parsimonious Graphs," 241-263; Lewin, "Cohn Functions," 181-216; Adrian Childs, "Moving Beyond Neo-Riemannian Triads: Exploring a Transformational Model for Seventh Chords," *Journal of Music Theory* 42/2 (Autumn 1998): 181-193; and Edward Gollin, "Some Aspects of Three-Dimensional 'Tonnetze'," *Journal of Music Theory* 42/2 (Autumn 1998): 195-206.

chords minimally perturb the T_3 cycle.[70] Also like set-class 3-11, parsimonious voice leading of set-class 4-27 does not exhaust all members of the set class; in fact, this voice leading partitions its twenty-four members into three co-cycles, one for each octatonic collection; and within each cycle of eight chords, four dominant sevenths displace one of the T_3 cycles by a single half step, and four half-diminished sevenths displace the other T_3 cycle by a single half step.[71]

In summary, parsimonious common-tone and step relations hold equally for consonant triads and seventh chords; therefore, parsimony remains flexible enough in its definition and consistent enough among its relations to model diverse contexts incorporating an array of consonant sonorities. As Childs points out, neo-Riemannian transformational theory has focused primarily on triadic12-note repertoire; however, "Composers whose work seems best suited for neo-Riemannian analysis rarely limited their harmonic vocabulary to simple triads."[72]

* * *

Finally, parsimonious voice leading will help inform our final examples of Villa-Lobos's planing technique; however, the disjunct shifts of a fixed-left-hand fingering may seem to preclude a parsimonious strategy. In defense of such a strategy is the issue

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[70] Cohn, "Maximally Smooth Cycles," 39, fn. 40.
[71] Indeed, each octatonic region contains two T_3 cycles. Parsimonious motion between members of set-class 4-27 is not "maximally smooth," however, like motion between members of set-class 3-11 (single-voice motion by half step). For 4-27, two voices have to move by half step, producing $P_{2,0}$ relationships. This study's next section explores $P_{2,0}$ relations for set-class 4-27.
[72] Childs, "Moving Beyond Neo-Riemannian Triads," 181.

of neo-Riemannian conceptual space. Neo-Riemannian space is conceived according to the properties controlling the objects placed within that space. Although the objects are familiar (triads and seventh chords), the approach taken to describe the relationships between these objects is group theoretic, which means familiar triads and seventh chords exist in pitch-class space, as opposed to existing in pitch space, where, traditionally, the relationships between them are described according to diatonic routines.

Pitch-class space therefore affects $P_{m,n}$ relationships, and in turn subjects these relations to octave equivalence.[73] As a result, the disjunct motion of planed sonorities does not preclude $P_{m,n}$ relations, since common-tone relationships and motion by step (half or whole)—the two crucial components of parsimony—can be interpreted even in the event of octave displacement.

[73] Pitch-class space is defined in terms of octave and enharmonic equivalence.

2.2a. Parsimony and S and C Transformation: Prélude No. 3

We begin our neo-Riemannian analysis of harmonic conditions presented by the fixed-left-hand fingering with a passage that involves parsimonious relationships among seventh chords. Neo-Riemannian research addressing parsimoniously related seventh chords is ongoing.[74] Mentioned briefly above is the work of Douthett and Steinbach; here, graphs have been fashioned to show $P_{1,0}$ relationships, and combined $P_{1,0}$ and $P_{0,1}$ relationships between alternating members of set-class 4-26 (minor seventh chords) and set-class 4-27 (dominant and half-diminished seventh chords). In the same study, Douthett and Steinbach have also graphed $P_{2,0}$ relationships between members of the lone set-class 4-27.[75] Others who have worked with similar and expanded set-class consistent relationships between members of set-class 4-27 in graph-theoretic, as well as in analytical application are David Lewin, Adrian Childs, and Edward Gollin (also mentioned briefly above).[76] Of particular interest to the present study is the work of Adrian Childs, because he offers a set of transformations that can track $P_{2,0}$ relationships between members of set-class 4-27, which is the planed set class that controls the thirteen-measure passage shown in Example 1.[77]

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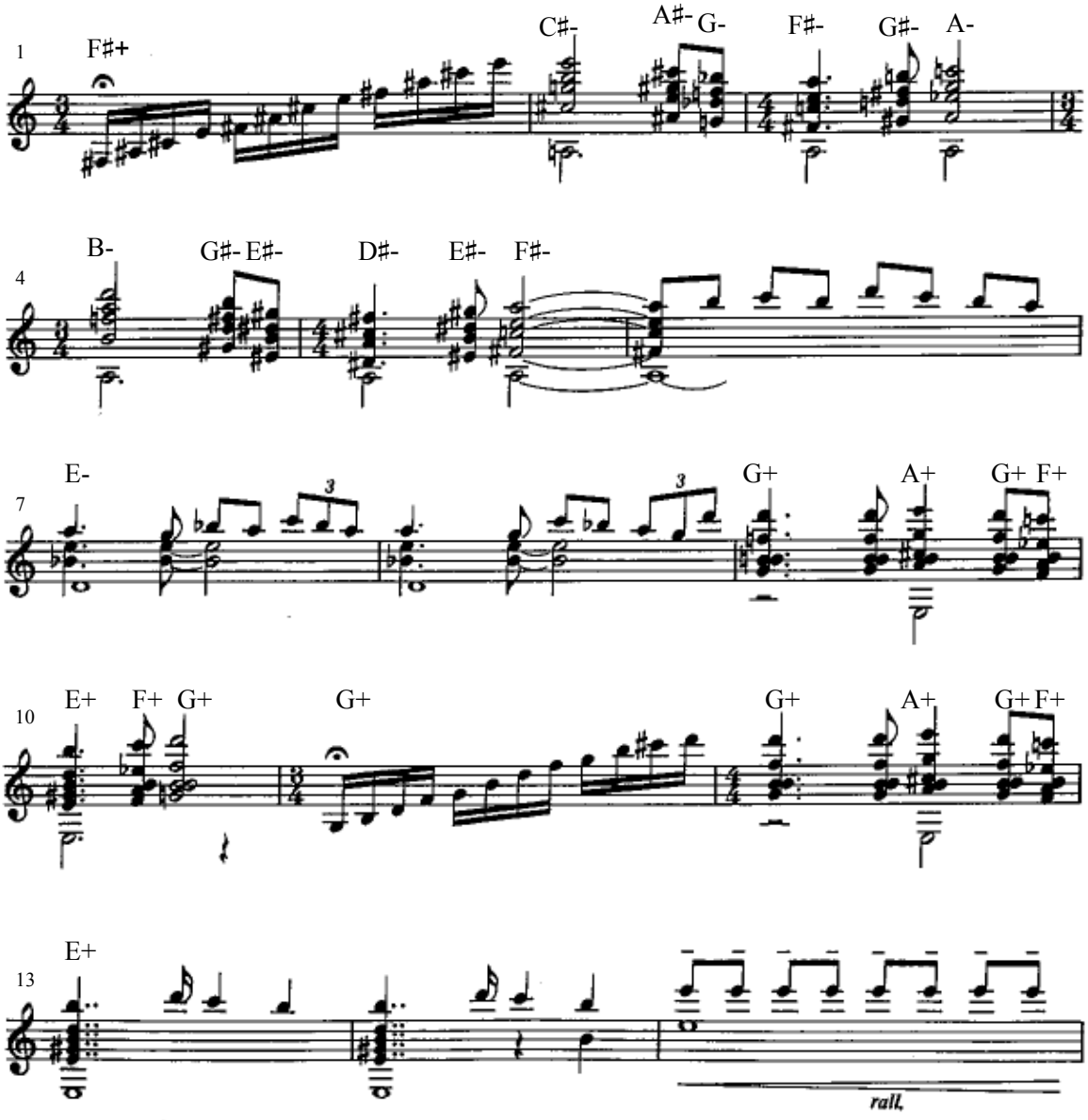
[74] For example, Dmitri Tymoczko, *A Geometry of Music: Harmony and Counterpoint in the Extended Common Practice* (New York: Oxford University Press, 2011): 97-103.
[75] Douthett and Steinbach, "Parsimonious Graphs," 241-263.
[76] Lewin, "Cohn Functions," 181-216; Childs, "Moving Beyond Neo-Riemannian Triads," 181-193; and Edward Gollin, "Some Aspects of Three-Dimensional 'Tonnetze'," 195-206.
[77] Measure numbers in Example 1 start from the beginning of the set-class 4-27 section.

Example 1. Set-class 4-27 planing section, Prélude No.3



In order to map $P_{2,0}$ relations between dominant and half-diminished seventh chords, Childs suggest the use of two distinct families of transformations. The larger family consists of the S transforms, of which there are six. S transforms hold two pitch classes

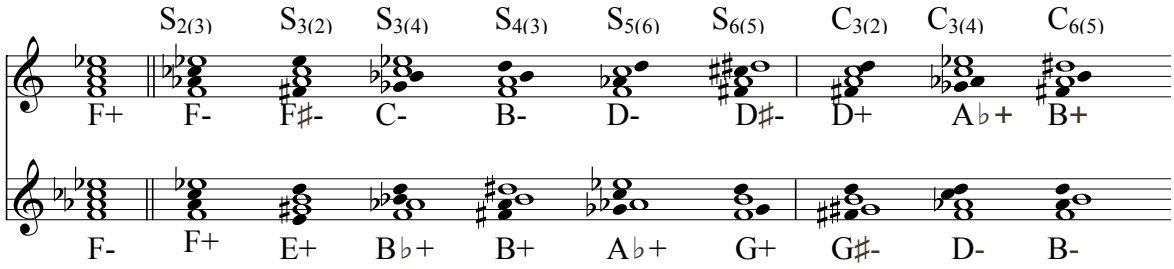
and move the other two by half step in similar motion. As Childs explains, the S transforms, like the neo-Riemannian triadic transformations,[78] result in a change of mode and are involutional, meaning that a single S transformation not only performs an inverse operation, but it also reverses that operation. The smaller family consists of the C transforms, of which there are three. C transforms hold two pitch classes and move the other two by half step in contrary motion; these transformations maintain chord quality and are involutional in only one instance: the transformation that transposes by tritone also undoes the transposition.[79] Modifying the S and C transforms are two subscripts. The first indicates the interval class between the two pitch classes being held constant; the second, parenthetic, subscript indicates the interval class between the two pitch classes that move. As mentioned, the C transform maintains chord quality, and only $C_{6(5)}$ is involutional. Childs also points out that the transforms $C_{3(2)}$ and $C_{3(4)}$ are inverse related. In total, Childs defines nine transformations and explains that these represent all the possible $P_{2,0}$ relations for members of set-class 4-27. Childs's S and C transformations for dominant and half-diminished seventh chords are analogous to the RPL transformations for major and minor triads.

Example 2 reproduces Childs's system of transformations for set-class 4-27; the symbol + indicates dominant seventh and - indicates half-diminished seventh; these indications for dominant and half-diminished seventh will be employed hereafter. The initial F+ and F- chords are apparently selected for notational convenience. The example shows the initial chord proceeding by some S or C transform to each successive chord

[78] Referring to REL, PAR, and LT.
[79] Here, the term "involutional" is generalized to reference a return operation between like objects, as opposed to its initial meaning as a return operation between inverse related objects.

after the double bar line. Open note heads indicate the interval class held in common (the first subscript), and filled-in note heads indicate the interval class that moves (the second, parenthetic, subscript). Note that the directions are inverted for corresponding transforms.

Example 2. A system of transformations for set-class 4-27 (dominant and half-diminished seventh chords) designed by Adrian Childs



S and C transformation can clearly profile the foreground planing of set-class 4-27 in Example 1; it also easily profiles middleground relationships. Example 3a illustrates such profiling on both levels; the foreground lies on the bottom two staffs and the middleground lies above.[80] Its primary concern is with the number of connections a chord makes,[81] in order to determine the structural significance of a chord.[82] The example is designed in the manner prescribed by Childs: a chord's smoothest voice leading, in terms of pitch-class displacement, is shown with a closed position voicing; accidentals apply only to the chord they precede; the transformational relationships

[80] For the sake of clarity, all subscripts in the examples are full size.
[81] Connection meaning how many times a chord couples to other chords through S or C transformation.
[82] In this respect, this approach is analogous to Forte's theory of connection by set complexes (K and Kh); see *The Structure of Atonal Music,* part two.

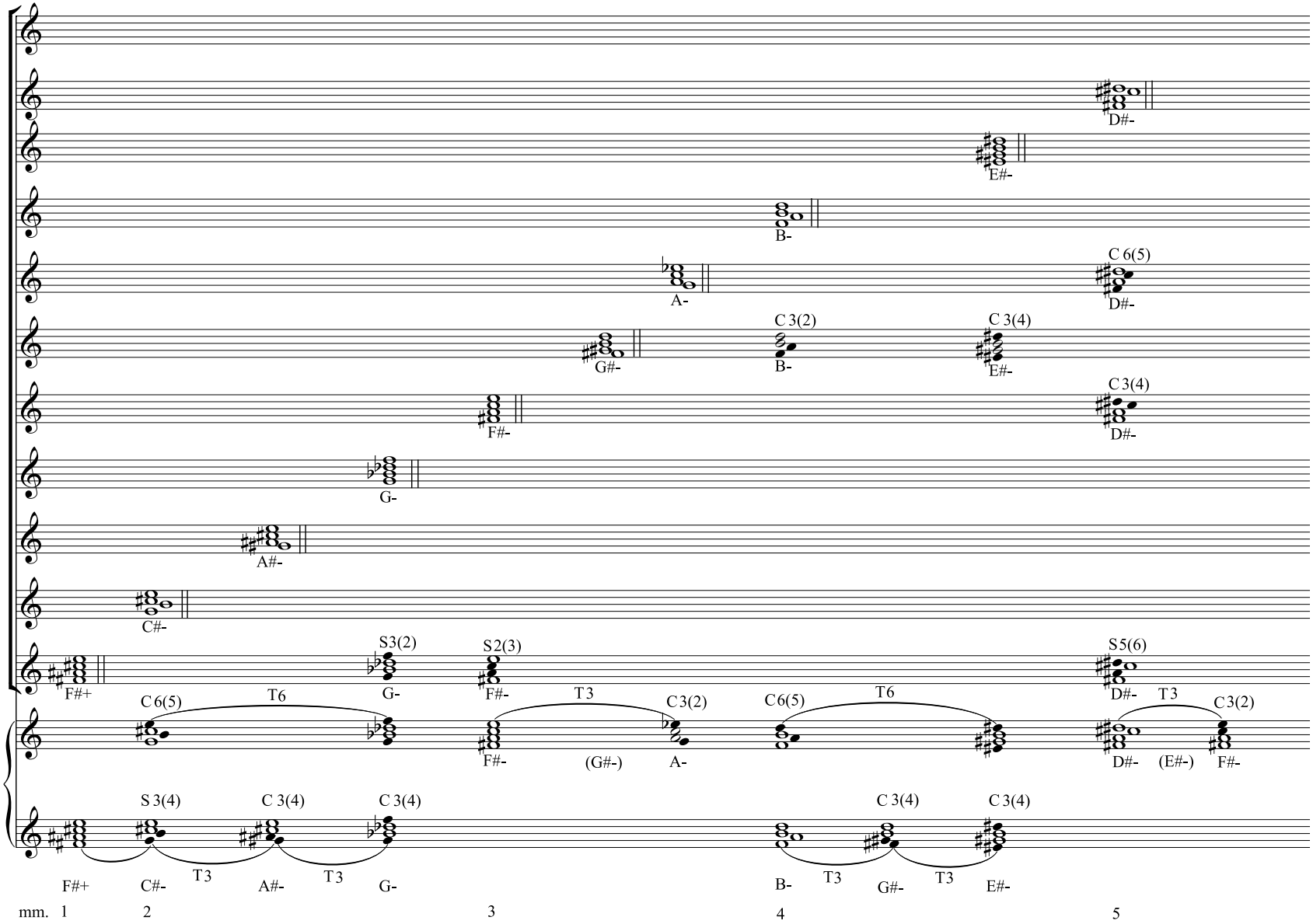
reflect in the use of open-and-closed note head notation. Example 3a also uses all open note heads, the meaning of which varies for each level: for the foreground, this notation specifies that a chord forms no relationship with a preceding chord; for the middleground, it simply designates a chord as a neutral starting point.

In Example 3a, transformations are essentially pairs of chords. On the foreground, the transformational pairs are the notated chords that are adjacent to each other; however, if a chord does not have a transformation labeled above it, it does not form a relationship with the chord that precedes it (open note-head chord). On the middleground, the transformational pairs straddle the double-bar line, as in Example 2 (more will be said about middleground pairs shortly).

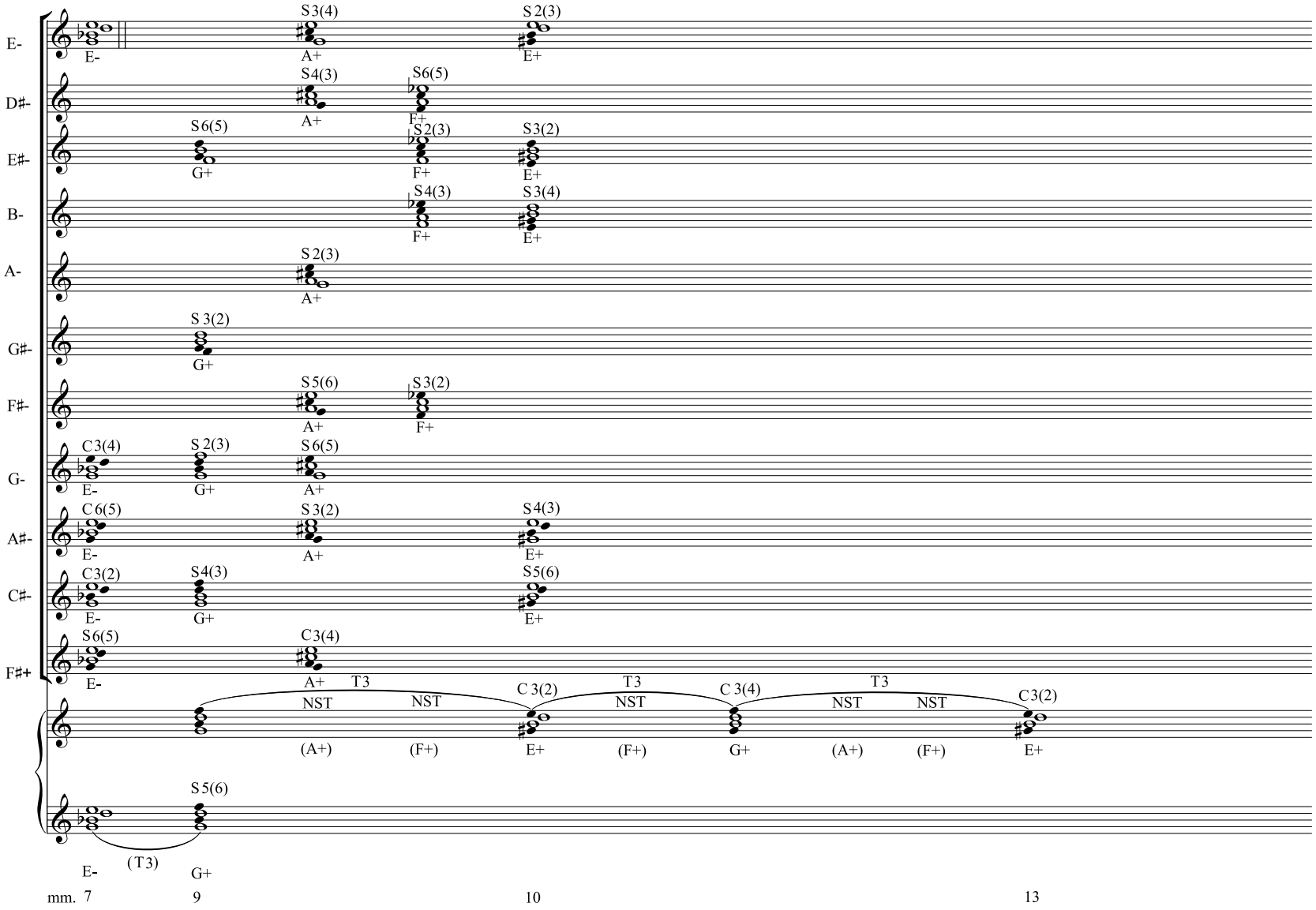
The transformational labels indicate only the left-to-right relationship of a transformational pair (this is the case for both foreground and middleground).[83] The inverse, right-to-left relationships are simply not labeled for clarity sake, and, in fact, these labels are not necessary, because seven of the nine S and C transformations are involutional, and the two that are not involutional, $C_{3(2)}$ and $C_{3(4)}$, as mentioned, are each other's inverse. However, all inverse relationships are counted, because our concern is the number of connections each chord makes, and for each transformational pair there is a transformation that counts for the chord on the left, and a transformation that counts for the chord on the right.[84]

[83] There are two foreground exceptions. In the foreground's top staff of measures 2 and 4, the transformations read right-to-left (to be explained below).
[84] The consideration of all inverse relations doubles the number of transformations indicated in Example 3a.

Example 3a. Foreground and middleground, Prélude No. 3



Example 3a. Foreground and middleground, Prélude No. 3 (cont.)



There are a few issues regarding the foreground. On this level, Example 3a also uses chord symbols in parentheses with no notation; chords represented in this way form no S or C relationship, directly before or after. The lack of notation for a parenthetic chord indicates that a transformation has side stepped this chord on the surface. To further define parenthetic chords, the initials NST are used to indicate a chord as one with no single transformation connecting it to the surface; however, not all parenthetic chords are NST chords, because a disconnected chord may be connected in another location on the surface. Two NST chords appear at the end of the foreground.

Additionally, in the discussion of the foreground, we will generalize that chords forming two relationships have a high degree of connection. This generalization is made because most chords appear only once, and one appearance can provide two connections: the most obvious being a "before" and "after" connection.[85] As such a small number of chords repeat with any consequence to their total number of connections, the generalization allows a chord to not be penalized for only one appearance. Two chords do repeat and form more than two foreground connections; however, for our purpose here, there is no real benefit in distinguishing these as any more connected than those with two. We will rate chords with one connection as moderately connected, and indeed some chords form no connections.

In regard to the middleground, Example 3a places each chord on a separate staff to the left of a double bar, directly above its foreground appearance. The middleground then provides the number of transformational relationships in two ways, with no repetitions. First, like Example 2, each chord to the left of a double bar pairs with each successive

[85] The description of a connection as "before" or "after" will be used from now on.

chord to the right of the same double bar, so the number of chords to the right indicates the number of connections a chord to the left makes. Second, in order to count the number of relationships made by the chords to the right of the double bar, the chords are arranged in columns of like chords, and the number of chords in a column indicates the number of relationships that chord makes with chords to the left of a double bar. Therefore, to count the total number of relationships a chord makes, we have to look to the right and below that chord. E-, for example, lies to the left of a double bar in the top staff, and it forms two relationships to its right: one with A+ and one with E+. Now, looking down this column, we find that E- forms four relationships with chords to the left of a double bar: one with G-, one with A♯-, one with C♯-, and one with F♯+; therefore, E- is in six different relationships; in other words, it forms six connections. Note that each chord in a column pairs to the left only once (across the double bar line), and in four cases (the columns for G-, F♯-, B-, and E♯-), there is only one chord in the column.[86]

Lastly, the only chords that do not initiate a middleground staff are the four dominant sevenths at the end of Example 3a: G+, A+, F+, and E+. This is because these chords only form middleground relationships with chords that precede them. Therefore, G+, A+, F+, and E+ only form columns, because they have no middleground relationships with chords to their right. However, two of these chords, G+ and E+, do have foreground connections to their right, which are formed with each other (see bottom two staffs).

* * *

[86] In identifying right-to-left transformational motion, the column chords show the common tones and the interval class that moves, which makes a right-to-left transformation easily identifiable. Again, right-to-left transformations are not labeled.

Starting on the surface, in the bottom staff of Example 3a, we find the initial chord, F♯+, forming an inverse relation with its adjacent sonority C♯- (the downbeat of m. 2); this single adjacent relation, brought about by an $S_{3(4)}$ transformation, provides only a moderate degree of connection for F♯+ (degree of 1). Because F♯+ begins the 4-27 passage, which makes a before connection impossible, it would seem that F♯+ has been transformationally slighted; certainly, that is the case, in a strict side-by-side examination. However, as we will soon see, our transformational model tracks more than just strict surface adjacencies; indeed, it allows the consideration of other important surface connections that are not adjacencies. Moreover, our transformational model is versatile enough to take the non-adjacency consideration to the next level, with its ability to transcend the either/or approach to foreground/middleground examination. We will find that one of the strengths of this transformational model is in its ability to track relationships across the foreground/middleground border, interweaving the two levels, which will allow us to reexamine the initial F♯+'s moderate surface connection, and the foreground's other seemingly less connected chords. However, before such trackings are considered, this study explores the foreground and middleground connections as they exist on their own.

Continuing on the foreground in Example 3a, we find that the next two adjacencies, C♯- to A♯- and A♯- to G-, in measure 2, are brought about by two successive $C_{3(4)}$ transformations (double-$C_{3(4)}$ transform); the repetition of this mode-preserving transformation provides a high degree of connection for the three chords involved. As

shown in the upper staff, which is used to illustrate important surface relations that are not directly adjacent, a $C_{6(5)}$ transformation effects a return to C♯- from G-.[87] This C♯-/G- relation is integral to the double-$C_{3(4)}$ transform so much that it must be counted; in doing so, we acknowledge the double $C_{3(4)}$ as cyclic, which is why the upper staff reads right to left.[88] The cycle allows C♯- the exceptional status of three connections, in that it adds two after connections onto C♯-'s preceding connection with F♯+-; in addition, the cycle defines G- as highly connected with two before connections. A♯-, of course, is highly connected through before and after connections.[89]

The next transformation in measure 3 appears to involve only moderately connected chords. F♯- has no before connection (thus, the open note head notation), and its $C_{3(2)}$ related partner, A-, has no after connection. However, F♯- comes back in measure 5, this time as the after connection of another $C_{3(2)}$ transformation: D♯- to F♯-. Due to its return,

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[87] The $C_{6(5)}$ is labeled above the left-hand chord to emphasize the return; however, the transformation is involutional.

[88] Granted, the upper-staff foreground relationship might be seen to step slightly into the middleground; however, supporting the upper staff (foreground) interpretation is the strong metric placement of the double-$C_{3(4)}$ cycle: it falls nicely within one measure. In addition, metric placement is why F♯- to A- in measure 3 is judged a foreground event and why G♯- in measure 3 to B- on the downbeat of measure 4 is not. This latter event, though technically a $C_{3(2)}$ transformation, is denied any foreground meaning because it is too displaced metrically; this restricts this particular transformation to a middleground interpretation. However, the G♯- to B- transformation metrically aligns in measure 4 when G♯- repeats and becomes the $C_{3(4)}$ transform of B-; therefore, because of repetition, we find the G♯- to B- transformation on both the foreground and middleground. This situation happens once more (though this time the middleground is not metrically displaced): F♯- on the downbeat of measure 3 is in a middleground relation with D♯- on the downbeat of measure 5, but because F♯- repeats in measure 5, D♯- to F♯- is also a foreground relationship (these foreground situations for G♯- to B- and D♯- to F♯- are discussed in the text shortly).

[89] We will find that G- is one of three chords of the passage that garner a high degree of connection without having both before and after relationships.

F♯- secures both before and after relationships and a high degree of surface connection.[90] However, for the other chords involved, A-, F♯-'s first connection
(m. 3), remains only moderately connected, as does F♯-'s second connection, D♯- (m. 5).

Measure 3 also displays the first seemingly disconnected chord: the $C_{3(2)}$ transformation has side stepped G♯-. Interest is placed on G♯- because it is one of only two chords that display both transformational connection and disconnection. Although G♯- is disconnected in measure 3, it becomes transformationally well connected in the next measure: in the lower staff (m. 4), we find that G♯- has a high degree of connection inside another double-$C_{3(4)}$ transformation.

The return of the double-$C_{3(4)}$ cyclic transformation in measure 4 again imbues a high degree of connection for all chords involved. As before, the cycle of the double-$C_{3(4)}$ is shown in the foreground's upper staff (right to left); the first chord, in this case B-, relates by $C_{6(5)}$ to the last chord, E♯-; see measure 4.[91] We can interpret B- as highly connected because of its two after relationships, which in turn makes E♯- highly connected, with two before relationships. G♯-, of course, is highly connected, before and after. The return of the double-$C_{3(4)}$ transformation does one more thing: it brings about a class of chords that are highly connected without having both before and after connections. This property, as mentioned earlier, describes the last chord in the first double $C_{3(4)}$ (m. 2): G-. It also describes B- and E♯-, in the second double $C_{3(4)}$ (m. 4).

A transformational pattern forms with the completion of measure 5 when $C_{3(2)}$ again follows the double $C_{3(4)}$ in its repeat; here, as described above, $C_{3(2)}$ brings about the return of F♯-. Along with this pattern is a reappearance of transformational

[90] F♯- is the only chord whose before and after connections are noncontiguous.
[91] Remember, $C_{6(5)}$ is an involution.

connection/disconnection. We have already described G♯- as transformationally connected and disconnected. In this repeat of the double $C_{3(4)}$, E♯- has a high degree of connection. However, when the pattern moves to $C_{3(2)}$ the second time (m. 5), connecting D♯- and F♯-, E♯- is a parenthetic chord, with no transformational connection (see upper staff).

The foreground now returns to where it started, with chords from set-class 4-27's subset of dominant sevenths. Shown in the bottom staff at measure 7, the last half-diminished seventh, E-, which does not arrive through a transformation,[92] is transformed by $S_{5(6)}$ in measure 9, returning the dominant seventh family with G+. Since E- forms just one adjacent relationship, it seems only moderately connected. For the four dominant sevenths that close this passage, two are exceptionally connected and two are not connected at all.

In the upper staff (mm. 9-13), a series of the inverse related $C_{3(2)}/C_{3(4)}$ transformations connect and reconnect G+ and E+. G+ is strongly connected after the first $C_{3(2)}$ in measure 10, since it has already been involved in a before connection from E-. E+ is strongly connected after the inverse of $C_{3(2)}$, $C_{3(4)}$, returns G+ (also m. 10). At this point, G+ has three connections, and with the repeat of the $C_{3(2)}$ transform in measure 13, E+ adds a third connection and G+ adds a prodigious fourth.[93] These last three transformations connecting G+ to E+ to G+ again, and finally back to E+, nicely demonstrate the $C_{3(2)}/C_{3(4)}$ inverse relationship pointed out by Childs.

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[92] E- is also not the result of the planing technique; it is the only independent sonority in this respect.

[93] As we have seen with G♯- and F♯-, repetition can help a chord gain a greater degree of connection than that deemed as high; however, there is no need to qualify this greater degree of connection for our purpose here, if indeed a chord does connect more than twice, as is the case with G+ and E+.

Setting the connectedness of G+ and E+ into relief in these last few measures is the contrast of the NST chords: chords that have no single transformation connecting them to the surface. A+ and F+ are NST chords. Both are side stepped by the $C_{3(2)}$ transformations in measures 10 and 13, and the $C_{3(4)}$ transform in measure 10 side steps F+. These NST chords represent the extreme in terms of transformational disconnection: they are neither mappings nor map to other adjacent chords. Unlike earlier, where G♯- and E♯-'s disconnections are balanced by distinct connections, in the case of the last few measures, there is no balance. These measures might be interpreted as a polarization of connection and disconnection.

One final foreground issue remains: the foreground of Example 3a also displays the prominence of transposition by minor 3rd (T_3). Of the thirteen transformations shown in the foreground, nine result in T_3 motion, and two result in transposition by tritone (T_6), which can be interpreted as induced by T_3 components. Because only two of the thirteen transformations are mode inversing, parsimonious voice leading by same-mode transformation dominates the surface, bringing about the ubiquitous T_3. The reason for this is that same-mode transformation relates chords in only three ways: T_3 up; T_3 down; and what can be viewed as a combination of two T_3s both up and down, T_6. Therefore, because of same-mode transformation, T_3 motion dominates. Indeed, even the inverse $S_{5(6)}$ transformation E- to G+, in measure 9, describes the directed interval of T_3 (shown in parentheses).

In traditional settings, T_3 is often associated with the fully-diminished seventh, because it holds the chord tones invariant. In post-tonal settings, T_3 is often associated with set-class 4-27; perhaps the reason for this is because when 4-27 moves by T_3, it

moves parsimoniously—a perfect match for the planing technique, as the C transformations demonstrate in the foreground of Example 3a.

* * *

Moving on to the middleground, we find that Example 3a shows a depth of $P_{2,0}$ relationships through a rich array of S and C transformations; indeed, the middleground employs all S and C transformations and ultimately allows sixty-two transformational connections.[94] One might say that the middleground exudes transformational coherence. Example 3a shows that all fifteen chords of this passage connect, which allows for a connection range that reaches as high as seven. This high range of connections, however, presents a logistical question: To what degree does a chord need to be connected to exhibit a high degree of connection? Here, the evaluation of this high range will be generalized with a 50/50 rating. In an effort to make this rating analogous to the one used on the foreground, we will allow the 50/50 rating a zero range; therefore, the rating is based on a scale from zero to seven. Thus, in a straightforward manner, we can say the middleground has a high degree of connection at a range from 4 to 7, and a moderate degree of connection at a range from 1 to 3, and of course the inclusion of a zero degree of connection, even though on the middleground it is academic, evens out the lower half.[95]

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[94] Again, in order to realize the number of connections for each chord, all inverse relations are counted.

[95] All chords connect on the middleground, which can bring into question the use of a zero range. The zero range for both foreground and middleground is an unbiased effort; its use on both levels is two fold: it identifies and compares. Although the middleground

This generalized rating allows a rather striking observation: the middleground appears to reinforce the foreground's inconsistencies. Perhaps the most dramatic example is the middleground's engagement of the foreground's NST chords: where there was no transformational response, now there is plenty, especially for A+. A+'s inability to connect on the foreground seems almost paradoxical, because on the middleground it not only establishes the highest degree of connection (seven), but it is the only chord to do so. The middleground also favors the second NST chord, F+, a chord whose four middleground connections overshadow its foreground anonymity.

The middleground also generously employs the foreground's moderately connected chords. The first of these, F♯+, suffers the status of "first chord of the passage," making it impossible for it to form a before connection; F♯+ is also not a privileged member of one of the foreground's two cyclic double-$C_{3(4)}$ transformations, which would have assured a high degree of connection. F♯+'s foreground mediocrity is matched by D♯- and E-; both join F♯+ in having no before connection or cyclic privilege. However, on the middleground, all three chords are well connected: F♯+ and D♯- form five connections, and E- is second only to A+ with six.

The middleground's tilt of the scale, so to speak, in favor of the foreground's five underprivileged chords (A+, F+, F♯+, D♯-, and E- [in their order of appearance]) attracts attention to a tilt of the scale in the opposite direction, to about the same degree: the foreground now deflects the mediocrity of four underachieving middleground chords. On

---

has no zero range chords, the zero extreme helps inform the strength of connection at this level. Both the foreground and middleground ratings can be seen to divide in the same way; their lower halves are the same in the sense that they comprise both moderate to zero connection, and their upper halves define a high connection range.

the foreground, C♯-, A♯-, B-, and G♯- (order of appearance on the bottom staff of the foreground) all secure a high degree of connection as members of double-$C_{3(4)}$ cyclic transformations; on the middleground, however, all of these chords rank in the lower half of our generalized rating. This scale-tilt analogy of balancing nearly the same number of privileged chords on the foreground and middleground is compelling, especially in light of another condition expressed by five of the last six chords.

The condition of these five chords can be described as an equalized balance, because they are privileged on both foreground and middleground. G-, E♯-, G+, and E+'s strong middleground connection is clearly matched on the surface; here, they connect at an equally certain level: G- has a privileged degree of connection in the first double $C_{3(4)}$ cycle (m 2), as does E♯- in the second double $C_{3(4)}$ (m. 4). G+ and E+ are highly connected as repeated links in the closing transformational chain (mm. 9-13). The fifth chord, F♯-, has a level of middleground and foreground connection ranged as high as the four chords just mentioned. However, F♯-'s foreground definition is a bit fragmented, as its foreground prestige is not bestowed all at once; it receives its first connection in measure 3, but it is not confirmed as strongly connected until measure 5.

In summary, all of the chords considered so far contribute to the notion of a hierarchically balanced passage, because there are three nearly balanced categories: five chords have a high degree of connection on both levels of structure (G-, E♯-, G+, E+, and F♯-), five chords are privileged on the middleground (A+, F+, F♯+, D♯-, and E-), and nearly five are privileged on the foreground (C♯-, A♯-, B-, and G♯-). In addition, one chord remains in the hopes of securing the equal balance of all categories.

As is often the case, however, there is inevitably an analytical monkey wrench, in this case, represented by the final A-. This chord has purposely been place on hold until all other chords have been given their due and the notion of transformational balance had been proposed. All would be well if A- could slip into the category of those chords privileged on the foreground, which would balance the three transformational categories at five chords each. However, A- has no privileged structural level, because its proposed range falls within only a moderate degree of connection at either level of structure. One might argue that this condition still qualifies A- as a chord that is indeed balanced on both structural levels, just in a negative way; however, to place A- among those chords that are privileged on both levels seems counterproductive.

Nevertheless, even though balance is not exact, it still adumbrates the foreground/middleground coalition. In regard to this balance, a balance that refers to a near-equal number of chords in each of the three proposed transformational categories, one might now evoke the analogy of tilting the balance of the scale in the following way: namely, with the depth of a swing generated by a middleground category of chords, followed by the depth of a swing generated by a foreground category of chords, there is then the final swing to reconciliation by a category of chords balanced on both levels of structure.

2.2b Transformational Pathways: Prélude No. 3

We now embark on a transformational journey, in fact several, engendered by the notion of foreground/middleground interweaving, or a tracking of relationships across the foreground/middleground border, as it was referred to earlier. Again, balance is at the heart of this journey, because the foreground and middleground are now on equal terms. Both levels will unite, for the sake of transformational cohesion of the passage as a whole. The effort will uncover transformational pathways that have no foreground/middleground bias.

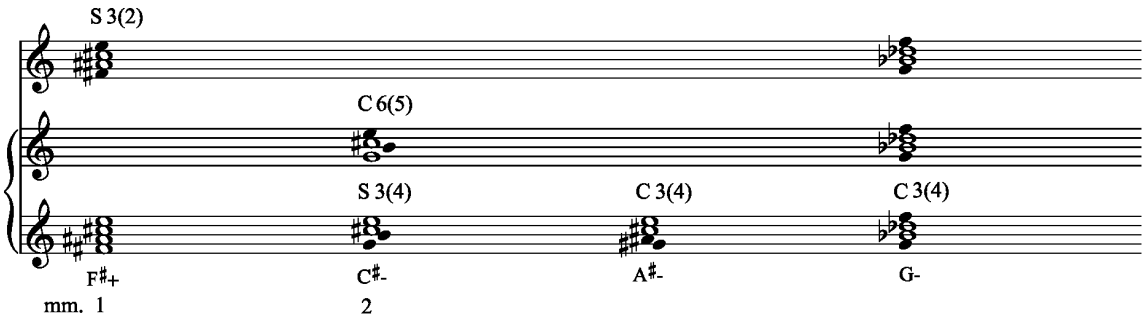
The foreground segmentation presented in Example 3a encourages the connection of the entire passage; however, we will first examine the parts that make up the whole. One way to describe the foreground is as a series of transformational chains, and Example 3a clearly shows five chain-like formations, beginning in measures 1, 3, 4, 5, and 7. Transformational disconnection separates these formations, and two (mm. 3 and 5) comprise only two chords, which is a potential problem because it might be argued that two chords do not constitute a chain; however, this problem will be ameliorated shortly. In regard to the more obvious chains, two of them display cyclic motion: the first chain in measures 1 and 2, displays the double-$C_{3(4)}$ cycle in its second measure (see top staff of Example 3a); the second, in measure 4, is also a double-$C_{3(4)}$ cycle.[96] Cyclic motion, indeed, is what motivates the notion of a fully connected passage, and, as we will see, cyclic motion adds a third dimension to this analysis: along with the two dimensions of

[96] Of course, the two, two-chord "chains" are cyclic, because of the involutional nature of S and C transformation.

foreground and middleground, there is the third dimension of foreground/middleground interplay.

All five chain-like formations provide a reason to explore the cyclic nature of the whole passage. As shown in Example 3b, the entire first transformational chain in measures 1 and 2 is cyclic. In the staff above the bracketed foreground, the $S_{3(2)}$

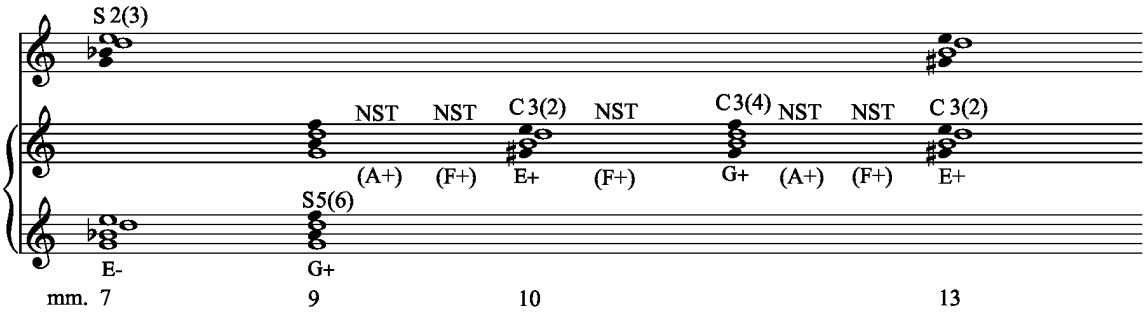
Example 3b. Cyclic chain, Prélude No.3, measures 1-2



middleground relation between F♯+ and G- closes this transformational chain and forms the cyclic chain $S_{3(4)} \rightarrow C_{3(4)} \rightarrow C_{3(4)} \rightarrow S_{3(2)}$, which maps F♯+ to C♯- to A♯- to G- back to F♯+.[97] The last chain in measures 7-13 is also cyclic. As shown in the top staff of Example 3c, the $S_{2(3)}$ middleground relation between E- and E+ closes this chain and forms the cyclic chain $S_{5(6)} \rightarrow C_{3(2)} \rightarrow C_{3(4)} \rightarrow C_{3(2)} \rightarrow S_{2(3)}$, which maps E- to G+ to E+ to G+ to E+ back to E-. Another cyclic chain appears when the two trivial two-chord couplings in measures 3 and 5 (F♯- to A- and D♯- to F♯-, respectively) are considered a

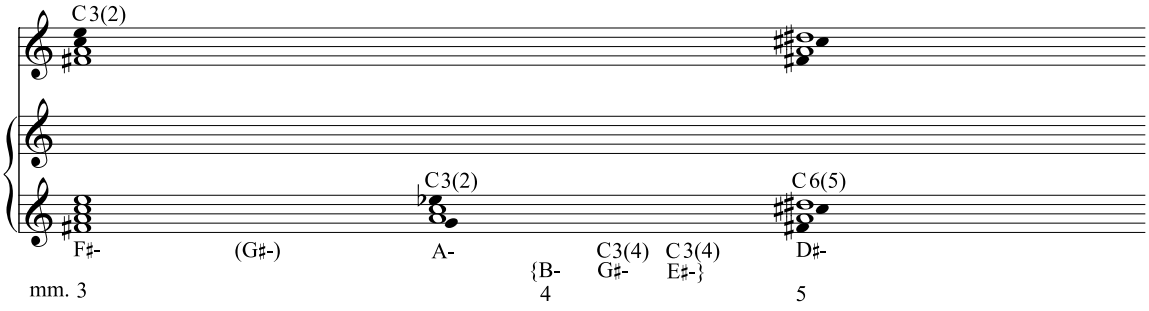
[97] Again, the left-hand label in the top staff emphasizes return; in addition, we can now say that this cyclic chain's internal double-$C_{3(4)}$ cycle creates a cycle within a cycle.

Example 3c. Cyclic chain, Prélude No. 3, measures 7-13



unit. Example 3d shows that, together, the two couplings represent another cyclic double-C transformation that appears to be interrupted by the double-$C_{3(4)}$ cyclic transform in measure 4 (shown in curly brackets). In the first coupling (m. 3), A-, relates to F♯-by $C_{3(2)}$, and then D♯-, the first chord in the second coupling (m. 5), relates to A- by $C_{6(5)}$. The cycle then closes with D♯-'s return to F♯- by $C_{3(2)}$, which is literally expressed on the surface (as shown in Ex. 3a, m. 5).[98] Since the two couplings can be seen to combine into one chain, there remains four cyclic chains in all, and not five

Example 3d. Interrupted double-C transformation, Prélude No. 3, measure 3 and 5



[98] To stress the cyclic return, Example 3d does not show measure 5's left-to-right coupling, D♯- to F♯-.

"chain-like" formations.[99] Figure 1 presents the four cyclic chains. For convenience, the chains will be identified by their chord ends and a letter that indicates the order in which they appear on the foreground.[100]

Figure 1. The four cyclic chains, in order of appearance

F♯+ⒶG-, F♯-ⒷD♯-, B-ⒸE♯-, E-ⒹE+

The process of forming a single cycle out of the four cyclic chains allows any chain order, and what will dictate the order are the links between chains. One ground rule is that, when linking the chains, the left-to-right (first through fourth) order of the chains will be considered first; when that fails, we will move on to the next in line, in order of appearance. The two NST chords will be used to form links when chains fail to link to one another; in other words, they will be dropped in between chains to facilitate connection. The use of the NSTs (A+ and F+) also has the same ground rule as that for chains: they will be considered in order, which means A+ will be considered first. When that fails, F+ will be taken into consideration: considering the chains and the NSTs in order simply provides a consistent approach.

The next step is to find which chain endings relate, or link, and which link with each of the NST chords. Table 1 provides this information.[101] The information is given in

[99] Although the connection of the entire passage has yet to be discussed, it has been found that the passage will connect using the two trivial two-chord couplings separately, and therefore counting five formations; however, the results are not as conclusive as the results offered by the preferred four-chain segmentation.

[100] Although F♯-ⒷD♯-is interrupted, it still comes in before B-ⒸE♯-.

yes/no fashion, and the Xs eliminate the linking of two ends from the same chain; the blank diagonal eliminates same-chord intersection. For the purpose of this analysis, the links to the right of the diagonal are forward links, and those to the left are backward links, both directions will be considered. Although it is obviously the theory of S and C relationships at work here, the focus of this analysis now shifts away from general relationships between chords to the relational links between the four cyclic chains; with this shift in focus, the S and C relationships move into the background, as now the links are the primary concern.

Table 1. Chain end and chain end/NST related links

	F♯+	G-	F♯-	D♯-	B-	E♯-	E-	E+	**A+**	**F+**
F♯+		X	Y	Y	N	N	Y	N	**Y**	**N**
G-	X		N	N	N	N	Y	N	**Y**	**N**
F♯-	Y	N		X	N	N	N	N	**Y**	**Y**
D♯-	Y	N	X		N	N	N	N	**Y**	**Y**
B-	N	N	N	N		X	N	Y	**N**	**Y**
E♯-	N	N	N	N	X		N	Y	**N**	**Y**
E-	Y	Y	N	N	N	N		X	**Y**	**N**
E+	N	N	N	N	Y	Y	X		**N**	**N**
A+	**Y**	**Y**	**Y**	**Y**	**N**	**N**	**Y**	**N**		**N**
F+	**N**	**N**	**Y**	**Y**	**Y**	**Y**	**N**	**N**	**N**	

Table 2 isolates the results of the chain-link findings in Table 1. Each chord in Table 2 is one-or-the-other end of a chain; therefore, each chord represents one of the four chains. It is not necessary to list the chain-end/ NST-chord links separately; however, it is important to identify chain pairings via a two-chord link. Identifying both forward and

[101] The separate information for chain-ending/NST-chord links is given in bold.

backward links is the forward slash.[102] Besides listing the links, Table 2 essentially sets up the approach taken to finding cyclic pathways: each link in Table 2 will establish the first chain pairing of a pathway.[103]

Table 2. Forward and backward chain-end links

(1) F♯+/F♯-	(2) F♯-/F♯+
(3) F♯+/D♯-	(4) D♯-/F♯+
(5) F♯+/E-	(6) E- /F♯+
(7) G- /E-	(8) E- /G-
(9) B- /E+	(10) E+ /B-
(11) E♯-/E+	(12) E+ /E♯-

The importance of considering both forward and backward links is illustrated in Figure 2. What is important to note is the order and direction of the chains represented by the link; here, the F♯+/F♯- link is used as an example, so the chains affected are the first and second: F♯+ⒶG- and F♯-ⒷD♯-. As Figure 2 shows, the forward link F♯+/F♯- preserves the order of the chains; however, it flips chain-A: producing G- ⒶF♯+. The backward link reverses the order and flips chain-B: D♯-ⒷF♯-.[104] The order and direction of the transformational chains makes a significant difference in terms of successful linkage to a complete cyclic pathway. (Figure 2 displays all the chords in each chain for

[102] In the analyses to come, a forward slash will also identify chain-end/NST chord links; a double forward slash will identify disconnection between chain-end links and chain-end/NST-chord links.
[103] The term "pathway" will be used to describe complete-fifteen-chord cycles; this reserves the term "chain" for the description of a pathway's four cyclic components.
[104] The term "flip" will be used in describing a backwards chain, and the term retrograde will be used when referring to a backwards link.

clarity's sake; however, in the examples following Figure 2, the chains will be identified by their abbreviations in Figure 1.)

Figure 2. Forward and backward chain-link order for **F♯+/F♯-**

Forward link: G-→A♯-→C♯-→**F♯+/F♯-**→A-→D♯-

Backward link: D♯-→A-→**F♯-/F♯+**→C♯-→A♯-→G-

As mentioned, each link (first forward, then backward) will be used to determine the first chain pairing; therefore, there are twelve attempts at forming cyclic pathways. Figure 3a begins the process with the first link: F♯+/F♯-. As mentioned, the left-hand member of this link is the initial chord of chain-A; therefore, this chain is flipped. The right-hand member of this link allows the right-hand chain (chain-B) to remain in its original order. The D♯- end of chain-B, however, is unable to link to either end of chains-C or D. As a result, the first NST chord, [A+], is dropped in to form the D♯-/[A+] link.[105] Although [A+] cannot link to either end of chain-C, B- or E♯-, it can link to the E- in chain-D; this, indeed, allows the E+/B- link to chain-C and the E♯-/[F+] link to a complete pathway. However, the pathway is not cyclic, because [F+] cannot close the pathway back to G-. An option presents itself in parentheses on the fourth line of Figure 3a: chain-C can be flipped, since either end of chain-C links to both E+ and [F+]; however, this option does nothing to change the pathway's outcome, because it still does not close the pathway back to G-, due to its [F+] ending. The pathway is indeed cyclic, though, if [F+] replaces [A+]. This is shown on the fifth line of Figure 3a. Here,

[105] Square brackets will now isolate the NST chords.

[F+] is placed directly under [A+], which indicates that [F+] has replaced [A+]; the replacement forms the D♯-/[F+] link between lines one and five. [F+] then links to B- in chain-C, which allows the E♯-/E+ link into a flipped chain-D, which, in turn, allows the E-/[A+] link and, finally, the [A+]/G- link to a closed cycle. The parenthetic sixth line of Figure 3a shows that chain-C can be flipped without disrupting the cycle.[106] The last line of Figure 3a provides a clearer look at the resulting cyclic pathway.

Figure 3a. The F♯+F♯- cyclic pathway

(1) F♯+/F♯-

G- ⒶF♯+/F♯-ⒷD♯-/[A+]//B-
//E♯-
/E- Ⓓ E+/B- ⒸE♯-/[F+]//G- non cyclic
(/E- Ⓓ E+/E♯-Ⓒ B-/[F+]//G- non cyclic)
/[F+] /B- ⒸE♯-/E+ Ⓓ E-/[A+]/G- cyclic
(/[F+] /E♯-Ⓒ B-/E+ Ⓓ E-/[A+]/G- cyclic)

* G- ⒶF♯+/F♯-ⒷD♯-/[F+]/B- ⒸE♯-/E+ Ⓓ E-/[A+]/G- cyclic

The process for the backward F♯-/F♯+ link is much more streamlined, as Figure 3b shows. The four chains link directly to each other without NST assistance. However, linking chains directly place the NST chords, which do not link together, next to each other at the end. [F+], at least, links to E♯- in the last chain, which hooks up fourteen chords, but [A+] has no place to go. The fix is simple, though; [A+] is just used earlier.

[106] The complete examination of all pathways reveals that flip options such as these never have an outcome different than the original, which renders the options trivial. Therefore, they will no longer be considered.

It can be dropped in between the first and second chains, chains-B and A, respectively, or it can be dropped in between the second and third chains (chains-A and D), as shown in the bottom two lines of Figure 3b. Indeed, [A+] is the only choice for the "drop in." The reason is that [F+] is already in the only position in which it can link: between E♯- and D♯-. Even if [F+] could drop in somewhere else, [A+] cannot stay where it is, because it cannot link to E♯-.

Figure 3b. The retrograde F♯-/F♯+ cyclic pathway

(2) F♯-/F♯+

D♯-ⒷF♯-/F♯+Ⓐ G-/E- Ⓓ E+/B- ⒸE♯-//[A+]
/[F+]//[A+] non cyclic

**D♯-ⒷF♯-/[A+]/F♯+Ⓐ G-/E- Ⓓ E+/B- ⒸE♯-/[F+]/D♯- cyclic
**D♯-ⒷF♯-/F♯+Ⓐ G-/[A+]/E- Ⓓ E+/B- ⒸE♯-/[F+]/D♯- cyclic

Figures 3a and 3b's F♯+/F♯- and F♯-/F♯+ pathway designs illustrate two approaches for linking cyclic pathways: the first, which is marked with one asterisk, drops in an NST chord when chain links fail; the second, marked with two asterisks, drops an NST in between directly-linked chains. These two approaches generate all but one of the ten remaining attempts found in Figure 3c. The link that needs a slightly different approach is E-/G-; this link requires a combination of the one and two asterisk approaches: a "hybrid" approach.[107]

[107] To be sure, these pathways are cyclic, which means they can begin and end anywhere; however, in order to approach them, some vantage point must be devised, and this is what the starting links provide.

Figure 3c. The remaining ten attempts to cyclic pathways

(3) F♯+/D♯-

G- ⒶF♯+/D♯-ⒷF♯-/[A+]//B-
//E♯-
/E- Ⓓ E+/B- ⒸE♯-/[F+]//G- non cyclic
/[F+] /B- ⒸE♯-/E+ Ⓓ E-/[A+]/G- cyclic

*G- ⒶF♯+/D♯-ⒷF♯-/[F+]/B- ⒸE♯-/E+ Ⓓ E-/[A+]/G- cyclic

(4) D♯-/F♯+

F♯-ⒷD♯-/F♯+Ⓐ G-/E- Ⓓ E+/B- ⒸE♯-//[A+]
/[F+]//[A+]

**F♯-ⒷD♯-/[A+]/F♯+Ⓐ G-/E- Ⓓ E+/B- ⒸE♯-/[F+]/F♯- cycle
**F♯-ⒷD♯-/F♯+Ⓐ G-/[A+]/E- Ⓓ E+/B- ⒸE♯-/[F+]/F♯- cycle

(5) F♯+/E-

G- ⒶF♯+/E- Ⓓ E+//F♯-
//D♯-
/B- ⒸE♯-//[A+]
/[F+]/F♯-ⒷD♯-/[A+]/G- cyclic

*G- ⒶF♯+/E- Ⓓ E+/B- ⒸE♯-/[F+]/F♯-ⒷD♯-/[A+]/G- cyclic

(6) E-/F♯+

*E+ Ⓓ E-/F♯+Ⓐ G- /[A+]/F♯-ⒷD♯-/[F+]/B- ⒸE♯-/E+ cyclic

(7) G-/E-

F♯+Ⓐ G-/E- Ⓓ E+/B- ⒸE♯-//[A+]
/[F+]/F♯-ⒷD♯-/[A+]/F♯+

*F♯+Ⓐ G-/E- Ⓓ E+/B- ⒸE♯-/[F+]/F♯-ⒷD♯-/[A+]/F♯+ cyclic

(8) E-/G-

E+ Ⓓ E-/G- ⒶF♯+/F♯-ⒷD♯-//B-
//E♯-
/[A+]//B-
//E♯-
/[F+] /B- ⒸE♯-//[A+]

***E+ Ⓓ E-/[A+]/G- ⒶF♯+/F♯-ⒷD♯-/[F+]/B- ⒸE♯-/E+ cyclic
***E+ Ⓓ E-/G- ⒶF♯+/[A+]/F♯-ⒷD♯-/[F+]/B- ⒸE♯-/E+ cyclic

(9) B-/E+

E♯-Ⓒ B-/E+ Ⓓ E-/G- ⒶF♯+/F♯-ⒷD♯-/[A+]//[F+]
/[F+]//[A+]

**E♯-Ⓒ B-/E+ Ⓓ E-/[A+]/G- ⒶF♯+/F♯-ⒷD♯-/[F+]/E♯- cyclic
**E♯-Ⓒ B-/E+ Ⓓ E-/G- ⒶF♯+/[A+]/F♯-ⒷD♯-/[F+]/E♯- cyclic

(10) E+/B-

E- Ⓓ E+/B- ⒸE♯-//[A+]
/[F+]//F♯+
//G-
/F♯-ⒷD♯-/F♯+Ⓐ G-/[A+]/E- cyclic

*E- Ⓓ E+/B- ⒸE♯-/[F+]/F♯-ⒷD♯-/F♯+Ⓐ G-/[A+]/E- cyclic

(11) E♯-/E+

B- ⒸE♯-/E+ Ⓓ E-/G- ⒶF♯+/F♯-ⒷD♯-/[A+]//[F+]
/[F+]//[A+]

**B- ⒸE♯-/E+ Ⓓ E-/[A+]/G- ⒶF♯+/F♯-ⒷD♯-/[F+]/B- cyclic
**B- ⒸE♯-/E+ Ⓓ E-/G- ⒶF♯+/[A+]/F♯-ⒷD♯-/[F+]/B- cyclic

(12) E+/E♯-

E- Ⓓ E+/E♯-Ⓒ B-//[A+]
/[F+]//F♯+
//G-
/F♯-ⒷD♯-/F♯+Ⓐ G-/[A+]/E- cyclic

*E- Ⓓ E+/E♯-Ⓒ B-/[F+]/F♯-ⒷD♯-/F♯+Ⓐ G-/[A+]/E- cyclic

The hybrid approach appears in number eight of Figure 3c and is marked with three asterisks. The E-/G- link allows chain-D, chain-A, and chain-B to be directly linked. However, in the manner of the one-asterisk pathways, connection fails before all chains align; in this case, failure occurs at the D♯- end of chain-B because D♯- cannot link to either end of the remaining chain: chain-C. Therefore, the first NST is dropped in, which forms the D♯-/[A+] link, but the link to [A+] can go nowhere. [F+], then, replaces [A+] and the link to chain-C is achieved, but, yet again, [A+] presents a problem, now, at the end. [A+]'s inability to connect at the end is what makes the approach here like that taken with the two-asterisk pathways. For two-asterisk pathways, all the chains link directly, placing the NSTs at the end, which causes problems: the most obvious being that the NSTs cannot connect to each other. The fix for a two-asterisk pathway is to simply use the NST [A+] earlier. For the E-/G- pathway, it is the same type of scenario: [A+] is

saved until the end; however, [A+] is not able to connect to the last chain; therefore, it is simply used earlier. As the sixth line of the E-/G- pathway shows, [A+], indeed, can link between E- and G-; in addition, the seventh line shows that [A+] can also link between the F♯+ and F♯- connection. Thus, the approach for the E-/G- link appears as a hybrid.[108]

As one might expect, there are not twelve different pathways. Using an even more abbreviated system for labeling pathways (asterisks still included), Figure 4a displays the links that have pathways that match. For the most part, links seem to double up on pathways, and this is the case for five of the seven pathways shown in Figure 4a.

Figure 4a. Links with matching pathways

(1) F♯+/F♯- and (3) F♯+/D♯-
* Ⓐ Ⓑ [F+] Ⓒ Ⓓ [A+]

(2) F♯-/F♯+ and (4) D♯-/F♯+
** Ⓑ Ⓐ Ⓓ Ⓒ [A+] insert, [F+] return

(5) F♯+/E- and (7) G- /E-
* Ⓐ Ⓓ Ⓒ [F+] Ⓑ [A+]

(6) E- /F♯+
* Ⓓ Ⓐ [A+] Ⓑ [F+] Ⓒ

(8) E- /G-
*** Ⓓ Ⓐ Ⓑ [F+] Ⓒ [A+] insert

(9) B- /E+ and (11) E♯-/E+
** Ⓒ Ⓓ Ⓐ Ⓑ [A+] insert, [F+] return

(10) E+ /B- and (12) E+ /E♯-
* Ⓓ Ⓒ [F+] Ⓑ Ⓐ [A+]

[108] Interestingly, when the two- and three-asterisk approaches drop an NST in earlier, it is always A+.

However, two pathways are generated by only a single link. Number 8 is the only pathway using the hybrid approach, which offers a reason to why this pathway is generated in only one way. Number 6, the E-/F♯+ link, is the other isolated attempt; however, this pathway is one of many one-asterisk pathways (where link failure alone causes NST insertion). What makes this pathway different from the others like it is that it does not close the cycle with an NST link: number 6 closes the cycle with a chain-end link. Therefore, other than the E-/G- and E-/F♯+ pathways, the rest are generated twice; however, pathways group even further than the obvious match.

If we allow temporal and retrograde versions of the same pathway to group as one, our field narrows even further. As Figure 4b shows, links ten and twelve send links one and three's pathway in the opposition direction, as do links two and four for links nine and eleven's pathway, and links five and seven for link six's pathway. Still isolated is the hybrid link, number eight; no links retrograde this pathway. Figure 4b, indeed, is a

Figure 4b. Temporal and retrograde pathway matching

Temporal order (1) F♯+/F♯- and (3) F♯+/D♯- * Ⓐ Ⓑ [F+] Ⓒ Ⓓ [A+]
Retrograde (10) E+ /B- and (12) E+ /E♯- * Ⓓ Ⓒ [F+] Ⓑ Ⓐ [A+]

Temporal order (9) B- /E+ and (11) E♯-/E+ ** Ⓒ Ⓓ Ⓐ Ⓑ [A+] insert, [F+] return
Retrograde (2) F♯-/F♯+ and (4) D♯-/F♯+ ** Ⓑ Ⓐ Ⓓ Ⓒ [A+] insert, [F+] return

Temporal order (6) E- /F♯+ * Ⓓ Ⓐ [A+] Ⓑ [F+] Ⓒ
Retrograde (5) F♯+/E- and (7) G- /E- * Ⓐ Ⓓ Ⓒ [F+] Ⓑ [A+]

Temporal order (8) E- /G- *** Ⓓ Ⓐ Ⓑ [F+] Ⓒ [A+] insert

clearer account of the number of cyclic pathways, because the number is now closer to the number of approaches taken to form them; however, it may not be obvious as to why there are three approaches and four pathways. The reason is because the one-asterisk approach, which drops in an NST when chain links fail, configures the pathways in two ways: the first is a two-chain/NST-two-chain/NST pattern; the second is a three-chain/NST-one-chain/NST pattern. For the one-asterisk pathways, the approach also represents the format, as shown in the first and third groups of Figure 4b; this, however, is not the case for the two- and three-asterisk pathways.[109]

If we shift the focus away from a categorization based on approach, which is essentially what Figure 4b illustrates, and group pathways according to the formats resulting from the three approaches, we find that there are only two ways that the four chains and two NST chords can be formatted. Figure 4c shows the approach-to-format designs. The first group in Figure 4c contains all of the one-asterisk pathways. Here, we see the two formats. Links one and three result in the two-chain/NST-two-chain/NST temporal pattern, and links ten and twelve reverse this pattern. Link six results in the three-chain/NST-one-chain/NST temporal pattern, and links five and seven reverse this pattern. Again, for the one-asterisk pathways, approach equals format. The second group is all two-asterisk pathways: the group that links all the chains without NST assistance. Links nine and eleven link the chains in temporal order and then insert [A+] and return with [F+]. [A+] can either insert between chains-D and A or chains-A and B;

[109] In other words, the approaches for the two- and three-asterisk pathways illustrated in the second and fourth groups of Figure 4b do not represent an end-result format, as do the one-asterisk approaches of groups one and three; indeed, the approaches for the two- and three-asterisk pathways still need to insert [A+] to reveal an end-result format, and for this, there are options.

Figure 4c. Approach-to-format designs

Group one:

(1) F♯+/F♯- and (3) F♯+/D♯- * Ⓐ Ⓑ [F+] Ⓒ Ⓓ [A+] = approach and format

(10) E+ /B- and (12) E+ /E♯- * Ⓓ Ⓒ [F+] Ⓑ Ⓐ [A+] = approach and format

(6) E- /F♯+ * Ⓓ Ⓐ [A+] Ⓑ [F+] Ⓒ = approach and format

(5) F♯+/E- and (7) G- /E- * Ⓐ Ⓓ Ⓒ [F+] Ⓑ [A+] = approach and format

Group two:

(9) B- /E+ and (11) E♯-/E+ ** Ⓒ Ⓓ Ⓐ Ⓑ [A+] insert, [F+] return = approach

** Ⓒ Ⓓ [A+] Ⓐ Ⓑ [F+] = format

or ** Ⓒ Ⓓ Ⓐ [A+] Ⓑ [F+] = format

(2) F♯-/F♯+ and (4) D♯-/F♯+ ** Ⓑ Ⓐ Ⓓ Ⓒ [A+] insert, [F+] return = approach

** Ⓑ Ⓐ [A+] Ⓓ Ⓒ [F+] = format

or ** Ⓑ [A+] Ⓐ Ⓓ Ⓒ [F+] = format

Group three:

(8) E- /G- *** Ⓓ Ⓐ Ⓑ [F+] Ⓒ [A+] insert = approach

*** Ⓓ [A+] Ⓐ Ⓑ [F+] Ⓒ = format

or *** Ⓓ Ⓐ [A+] Ⓑ [F+] Ⓒ = format

the D-A insert results in the two-chain/NST-two-chain/NST pattern, and the A-B insert results in the three-chain/NST-one-chain/NST pattern. The retrograde of links two and four has no effect on the resulting formats. The third group is the hybrid pathway caused by the E-/G- link, which drops in [F+] at chain-link failure and then inserts [A+]. As before, [A+] inserts between chains-D and A or between chains-A and B, and the results prove to be no different then the other groups; they are either a two chain/two chain format or three chain/one chain format.

We now have justification for the notion of two cyclic pathways—two-chain/NST-two-chain/NST, and three-chain/NST-one-chain/NST—two pathways considered the

same in either temporal or retrograde order. Still serving the notion of two pathways are the starting links, since they engendered the approach, which led to the realization of the two-format designs. However, now that the pathways have surfaced, the importance of the links seems to be pushed aside. Perhaps the links might offer a way to prioritize the two pathways by the number of links that realize each one. With priority based in such a way, the two-chain/two-chain pathway predominates, because it is engendered by nine starting links: numbers one, three, ten, twelve, nine, eleven, two, four and eight, reading Figure 4c from top to bottom. But, the three-chain/one-chain pathway is engendered by one less: numbers six, five, seven, nine, eleven, two, four and eight.

Priority, though, might be described in another way, one that stems from the description of the pathways by chains alone. This eliminates the two-format polarization imposed by NST insertion. Indeed, the NSTs are necessary to generate an all-inclusive cyclic pathway, but we do not have to prioritize the NST/chain combinations, we can simply prioritize the chains. In doing so, there is no two-chain/two-chain, or three-chain/one-chain bias; there is only the series of four chains. And, due to the equated retrograde, there remains only the unbroken sequence of an Ⓐ Ⓑ Ⓒ Ⓓ linear ordering, which Figure 4c confirms: an ordering foreshadowed by the passage's segmentation, one that also attests, through its simplicity, the elegance of Villa- Lobos's design.

2.2c. The Interplay of Symmetry and Asymmetry: Prélude No. 3

Although transformational relations can richly inform the status of a member in a group by way of a member's direct relationships to other members of that group, neo-Riemannian theory also provides avenues of exploration concerning the shared relationship members of a group have collectively with an object outside of the group. These relationships, in general terms, form a class of relations between dissonant symmetrical formations and consonant asymmetrical deformations.[110] In the exposition of neo-Riemannian theory presented at the beginning of this section, we investigated the nature of parsimonious constructions and discovered that of the three set classes most associated with parsimonious voice leading (set-classes 3-11, 7-35, and 5-35) set-class 3-11 has the ability to form parsimonious cycles whose total pitch-class content generates either hexatonic or octatonic collections.[111] This is significant because this represents a relationship that unifies two conflicting constructs: the asymmetrical (set-class 3-11) and symmetrical (the hexatonic or octatonic).

Noting the interplay of symmetry and asymmetry constitutes an analytical perspective germane to neo-Riemannian methodology. In such interplay, priority can be placed not just on individual objects (in the above cases, the asymmetrical triads) but also on that which serves as the source for those objects (the symmetrical collection). Within this perspective, the symmetrical formation becomes conceptually central to the existence of the asymmetrical deformations, and the role of the symmetrical formation can be seen as

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[110] Cohn, "Weitzmann's Regions," 100-101.

[111] The perspective of set-class 3-11 generating the hexatonic or octatonic can also be reversed, where the hexatonic or octatonic can be seen to provide the pitch-class content that generates set-class 3-11; this reverse perspective will also be considered.

analogous to the role of the diatonic scale in conventional harmonic settings: as a background force that supplies the necessary pitch-class content for the formation of objects on the surface. Dissonant symmetrical formations viewed as background entities now may be used to explain the foreground employment of familiar consonant asymmetrical deformations, such as triads, in non-tonal settings.

We can also analogize the different transpositions, or regions, of the symmetrical formations to "keys," in the sense that they represent different "tonal signatures" within which the activity of the consonant chords plays out. As discussed earlier, set-class 3-11 defines the different regions of the hexatonic and octatonic through the various co-cycles engendered by two transformational combinations. The first is the combination of the two half-step transforms, P and L, which results in a cycle of six triads whose total pitch-class content generates the hexatonic—four hexatonic co-cycles partition set-class 3-11, one for each hexatonic region. The second combination is the half-step transform P combined with the whole-step transform R, which results in a cycle of eight triads, whose total pitch-class content generates the octatonic—three octatonic co-cycles partition set-class 3-11, one for each octatonic region.

Set-class 3-11's ability to form co-cycles, as Cohn states, is a property that is compositionally and analytically significant, because the forces of "unity" and "diversity" are more appropriately balanced.[112] In other words, the number of set members in a cycle (unity) is more balanced by the number of co-cycles (diversity) formed within the set class; this is set-class 3-11's unique property when compared to its two parsimonious counterparts, set-class 7-35 and its complement 5-35: two set-classes whose balance of

[112] Cohn, "Maximally Smooth Cycles," 16-17.

unity and diversity is lopsided, because each of these set classes form only one parsimonious cycle through which their entire set-class constituency moves.[113]

* * *

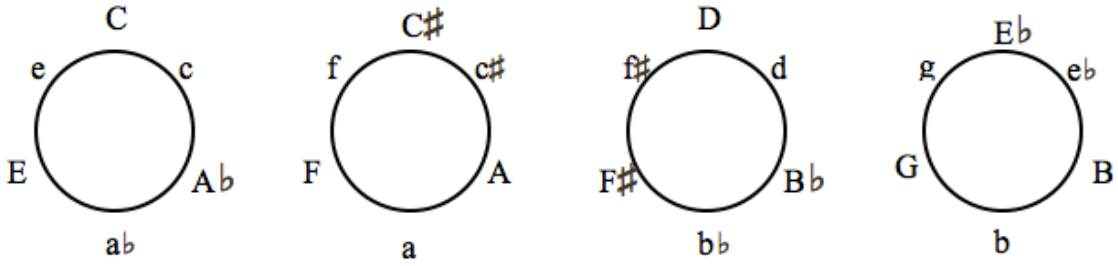
Set-class 3-11's balance of unity and diversity serves as a point of departure for the investigation of another consonant deformation that has the ability to form a symmetrical formation, while at the same time forming co-cycles that describe the various regions related to that symmetrical formation. Expanding beyond triads is the class of dominant and half-diminished seventh's ability to balance unity and diversity within the symmetrical octatonic system, which provides us with another way to view our passage from Prélude No. 3.

Unity, however, for this class of seventh chords (set-class 4-27) is less restricted than the unity found for set-class 3-11. In the latter, unity develops by way of the $P_{1,0}$ parsimony brought about by the P and L transformations within each of the four hexatonic regions, or by way of the $P_{1,0}$ and $P_{0,1}$ parsimony brought about by the P and R transformations within each of the three octatonic regions. Each of these triadic transformational combinations, <PL> and <PR>, form a single set of cyclic relations for each region of their respective symmetrical collection, meaning that from one triad to the next within a given cycle, there is only one possible triadic succession according to the type of parsimony involved. Figure 5 illustrates such a set of relations using the

[113] Set-class 7-35 and its complement 5-35 have only twelve members (instead of the usual twenty-four) because the member sets map onto themselves by one degree of inversion.

hexatonic <PL> cycles as an example. For each of the four hexatonic regions, there is only one possible cycle of triadic relations induced by $P_{1,0}$:

Figure 5. The four cycles of triadic relations induced by $P_{1,0}$, one for each hexatonic region



The situation is analogous for triadic relations within the octatonic: for each of the three octatonic regions, there is only one possible set of triadic relations induced by $P_{1,0}$ and $P_{0,1}$. Explaining this at a more component level is simply the nature of P, L, and R transformation: for each of these, there is only one formation from any given triad.[114] For the class of dominant and half-diminished sevenths within an octatonic system, however, unity develops by way of $P_{2,0}$ parsimony, which allows multiple sets of successions to form within a single octatonic region; because, as Childs's system of transformations for set-class 4-27 shows in Example 2, there are multiple transformational possibilities from a given 4-27 seventh chord by way of $P_{2,0}$ parsimony.[115]

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[114] A convenient reference for this is Douthett and Steinbach's, "Parsimonious Graphs," 245-247. Refer especially to HexaCycles in Figure 3, and OctaCycles in Figure 5.

[115] Although the $P_{2,0}$ parsimony of S and C transformation models motion between members of set-class 4-27 within an octatonic system, there is one chord motion within the system that cannot be executed without an intervening "silent" transformational agent: that of a dominant seventh, up a minor third, to half diminished seventh (or the

Each octatonic region supplies the pitch-class content for eight set-class 4-27 members: four dominant sevenths and four same-root half-diminished sevenths. Each of these eight chords has a $P_{2,0}$ transformational relationship with six of the seven other chords within the region. Figure 6a illustrates this transformational interconnection between octatonic related 4-27 seventh chords from the given initial chord of C+, which by convention is the first dominant seventh of the $Oct_{0,1}$ region. C+ is shown in a different $P_{2,0}$ relationship with each of the six chords placed within the double bars, and each relationship is distinguished by the transformation indicated above each chord. The single chord outside of the right double bar is the only one within the region that is not in a $P_{2,0}$ relationship with the initial chord, and it represents the initial chord's octatonic complement: a chord whose pitch-class content is distinct from the initial chord and together with the initial chord defines the entire pitch-class content of the octatonic

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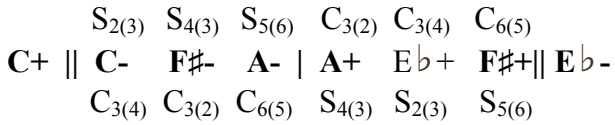
reverse). Silent agents are a property of the double-S transformation, where the motion between *any* two members of set-class 4-27 is achieved (see Childs, "Moving Beyond Neo-Riemannian Triads," 187-189): two bordering chords have an intervening "S" silent transformation; however, this particular dominant to half diminished move does not require double-S attention: namely, dominant can be seen to move up a minor third, by $C_{3(4)}$, first through a dominant silent agent, and then an appending $S_{2(3)}$ inverts the mode and preserves the root. This particular solution allows all chords involved to remain within the same octatonic system (the same two transformations send a half diminished down to dominant). This solution does not mean that double-S transformation is incapable of executing the same chord motion; indeed, double-S transformation sometimes duplicates the $P_{2,0}$ parsimony of the C transformation, and this is the case here: double-S transformation can duplicate the single $C_{3(4)}$ motion; however, the double-S seems to over complicate the issue, especially since the double-S would also require an appending $S_{2(3)}$ to invert the mode. In addition, the silent agent of the double-S transformation has the potential to detour out of the octatonic system: an event of possible significance in terms of perhaps "modulating" between symmetrical systems; however, an event, nonetheless, that breaches the governing system (the symmetrical collection).

Figure 6a. $Oct_{o,1}$ region, the interrelationships of 4-27 members illustrated from C+



region from which the two chords form.[116] The complement reciprocates the initial chord's relationships with those inside the double bars; these are indicated below the example, and either end of the example can take on the role of an initial chord.[117]

Again, every 4-27 seventh chord in an octatonic region is in a $P_{2,0}$ relationship with six of the seven other chords within that region; in addition, every chord in a region has an octatonic complement. Therefore, in the same manner that Figure 6a illustrates the six $P_{2,0}$ relationships for C+ and its complement E♭-, we can illustrate the six $P_{2,0}$ relationships for the three other regional complements.[118] Figure 6b illustrates the three remaining complement pairs and each pair's six $P_{2,0}$ relationships within the $Oct_{o,1}$ region. For all four illustrations contained in Figures 6a and 6b, the transformations remain constant; indeed, the transformations are constant for all octatonic regions ($Oct_{o,1}$, $Oct_{1,2}$, and $Oct_{2,3}$), since transformations are not affected by transposition. In comparing all four illustrations, note the isolation of each different complement pair, and how the complements interchange the chords within the $Oct_{0,1}$ region.

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[116] The complement pair represents the chord motion discussed in the previous footnote.
[117] Richard Bass offers a transformational model for half-diminished seventh chord in "Half-Diminished Functions and Transformations in Late Romantic Music," *Music Theory Spectrum* 23/1 (Spring 2001): 41-60.
[118] Indeed, Figure 6a is designed to not only show how two chords reciprocate six $P_{2,0}$ relationships but to highlight an octatonic complement.

Figure 6b. The three remaining complement pairs and their six $P_{2,0}$ relationships within the $Oct_{o,1}$ region

$$\begin{array}{c} \quad S_{2(3)}\ \ S_{4(3)}\ \ S_{5(6)}\ \ C_{3(2)}\ C_{3(4)}\ \ C_{6(5)} \\ \mathbf{E\flat+}\ ||\ \mathbf{E\flat-}\ \ \mathbf{A-}\ \ \mathbf{C-}\ \ |\ \mathbf{C+}\ \ \mathbf{F\sharp+}\ \ \mathbf{A+}\ \ ||\ \mathbf{F\sharp-} \\ \quad C_{3(4)}\ C_{3(2)}\ C_{6(5)}\ \ S_{4(3)}\ \ S_{2(3)}\ \ S_{5(6)} \end{array}$$

$$\begin{array}{c} \quad S_{2(3)}\ \ S_{4(3)}\ \ S_{5(6)}\ \ C_{3(2)}\ C_{3(4)}\ \ C_{6(5)} \\ \mathbf{F\sharp+}\ ||\ \mathbf{F\sharp-}\ \ \mathbf{C-}\ \ \mathbf{E\flat-}\ \ |\ \mathbf{E\flat+}\ \ \mathbf{A+}\ \ \mathbf{C+}\ \ ||\ \mathbf{A-} \\ \quad C_{3(4)}\ C_{3(2)}\ C_{6(5)}\ \ S_{4(3)}\ \ S_{2(3)}\ \ S_{5(6)} \end{array}$$

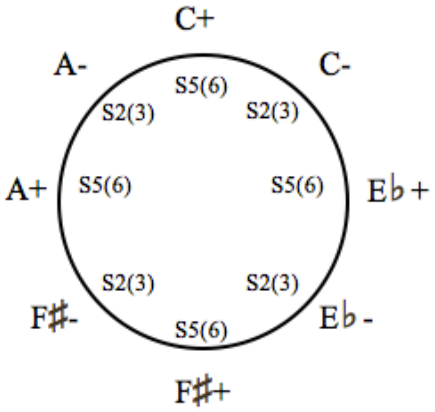
$$\begin{array}{c} \quad S_{2(3)}\ \ S_{4(3)}\ \ S_{5(6)}\ \ C_{3(2)}\ C_{3(4)}\ \ C_{6(5)} \\ \mathbf{A+}\ ||\ \mathbf{A-}\ \ \mathbf{E\flat-}\ \ \mathbf{F\sharp-}\ |\ \mathbf{F\sharp+}\ \mathbf{C+}\ \ \mathbf{E\flat+}||\ \mathbf{C-} \\ \quad C_{3(4)}\ C_{3(2)}\ C_{6(5)}\ \ S_{4(3)}\ \ S_{2(3)}\ \ S_{5(6)} \end{array}$$

Figures 6a and 6b emphasize $P_{2,0}$ interchange for complement pairs, which is one way to illustrate $P_{2,0}$ unity for octatonic-related 4-27 seventh chords. However, it is often the practice in neo-Riemannian theory to engage a symmetrical region's parsimonious relationships in a graph format that presents cyclic "tours," as illustrated in Figure 5. In creating these graphs for set-class 4-27's $P_{2,0}$ relationships, there can be no single cycle of relationships for each of the three octatonic regions because of $P_{2,0}$ interchange; therefore, unity is not restricted to one cycle per region, as it is for set-class 3-11 (see Figure 5 above).

As in the manner of the triadic hexatonic and octatonic cycles (<PL> and <PR>), Figure 7 presents a 4-27 cycle through the $Oct_{0,1}$ region based on the alternation of two transformations. The alternation of $S_{2(3)}$ and $S_{5(6)}$ makes a clockwise tour through the region by moving a chord to its same-root modal inverse and then to the modal inverse a minor third above. This transformational combination emphasizes the inherent T_3

relationships between adjacent pairs of same-root-octatonic-related 4-27 seventh chords, and represents one type of cyclic unity through the region.[119]

Figure 7. $S_{2(3)}/S_{5(6)}$ 4-27 cycle through $Oct_{0,1}$ region



Cyclic tours do not necessarily present what happens in compositional application, but they call attention to certain relationships that in turn can help guide our real-music responses.[120] As just mentioned, Figure 7 emphasizes inherent T_3 relationships—prominent octatonic relationships for set-class 4-27, indeed—but Figure 7's unity does not necessarily make evident the inherent relationship that guides our first, non-cyclic 4-27 graphs in Figures 6a and 6b.

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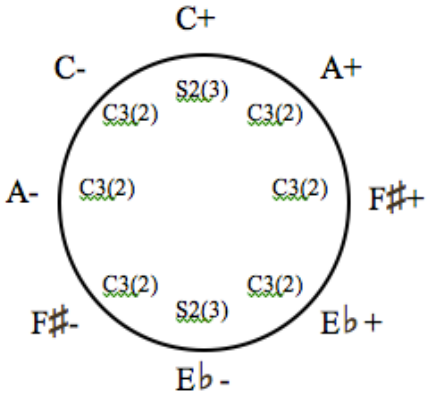
[119] Childs mentions this transformational combination in "Moving Beyond Neo-Riemannian Triads," 187.

[120] In Childs, a cubic network generalizes all $P_{2,0}$ relationships for set-class 4-27 within a single octatonic region; see "Moving Beyond Neo-Riemannian Triads," 187-188. In Douthett and Steinbach, a global graph generalizes all $P_{2,0}$ relationships for set-class 4-27 through *all* octatonic regions; see "Parsimonious Graphs," 241-263.

As Figures 6a and 6b illustrate, the octatonic complement is the only single-fixed relationship, because of transformational interchange; therefore, it would seem that this lack of fixed relationships promotes an approach toward cyclic unity based on prioritizing this single-fixed relationship.[121] In Figure 8, we find cyclic unity prioritizing the complement relation through another two-transformation design that fixes a C+/E♭- (north/south) $S_{2(3)}$ complement axis, around which the other three complements pair west to east (or vice versa), by $C_{3(2)}$ transformation. However, the drawback of this design is that it seems to promote the C+/E♭- complement, because C+/E♭- is the only complement to form an axis.

Figure 8. C+/E♭- (north/south) $S_{2(3)}$ complement axis, around which the other three complements pair west to east by $C_{3(2)}$ transformation

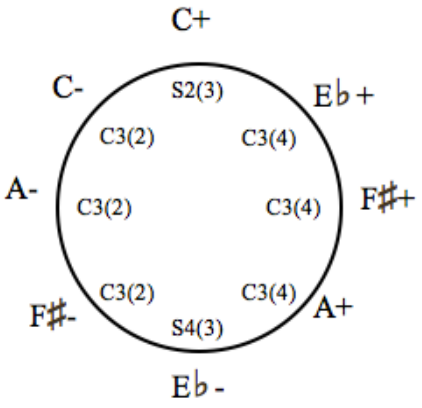


Perhaps a better graphic representation of complement-based unity is one where all complements form axes; indeed, no one complement is more important than any of the

[121] The complement being the only $P_{4,0}$ relationship within an octatonic region.

other three. In this manner, the pitch-class distinct complements have more of an impact because all four are diametrically opposed. Figure 9 illustrates the complements in such a way. Although the complements seem better informed, the transformational cycle becomes more complex. The north/south, C+/E♭- axis arrives through two different S transforms: the C+ end by $S_{2(3)}$, and the E♭- end by $S_{4(3)}$. The other three axes are also all brought about by two different transformations: the dominant-seventh ends by $C_{3(4)}$, and the half-diminished-seventh ends by $C_{3(2)}$. This places all $C_{3(4)}$ transforms on the right side of the graph and all $C_{3(2)}$ transforms on the left. Indeed, it appears that for Figure 9, the graphic equality gained in depicting all complement pairs as axes comes at the price of a more complex transformational cycle, which Figure 8 avoids.

Figure 9. Complements arranged as axes, $Oct_{0,1}$ region



The impact that cyclic representation can have on certain relationships helps support the search for those relationships in real-music situations, and, as our cyclic graphs display for octatonic-related 4-27 seventh chords, T_3 and complement relationships can

easily be interpreted as essential relationships. T_3 can be interpreted as essential because this relationship is fundamental not only to Figure 7, where T_3 motivates the graphic design, but to Figures 8 and 9 as well, where T_3 is fundamental even to these two designs motivated by the complement relation. T_3 might also be afforded an essential status among octatonic 4-27 relationships for other reasons. Since the notion of chord-to-chord distance is rendered the same for all $P_{2,0}$-octatonic-related 4-27 seventh chords, in terms of pitch-class displacement, we might consider T_3 relations as being "closer" than other $P_{2,0}$ relations because of certain musical reasons that set T_3 apart: namely, transpositionally related chords are modally the same, which supports the argument that they are more closely related than those that are related by modal inversion, and T_3 represents the closest transpositional distance in an octatonic region. In regard to interpreting the complement as essential, Figure 9 presents a strong case for this interpretation for a couple of reasons. The first is that an octatonic-related 4-27 graph allows for an all-complement axis design; the second, and most important, is that the diametrically opposed complement relations represent the opposite of what T_3 relations represent: namely, where T_3 relations can be argued the closest, complement relations can be argued the most distant, because of modal inversion and pitch-class displacement.

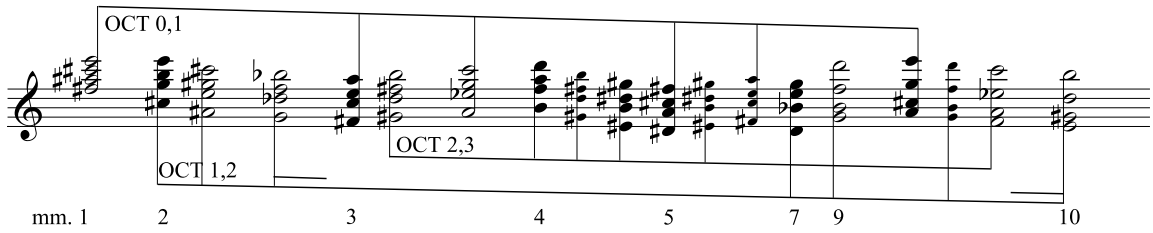
For an approach into our passage from Prélude No. 3 by way of the interplay of the two polarized constructs of symmetry and asymmetry, we will look to establish the three regions of the background octatonic through the two polarized relationships for set-class 4-27: T_3 transposition (the closest) and the octatonic complement (the most distant). Importance will be placed on the articulation of a symmetrical region's pitch-class content. In regard to the complement, the special nature of this relationship allows each

chord the ability to become half of the most efficient means by which to articulate a symmetrical region. For T_3 relations, the articulation of a region's pitch-class content comes through a series of T_3 motions.

* * *

Example 4 shows how the three octatonic regions partition Prélude No. 3's 4-27 passage, and each region is articulated by both T_3 and complement relationships.[122] After the initial $Oct_{0,1}$ F♯+, an $Oct_{1,2}$ C♯- in measure 2 is transposed by T_3 to A♯-, which again transposes by T_3 to G-.[123] This three-chord foreground series falls short of a complete articulation of the $Oct_{1,2}$ region by only one pitch class. The missing pitch class (pc 2) is supplied by the connecting middleground T_3 motion to E- in measure 7, which is the only non-planed half-diminished seventh in the passage.[124]

Example 4. Octatonic partitioning of Prélude No. 3's 4-27 passage



[122] This 4-27 passage is actually three measures longer than shown; however, these measures simply repeat, in near exact fashion, those chords successions from measure 9 to measure 10.

[123] T_3 describes all same-mode minor-third relations, whether above or below.

[124] As Cohn states in regard to his hexatonic regions, musical foregrounds rarely maintain one region for very long, and that a single region fares better at mapping middlegrounds; as Example 6 illustrates, this is the case here. See "Maximally Smooth Cycles," 23.

The $Oct_{1,2}$ region is also articulated by two of its complement pairs, which are indicated in open-note-head notion. The first of these is the A♯-, in measure 2, coupled with the G+, in measure 9; these two chords connect to the single beam. The second $Oct_{1,2}$ complement is the G-, in measure 2, coupled with the E+, in measure 10; these two chords connect to the broken double beam. The only remaining chord in the $Oct_{1,2}$ region is the repeat of the G+ in measure 9, which is indicated in closed, small notation.[125]

The other two regions display our two relationships in nearly the same fashion. Beginning with T_3 relations, after the initial F♯+, the $Oct_{0,1}$ region presents a same-root modal inverse F♯- in measure 3, which is then transposes by T_3 to A-, also in measure 3. Although this is not an adjacent relationship, it remains a strong foreground connection. The connection to follow A- is the middleground connection to D♯- in measure 5, which is T_3 below the F♯-. D♯- also has a strong foreground connection to the repeat of F♯-, also in measure 5. The repeat of F♯- might be perceived as a reminder of the first chord of this broken T_3 series. The $Oct_{0,1}$ region does not provide the fourth chord of this T_3 series (C-), which would articulate the single missing pitch of this octatonic collection; however, the ascent in measure 5 from D♯- to F♯- by T_3, moving to A+ in measure 9 by root motion of T_3, provides the same seven pitches of the $Oct_{0,1}$ region as does the previous broken T_3 series of F♯- > A- > D♯-. Indeed, the broken descent and ordered ascent of this $Oct_{0,1}$ T_3 series presents strong evidence of an $Oct_{0,1}$ background.[126] In regard to $Oct_{2,3}$ T_3 relations, the same near-complete T_3 articulation of an octatonic background is projected in about the same manner as in the $Oct_{0,1}$ region. The $Oct_{2,3}$

[125] Throughout the example, small notation indicates a repetition.
[126] T_3 is also projected by the motion of the two bordering chords of the $Oct_{0,1}$ region: F♯+ (m. 1) to A+ (m. 9).

region begins with the G♯- in measure 3, which is transposed by T_3 to B- in measure 4. B- then returns to G♯-, which is transposed by T_3 to E♯-, also in measure 4. Due to the return to G♯-, the series is not broken; in addition, the series lies on the surface of the music as it does for the $Oct_{1,2}$ region in measure 2, which provides clear support for the notion of an octatonic background.

As mentioned, the $Oct_{0,1}$ and $Oct_{2,3}$ regions are also articulated by octatonic complements; there is one per region. In the $Oct_{0,1}$ region, the initial chord of the passage, F♯+, couples with the A- in measure 3. For $Oct_{2,3}$, the first chord of this region, G♯-, couples with the last chord of the region, F+, a bordering effect that highlights the event. The presence of the octatonic complements in the $Oct_{0,1}$ and $Oct_{2,3}$ regions helps support the octatonic argument, if one is inclined to question the near-complete articulation of the $Oct_{0,1}$ and $Oct_{2,3}$ through T_3 relationships.

In addition, there is one more relationship present in all three regions, other than our two pitch-class generators, that lends support. A prominent relationship among octatonic-related 4-27 seventh chords is modal inversion, and more specifically, parallel inversion. As mentioned, an octatonic region supplies the pitch-class content for four dominant sevenths and four same-root half-diminished sevenths, and a telling feature among octatonic regions defined by 4-27 seventh chords is the relationship of two chords that are modal inversions and built on the same pitch class. In Example 6, each region displays this parallel relationship, and two regions have two paired relations. In the $Oct_{0,1}$ region, the first two chords are parallel inversions: the initial F♯+ and the F♯- in measure 3. Also in the $Oct_{0,1}$ region are A- in measure 3 and A+ in measure 9. There are also two pairs in the $Oct_{1,2}$ region: G- in measure 2 and G+ in measure 9; and E- in measure 7 and

E+ in measure 10. In the last region, $Oct_{2,3}$, the single parallel inversion is enharmonically hidden: the E♯- in measure 4 has a parallel inversion in the F+ of measure 9. Of course, these parallel relationships in themselves are not enough to project the octatonic regions; however, mixed with both the prominence of T_3 relations and the presence of octatonic complements articulating the regions' pitch-class contents, they serve as illuminating beacons.

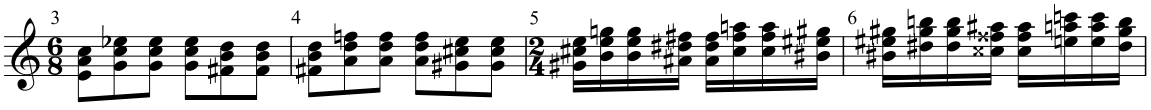
Approaching this analysis from these three relationships, though, weighs the balance of interplay heavily in on the side of asymmetry; and, as mentioned in the introduction of this section, another perspective of interplay is to consider the symmetrical formation(s) as being conceptually central. However, prioritizing the symmetrical formations does not necessarily negate what has already been discussed; indeed, it appears that the interplay between the concepts of symmetry and asymmetry has a built-in balance and counterbalance. In this case, the symmetrical octatonic collections can still be viewed as resulting from the activity of the asymmetrical 4-27 seventh chords, which articulate the pitch-class contents of the octatonic collections; while, at the same time, the added perspective of having conceptually-central octatonic collections permits, so to speak, the activity of the 4-27 seventh chords within a non-tonal environment. It would seem then that prioritizing the concepts of either symmetry or asymmetry, when discussing their interplay, mirrors what we do in common practice; indeed, individual structural concepts within traditional tonality are prioritized without the loss of meaning for others.

2.2d. The Interplay of Symmetry and Asymmetry: Étude No. 12

Neo-Riemannian theory offers another way to unify symmetrical and asymmetrical structures through interplay. In this section, interplay deals with minimal perturbations of symmetrical divisions of the octave.[127] However, in this particular instance of minimal perturbation, there is a special condition to be qualified: symmetry is not a literal presence.

Example 5a illustrates a planed passage from Étude No. 12 that demonstrates a symmetrical division of the octave. In this passage, a middleground whole-step motion can be extracted: an A minor triad moves incrementally to its octave above. This is illustrated in the graph of Example 5b.[128] What will be considered is how each of the six different triads (A minor, B minor, C♯ minor, D♯ minor, E♯ minor, and enharmonic G minor) can be considered as minimal perturbations within a symmetrical whole-tone collection. The collection to be considered is WT_0; note that this is not the collection formed by the triadic roots.

Example 5a. Source for middleground symmetrical division of the octave, Étude No. 12, measures 3-6



[127] As stated previously, a minimal perturbation refers to a single half-step displacement.
[128] Accidentals apply only to the chord they precede.

Example 5b. Middleground whole-tone motion, Étude No. 12, measure 3-6

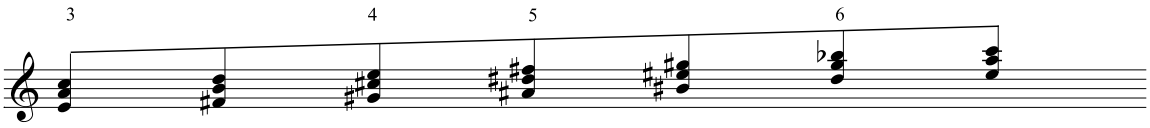


Figure 10 graphs the WT_0 collection by illustrating the two T_4 cycles embedded into the collection. The upward pointing cycle will be called the northern T_4 cycle, and the downward pointing cycle will be called the southern T_4 cycle. We are concerning ourselves with the two T_4 cycles because it is the individual perturbation of these two cycles that constitutes the symmetrical/asymmetrical interplay. Each of the consonant asymmetrical triads can be considered a minimal perturbation of one of the dissonant symmetrical T_4 cycles; as the chords ascend by whole step, they engage the two T_4 cycles in an alternating fashion.

Figure 10. Graph of the two T_4 cycles embedded into the WT_0 collection

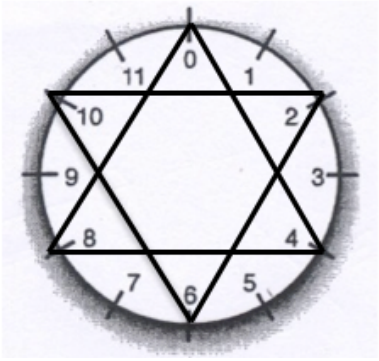


Figure 11a shows how the first triad, A minor, displaces by half step pc 8 of the northern T_4 cycle. Shown beside the northern cycle is how the next triad, B minor, displaces by half step pc 10 of the southern T_4 cycle. Reengaging the northern cycle in

Figure 11a. A minor displacement of northern T_4 cycle, and B minor displacement of southern T_4 cycle

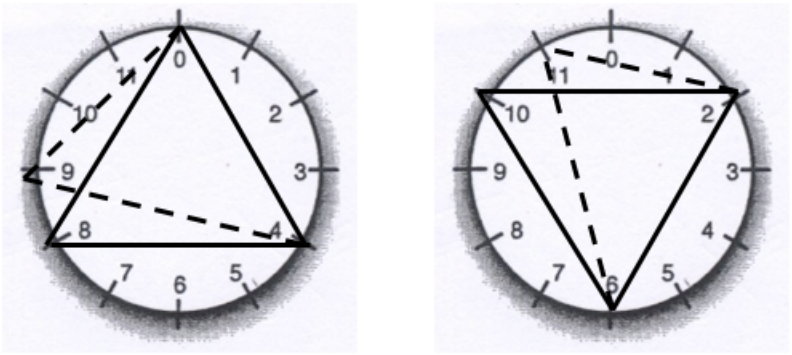
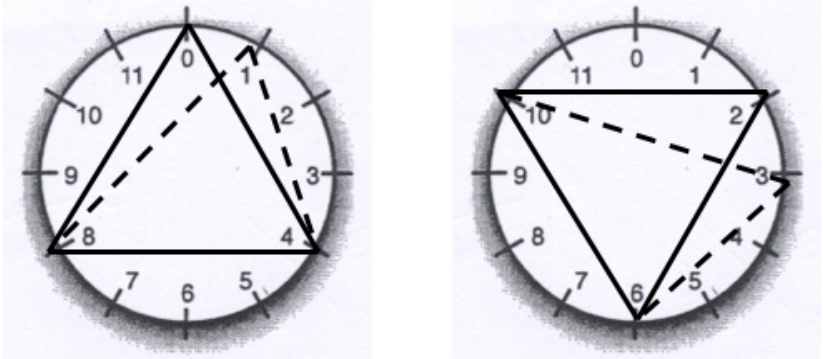


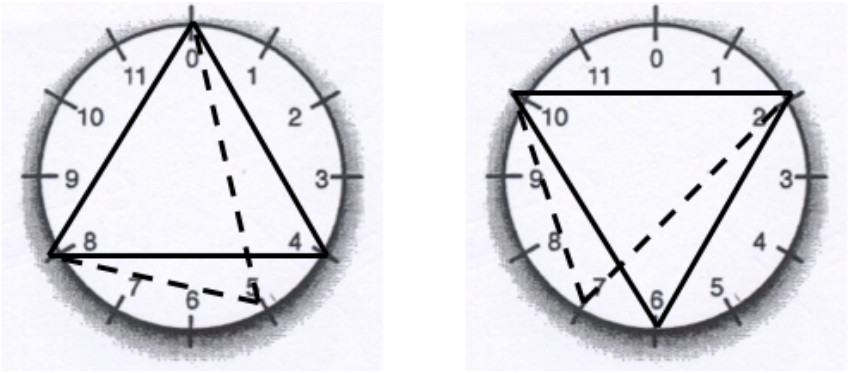
Figure 11b is the third triad, C♯ minor, which replaces the voice displaced by A minor (pc 8) and, moving in a clockwise motion, displaces by half step the next voice in the northern cycle: pc 0. The fourth chord, D♯ minor, in Example 11b, reengages the

Figure 11b. C♯ minor displacement of northern T_4 cycle, and D♯ minor displacement of southern T_4 cycle



southern cycle by replacing the voice altered by B minor (pc 10) and, again, moving in clockwise motion, displaces by half step the next voice in the southern cycle: pc 2. Similarly, in Example 11c, E♯ minor reengages the northern cycle by replacing the voice displaced by C♯ minor (pc 0) and displaces the next voice in the northern cycle: pc 4. In the last alternation of the southern cycle before the octave arrival, the enharmonic G minor triad replaces the voice displaced by D♯ minor (pc 2) and displaces pc 6. The return to A minor from G minor then replaces pc 4 in the northern cycle and again displaces pc 8.

Figure 11c. E♯ minor displacement of northern T_4 cycle, and G minor displacement of southern T_4 cycle



With every move of this triadic succession, one voice from a T_4 cycle is displaced and another is replaced in an alternating northern/southern fashion. And although the T_4 cycles are an abstract presence, the components of the two cycles spend more time fixed in their T_4 form than not.[129] Ultimately, though, one does not *have* to evoke the abstract

[129] This approach is based on Cohn's analysis of Liszt's *Faust* Symphony, first movement, measures 305-311; see Cohn, "Weitzmann's Regions," 99-100. In addition, what does not have to be argued is the fact that the WT_0 collection is indeed a literal presence, because it exists in the third and fifth chord tones of each triad. What supports

T_4 as the symmetrical division being minimally perturbed, because the literal WT_0 collection exists in the third and fifth chord tones of each minor triad, and one might simply perceive the triadic motion as minimal perturbations of this complete whole-tone collection. However, the notion of an asymmetrical perturbation of a symmetrical division generally deals with two entities that are of the same cardinality, because as one entity minimally perturbs, the implication is that it is also holding all but one of the symmetrical entity's components; thus, the relationship has a one-to-one correlation for every component in each entity, and this is certainly not the case if we consider a minor triad to be the perturbing agent of a whole-tone collection. The approach here will therefore remain in the form of minor-chord perturbations of alternating T_4 cycles; however, the presence of the WT_0 collection makes the abstraction of the cycles more informed, because there is a literal source in the music for their conception.

For some, though, the abstract T_4 cycles might be problematic, which, for reasons mentioned, leaves the minimal perturbation argument in a vulnerable state. However, accepting the T_4 cycles goes beyond their opportunistic presence. With the help of Cohn's comments from his analysis of Liszt's *Faust* Symphony, the following briefly defends the consideration of these abstract cycles. In regard to our passage from Étude No. 12, the presence of the minor-triadic ascent by whole-tone motion elicits the neo-Riemannian response of interplay between symmetry and asymmetry, and detailing such a response is the notion of minimal perturbations of symmetrical divisions of the octave.

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the literal presence of symmetry is the complement whole-tone collection, WT_1, which is created by the displaced voices: the roots of the minor triads. However, the WT_1 collection is not minimally perturbed by the triadic motion.

The perturbing asymmetrical entities can be found in the minor triads, the symmetrical divisions in the notion of two T_4 cycles embedded into the WT_0 collection. And although we are assuming this relationship exists without the literal presence of the two T_4 cycles, one might say the shadow of each T_4 cycle is cast across the passage, since the simultaneously displaced-and-replaced components of these two cycles spend more time fixed in their T_4 form than not.[130] In addition, collections, symmetrical or not, are commonly defined by the sum of their parts, whether it is the whole-tone collection by its two T_4 cycles, the octatonic collection by its two T_3 cycles, or the diatonic collection by its two whole-whole-half-step tetrachords. Beyond this, the T_4 cycles deepen our understanding of the surface triadic motion by providing a direct comparison for all components in each minor triad, showing just how close and just how minimally different the interplay in Étude No. 12 is between symmetry and asymmetry.

[130] Ibid., 99.

2.2e. The Fixed-Left-Hand Fingering: Neo-Riemannian Summary

Although the planed fixed-left-hand fingerings of Villa-Lobos's textures shut down functional harmonic and voice-leading procedures, neo-Riemannian theory provides ways to consider consonant chord relationships in non-tonal settings. We have considered how parsimonious ($P_{2,0}$) voice leading brought about through S and C transformation informs relationships among set-class 4-27 seventh chords and the number of connections a chord makes as an indication of a chord's structural significance on foreground and middleground levels. We have also considered how S and C transformation allows transformational pathways that can track 4-27 relationships across the foreground/middleground border; such pathways are formed by cyclic chains that link together into a single all-inclusive cycle through all chords of a passage.

Moving beyond transformational mappings between members of the same group, neo-Riemannian theory has also provided avenues of exploration concerning the shared relationship members of a group have collectively with an object outside of the group. These explorations describe interplay between dissonant symmetrical formations and consonant asymmetrical deformations. Interplay between symmetry and asymmetry can be thought of as an activity of asymmetrical deformations articulating the pitch-class content of a symmetrical formation, or as a conceptually-central symmetrical formation as a background force that supplies the pitch-class content for the activity of asymmetrical deformations. Finally, the interplay between symmetry and asymmetry has also dealt with the notion of consonant chords as minimal perturbations of symmetrical divisions of the octave. These two entities, the minimal perturbations and the

symmetrical divisions, are constructs of the same cardinality and differ by only the half-step displacement of one pitch class.

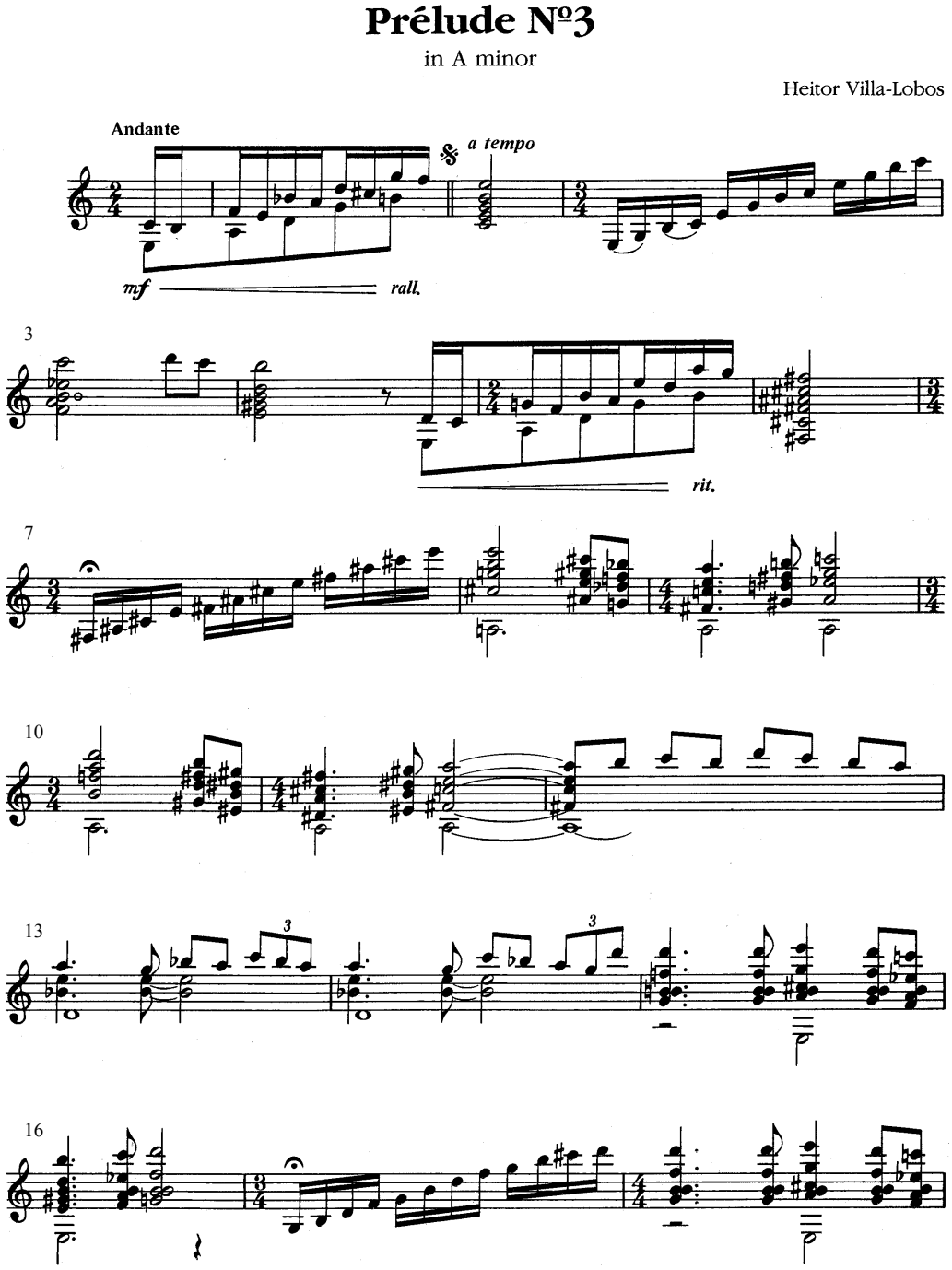
2.2f. Misreading: Prélude No. 3

Before concluding this neo-Riemannian section, this discussion returns now to Prélude No. 3 to propose a possible misreading engendered by its passage of 4-27 seventh chords. Despite the fact that the misreading perspective is not a neo-Riemannian notion, it seems appropriate to append this section with the 4-27 misreading, because it is here that Prélude No. 3 is addressed.

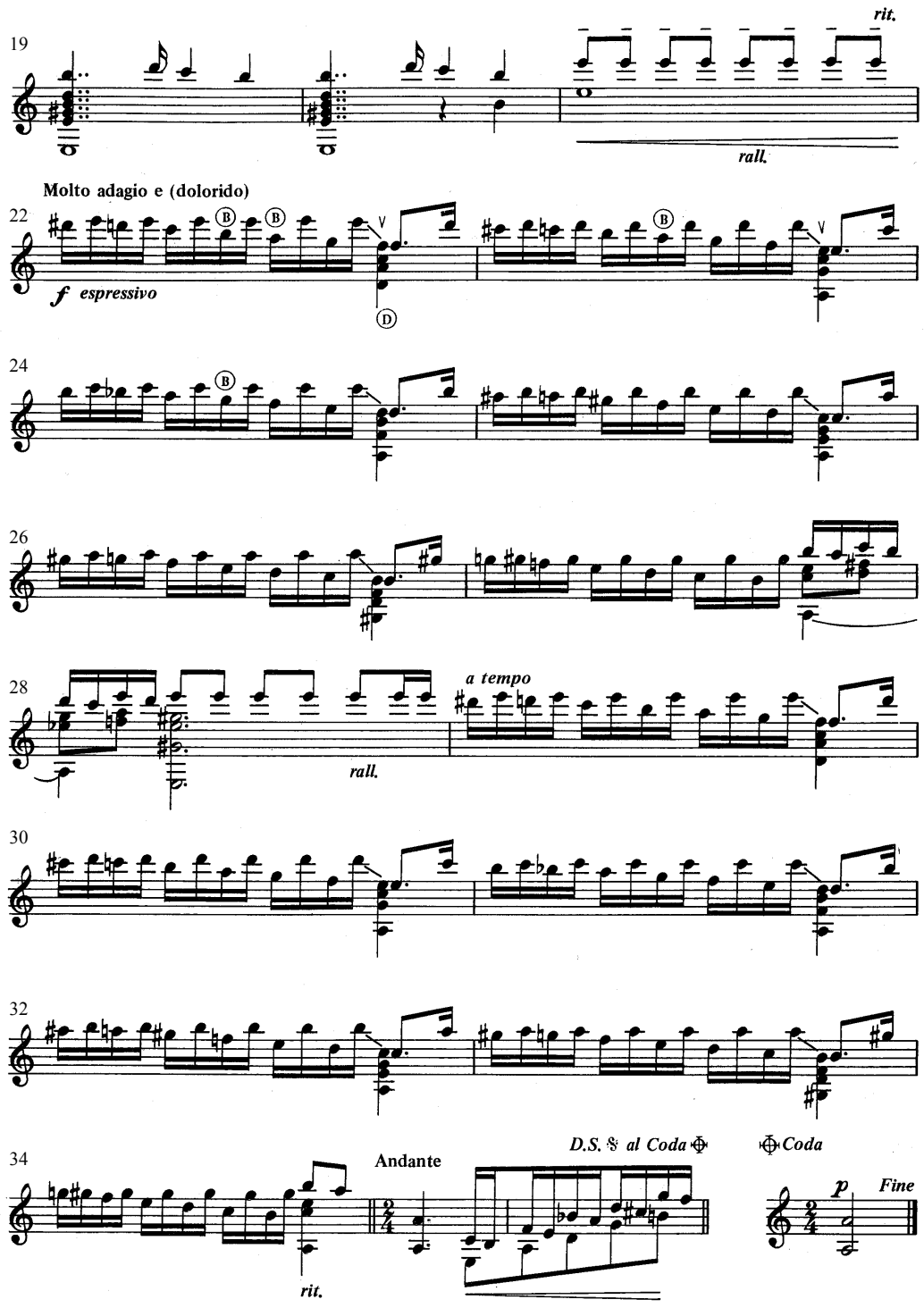
In order to ground this misreading in context, Example 6 presents Prélude No. 3 in its entirety. Essentially, the 4-27 passage, which comes in the first section, can be perceived as a misreading of an extended dominant prolongation in the second section of this prelude.[131] This prolongation is ushered in with a three-measure reiteration of the last chord of the 4-27 passage, E+, measures 19-21, and then, in a traditional manner, this section expresses and prolongs E+ as the dominant of the key of A minor, measures 22-34. Although the first six measures of this prolongation set up the key, the tonic is not established cadentially. Stepping into the prolongation, the first measure (m. 22) presents the IV^7 chord, D minor seventh, which moves to the tonic minor seventh in the next measure. The II^7, B half diminished, arrives in measure 24, and then it too moves to the tonic minor seventh in the next measure. In measure 26, the dominant is expressed again in the form of a leading-tone VII^7, and although the tonic minor triad presents itself in the following measure, there is no cadential closure, because the tonic triad arrives in a weak

[131] Indeed, it would seem that if a passage is also misread within the piece, then one should find the misreading in a subsequent passage: however, this expected order is presented through the *Dal segno al Coda* at the end.

Example 6. Prélude No. 3



Example 6. Prélude No. 3 (cont.)



position of the measure (beat four) and functions simply as the first chord of an embellishing linear ascent into the root position E major triad in measure 28. E major's agogic accent securely reestablishes the dominant. Following this, the first five measures of the dominant prolongation return: IV^7 moves to I^7; II^7 moves to I^7; and then the raised VII^7 returns in measure 33, as the dominant function that finally resolves to the tonic minor on the last beat of measure 34; this resolution is then confirmed by the tonic octave on the downbeat of measure 35. Finally, two other factors weigh in to help support the notion of dominant prolongation in measures 22-34: first is the lack of cadential activity; second is the chord progression, which, although traditional, has no goal directed motion.

As for the first section's 4-27 prolongational misreading, note the E+ early on in measure 4; it is the second member of set-class 4-27 to arrive, and it appears to have more structural weight than the first arrival in measure 3, F+, because F+ acts as an embellishing upper neighbor to E+.[132] Three measures later in measure 7, the passage of planed 4-27 members begins.[133] The embellishment of E+ earlier on (mm. 3-4) implies a brief tonal orientation, although there is certainly no tonal orientation for the planed 4-27 passage, which spans measures 7-19. However, the early introduction and embellishment of E+ and the near immediate planing of the set-class from which E+ and its embellishment come, promotes the notion of a prolongational misreading based on E+, especially since the planing/prolongation returns to and concludes on E+, mm. 16 and19 respectively. In addition, even if the association of the initial E+ in measure 4 and the

[132] Indeed, this is a non-tonal environment; regardless, consonant chord motions retain their tonal implications.
[133] Although measure 7 does not immediately begin the 4-27 planing, it does, however, introduce the set class within this passage.

planing/prolongation of set-class 4-27 is difficult to make, the association of the 4-27 passage and E+ is certainly made clear by the end of the 4-27 prolongation.

It is at this point that the music changes. As the last chord of the 4-27 prolongation, E+ represents the pivot through which the music transitions from non-tonal to tonal, and it is the single chord from the concluding $Oct_{1,2}$ region able to make this transition (see Example 6, p. 140).[134] As the 4-27 prolongation ends in measure 19, and the three-measure reiteration of E+ begins (mm. 19-21), E+ appears to shed its function as the goal of the 4-27 prolongation, to prepare its new role as the extended dominant of A minor. Indeed, E+'s three-measure reiteration is important because it bonds the two prolongations.

In regard to E+'s dominant-prolongational misreading, it is a retrospective interpretation, at least until the *Dal segno al Coda*; however, it is an interpretation with credence, because of E+'s highlighted status in both sections, and the close temporal association of the 4-27 prolongation and the actual dominant prolongation. This interpretation has two more supporting factors. The first, and most important, is that the misreading of the dominant prolongation and the actual dominant prolongation are exactly the same length. The misreading begins in measure 7 and ends twelve measures later on the downbeat of measure 19. The dominant prolongation begins in measure 22, under the *Molto adagio e (dolorido)* expression marking, and ends twelve measures later in measure 34. The fact that these two sections are of equivalent lengths is hard to overlook and may indicate a conscience effort on the part of Villa-Lobos to structurally

[134] G+, which is also in the $Oct_{1,2}$ region, has potential to act as a pivot to A minor, since it is diatonic to this key; however, E+ is the sole chord given the opportunity.

relate the two prolongations.[135] The second supporting factor allows a general association between the non-tonal and tonal sections. The quasi-compound melody that dominates the tonal section appears to also be misread. In the tonal section, this melody connects each harmonic move with a descending sequence formed by an ascending two-note motive. The upper part of the motive fixes a chord tone from the previous harmony; the lower part is a decorated diatonic descent. In the non-tonal section, a similar sequence connects harmonic motion outside of the 4-27 passage. However, the non-tonal section reverses each component of the sequence: the sequence ascends by a descending two-note motive. In addition, here in this environment where diatonicism does not reside, the sequence expresses an ornamented arpeggiation of the open strings of the guitar. With measures 1, 5, and 36, and their preceding pickups, the open strings are expressed in the lower and the upper parts of each sequence; this, at least, *references* traditional tonality with cycle-5 motion.[136]

Of course, one may feel that there is not enough justification to label the non-tonal sequences as misreadings; indeed, it seems more valuable when the misreading can be drawn close to a source, and the non-tonal sequences are not an integral part of the structure in the non-tonal section as the tonal sequences are in their section, which may distance the misreading association too much for some. However, whether the sequences in the non-tonal section are considered misreadings or not does not matter, because the

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[135] Given that Prélude No. 3 is intended as an homage to Bach, one might suspect that the structural balance shown between the two prolongations might be a subtle nod to the structures of Bach. As already mentioned, Villa-Lobos also pays homage to Bach in Étude No. 1, which is styled after Bach's C major Prelude from the first book of *Well Tempered Clavier,* with arpeggiated chords in repeated one-measure segments. Investigation of this issue, however, is beyond the scope of this study.

[136] This also elaborates the idiomatic nature of this first section.

shared sequential constructs between the sections are apparent. Thus, the sequences, though not of great importance in the non-tonal section, help then to support the notion of non-tonal renderings of tonal section constructs, which reflects on the set-class 4-27 dominant-prolongational misreading. Finally, in regard to just the misreading, which arguably prolongs E+ within the same number of measures as its counterpart, it might well be introduced by the E+ in measure 4. However, the actual misreading is the prolongation of set-class 4-27, beginning in measure 7 until the arrival of E+ in measure 19.

* * *

As mentioned in this section's introduction, this misreading appends our neo-Riemannian profiling of Villa-Lobos, which has already been summarized. Therefore, this study now moves on to the next topic of discussion.

CHAPTER III

FRANK MARTIN'S *QUATRE PIÈCES BRÈVES*

1. A Self-Conscious Integration

The conflict of old and new is perhaps expressed no more clearly than in Frank Martin's *Quatre Pièces Brèves* (1933). Indeed, conflict results from Martin's self-conscious effort to integrate the two most fundamental ingredients of his compositional style: functional tonality and Schoenberg's 12-tone technique. Tonality is at the heart of Martin's musical aesthetic, and he believed that "we need not necessarily give up our feeling for tonal function, for functional bass, for a system of relationships which elementary acoustics show to be physical fact."[1] However, 12-tone technique presented to Martin a system of chromatic organization that was impossible to ignore, and he felt the system "offer[s] to the composer who feels the necessity of renewing his language a path of guidance and a new law."[2]

Martin understood that Schoenberg's system was more than an attempt to gain new resources through the use of 12-tone rows, that it forbade octaves, classical tonal relations, and indeed the hierarchy implied by such relations. Martin spoke of Schoenberg's system as a revolution attempting to overthrow traditional tonality, a revolution to create music that would be systematically atonal. And although Schoenberg's atonal aesthetic clashed with Martin's, whose aesthetic always remained

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[1] Frank Martin, "Schoenberg and Ourselves," *The Score* 6 (May 1952): 16-17.
[2] As quoted by Mervyn Cooke, "Frank Martin's Early Development," *Musical Times* 131/1771 (September 1990): 476.

aligned with his tonal predecessors, Martin saw in Schoenberg's twelve-tone technique certain conditions that could heighten his sensitivity to chromaticism.[3]

Martin conveyed that working with twelve-tone technique teaches one to think and write in a new language. He spoke of the invention of rich melodies through the use of the complete chromatic collection (the aggregate) before retuning to the first note. He also spoke of the heightened sensitivity of the return of the melody upon itself, and that a given pitch acquires a far greater value when stripped of its tonal relations, because it becomes just a note, causing the mind to become "strangely quickened" by the feeling for the note itself. Here, Martin said, is a "real enrichment, and a new demand."[4] Of course, Martin reserved the right to break some or all of Schoenberg's "rules"; he felt the twelve-tone system must be individually developed and advocated that poverty is not a virtue when it comes to separating ourselves from our musical past.[5]

Martin's style is a self-conscious integration of chromaticism, based on Schoenberg's twelve-tone technique, with traditional tonal practice. As such, the analysis of Martin's music is the discovery of his idiosyncratic use of Schoenberg's chromaticism, as well as the discovery of the elements that enforce his tonal commitment. However, even though Martin's music is a self-conscious integration that both promotes his own particular brand of atonality while preserving tonality, his musical aesthetic—which is bound by traditional music values— cannot be defined by such a dialectic; thus, it can be argued

[3] Martin, "Schoenberg and Ourselves," 15-17.
[4] Ibid.
[5] Ibid., 15-17.

that it is Martin's avoidance of atonality that reveals the most about his style,[6] a style that has been termed "tonal serialism."[7]

[6] Tupper, "Stylistic Analysis of Selected Works by Frank Martin," 71.
[7] The oxymoron "tonal serialism" seems to be an appropriate label for an atonal-based approach with a stressed tonal foundation. For the use of this term see Cooke, "Frank Martin's Early Development," 478; and Mervyn Cooke, "Late Starter: Mervyn Cooke Concludes His Survey of Martin's Creative Life." *Musical Times* 134/1802 (April 1993): 199.

2. The Preservation of Tonality: An Overview of Tonal Anchors in Prélude

Accounts of *Quatre Pièces Brèves* —Martin's first piece influenced by Schoenberg's twelve-tone method—generally agree that of the four movements, the first and fourth display Schoenberg's influence. However, before discussing how *Quatre Pièces Brèves* interprets Schoenberg's system, we will overview how Martin tonally anchors his music.

Example 1 presents the complete first movement (Prélude), which is divided into four continuous sections marked by time changes and a repeated alternation between slow and fast (*Lent* and *Vite*), in measures 1, 14, 39, and 45.[8] Example 2a presents a graph of the first section's most prominent tonal anchors (mm. 1-13), based on *Stufe* analysis and other supporting tonal events.

It would be hard to argue that from the start, Martin is doing anything other than tonally grounding this movement, with the use of a two-sharp key signature and the early underpinning of the B-minor triad. As shown in the first measure of Example 2a,[9] the opening fifth, B to F♯, becomes harmonically complete with the consonant middleground skip from F♯ to D, the minor third of the chord. From D, the linear 3rd progression through C♯ to B becomes a single voice-leading motion back to the tonic in the second

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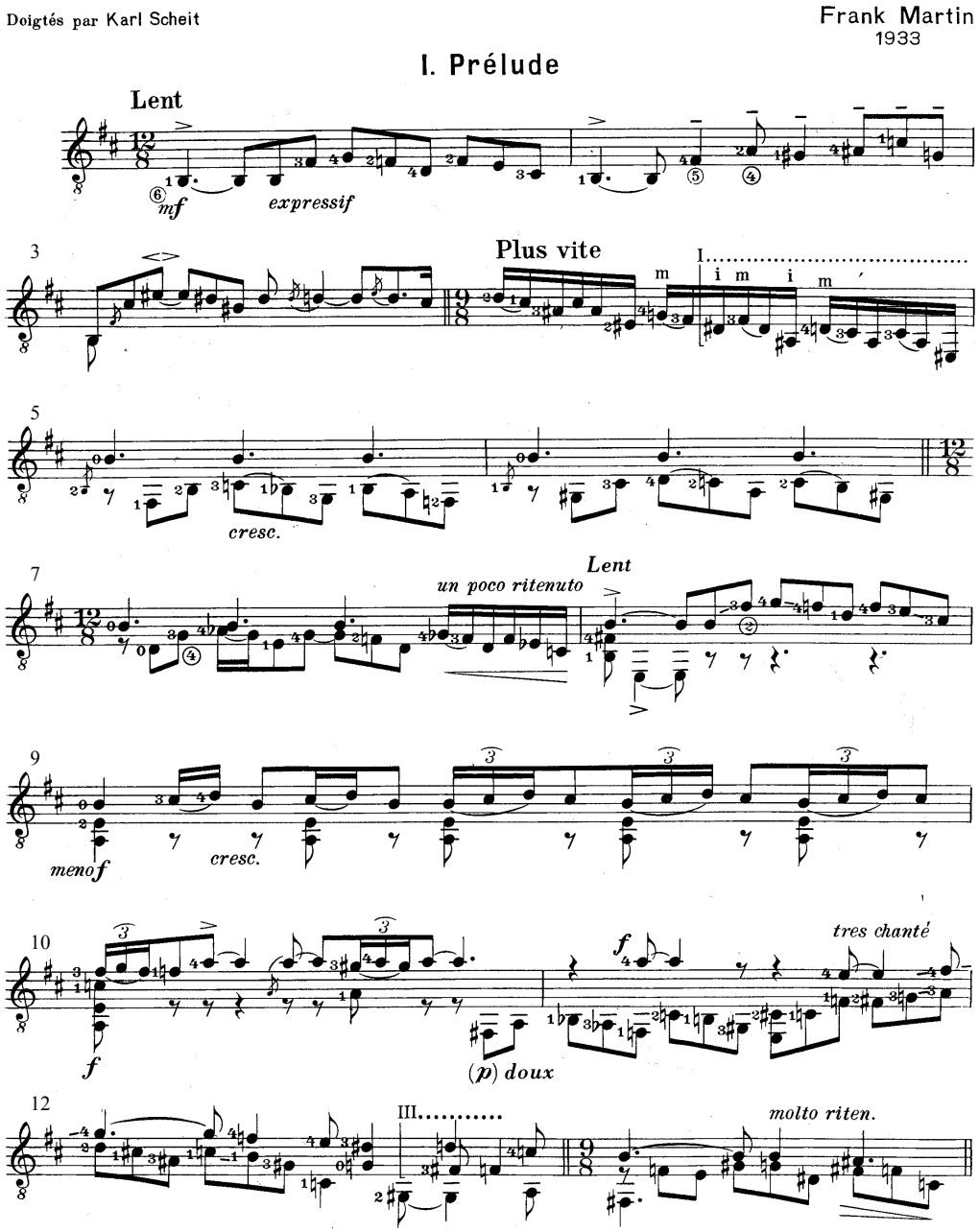
[8] Example 1 comes from Universal Edition's second (1987) edition of *Quatre Pièces Brèves*. This edition presents the work as it appeared in the definitive manuscript Martin wrote in 1955, which was first published by Universal Edition in 1959. In addition, the second edition compares features of an earlier, 1938/39, manuscript that Martin made for Zurich guitarist Hermann Leeb. For an account of the various published and unpublished versions of *Quatre Pièces Brèves,* see de Kloe, "Frank Martin's Quatre Pièces Brèves: A Comparative Study of the Available Sources," 19-27; and Jan de Kloe, "Frank Martin's Quatre Pièces Brèves: A Comparative Study of the Available Sources Part Two," *Soundboard* 20 (Fall 1993): 21-27.

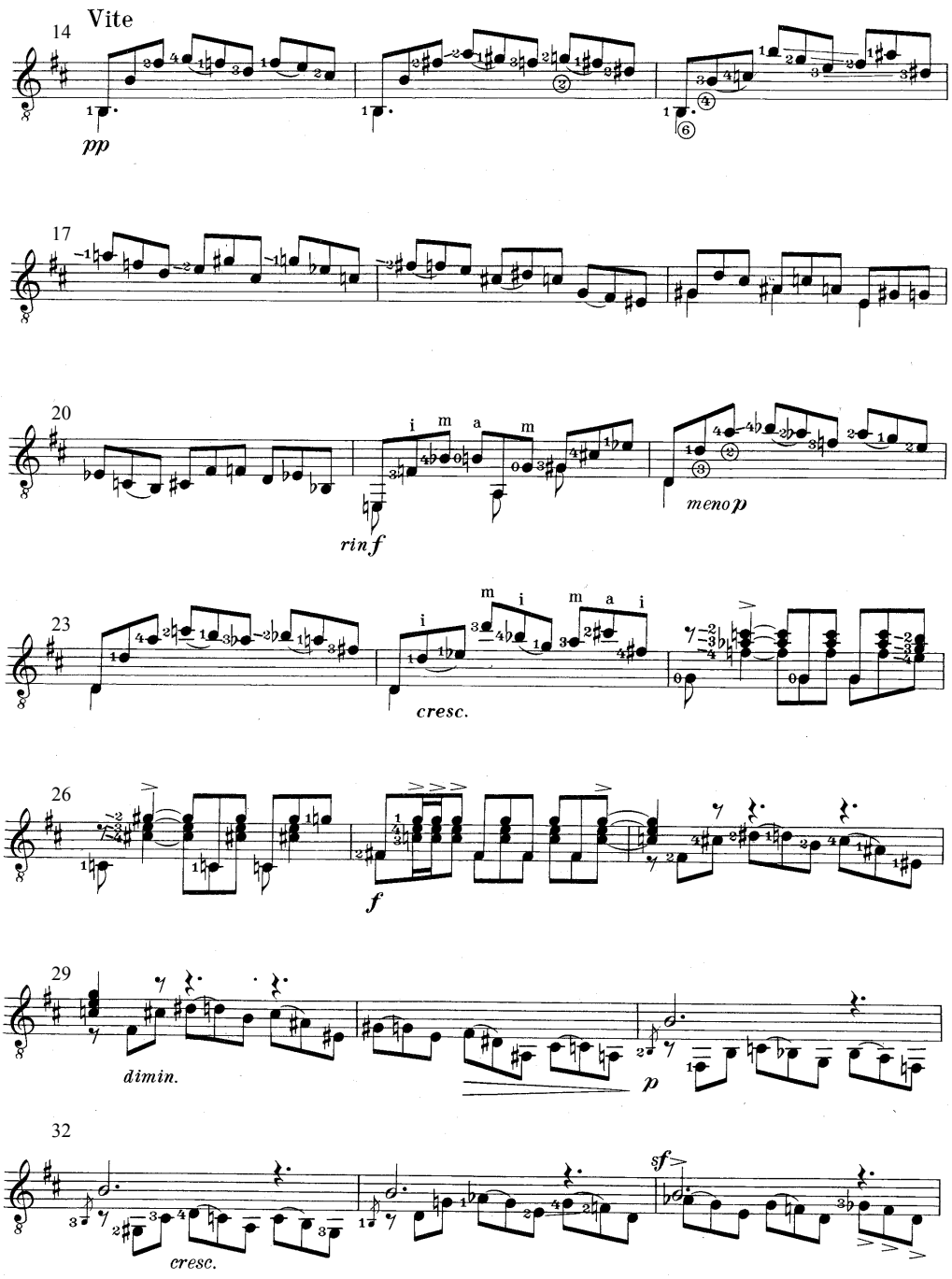
[9] All Martin examples employ accidentals in a traditional manner.

Example 1. Prélude, from *Quatre Pièces Brèves*



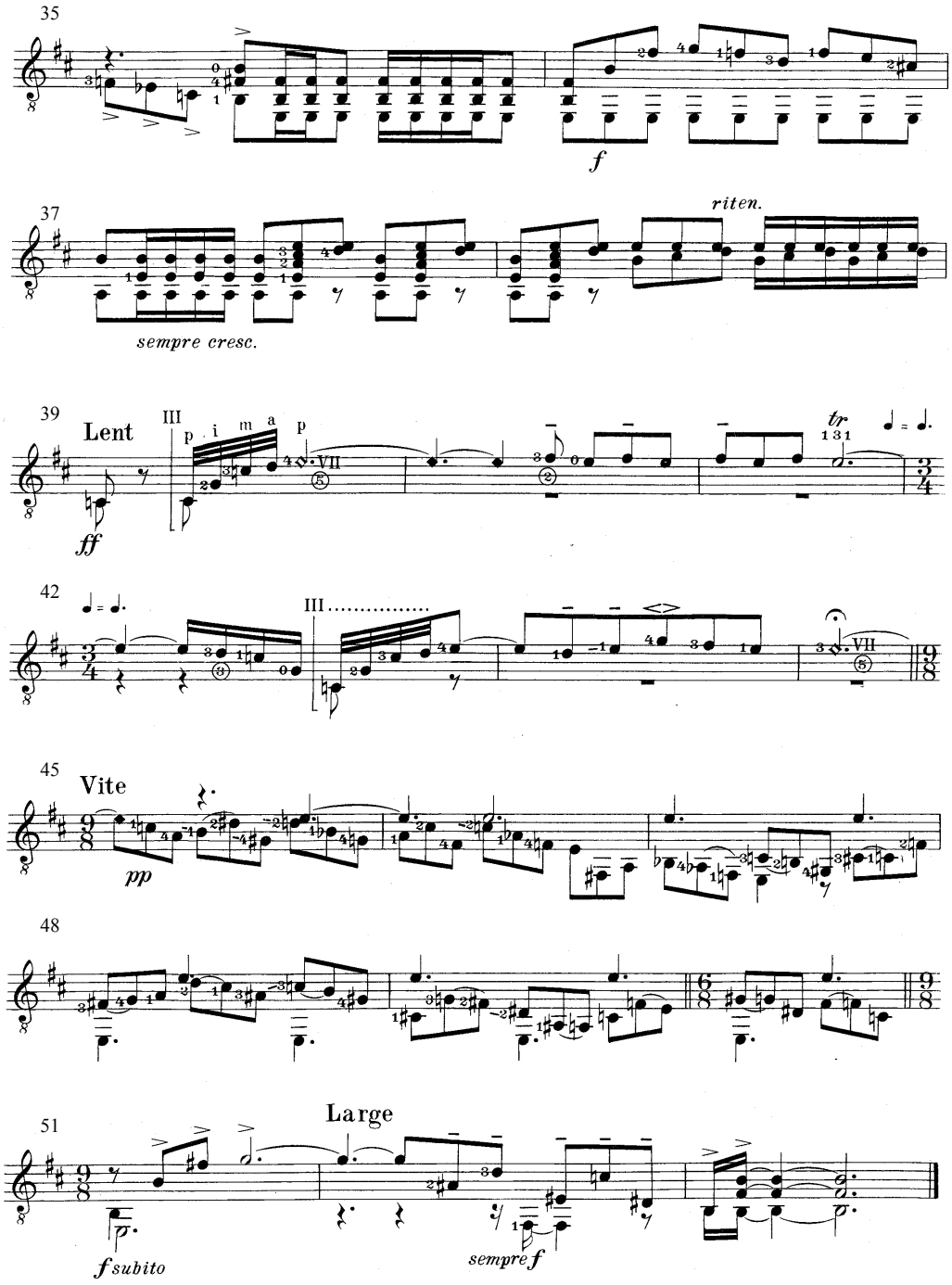
Frank Martin Quatre pièces brèves|für Gitarre

Example 1. Prélude, from *Quatre Pièces Brèves* (cont.)



Frank Martin Quatre pièces brèves|für Gitarre

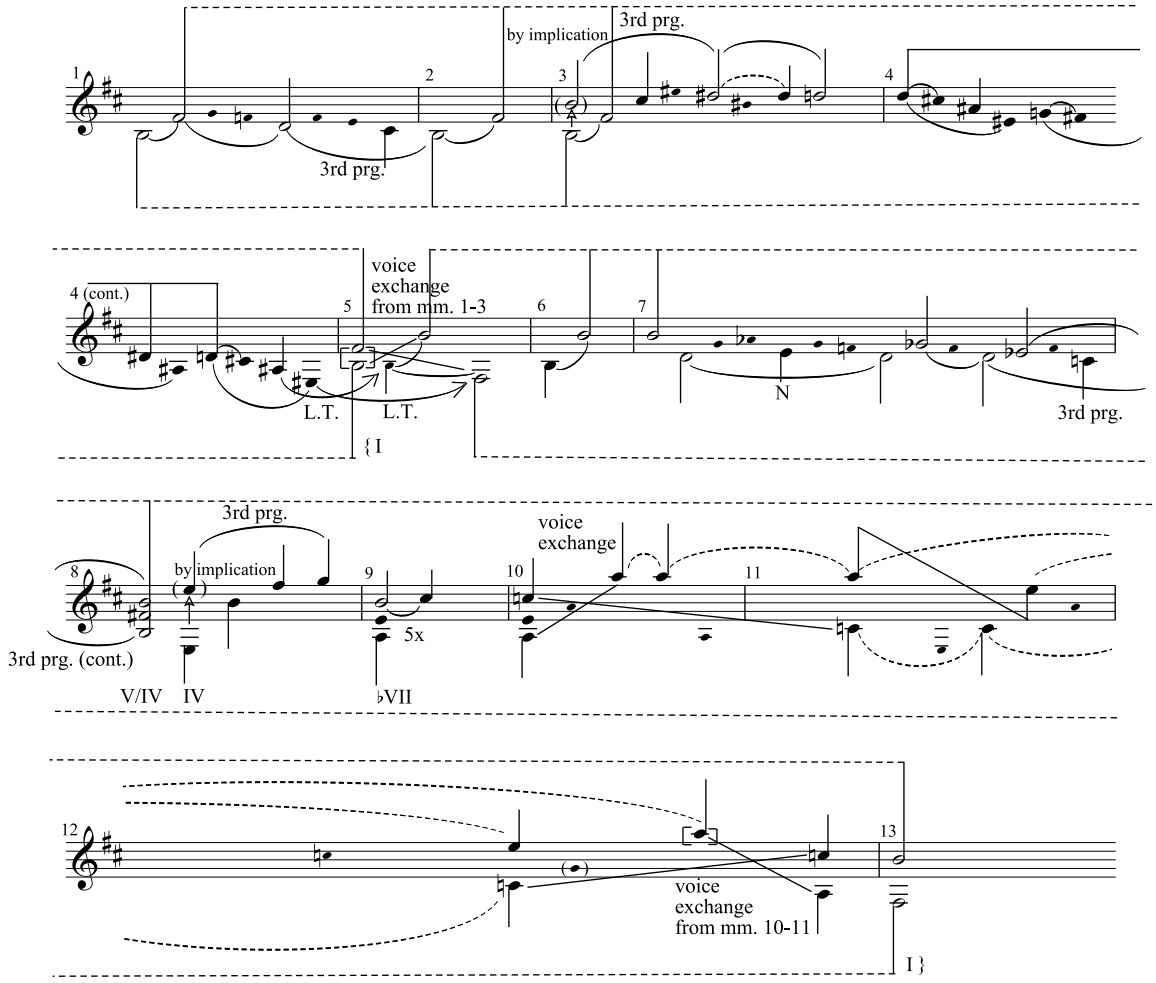
Example 1. Prélude, from *Quatre Pièces Brèves* (cont.)



Frank Martin Quatre pièces brèves|für Gitarre

measure, and then the return to F♯ can be said to prolong the B-minor harmony into the third measure.[10]

Example 2a. Tonal anchors, Prélude, measure 1-13



Measure 3 in Example 2a adumbrates the B tonality with another linear progression. If we allow the lower B3 to imply the B4 above, a 3rd progression becomes apparent.

[10] Non-functional pitches in small note heads appear in order to show how noncontiguous tonal structures disperse.

However, from B4, the progression ascends through C♯ to D♯, the major third, and, with the support of the inner voice F♯ to complete the harmony, the suggestion now is that the B-minor tonality of the first two measures is short lived. Indeed, the motion to D♯ blurs a strictly minor reading, a blurring that seems even more intentional with the repetition of D♯, followed by D♮'s immediate return. This return tightly juxtaposes both major and minor tonalities, and seems to act not as a restoration, but as a further muddying of tonal waters.

At this point, it is tempting to speculate on what this juxtaposition might prefigure. Indeed, Martin anchors this music to tonality through the triadic underpinnings of the first three measures. However, despite the use of the two-sharp key signature and the immediate resonance of B minor, there is an equally open commitment to the parallel major, which suggests that while traditional tonality is being honored, the tonality does not embrace a Classically defined modality. The significance of the parallel major/minor event is highlighted by its arrival in the early measures of the piece: the point where one expects the exposition of both a work's "tonality"—whether tonal or atonal—and, if tonal, its mode as major or minor to be presented. Indeed, these first three measures anchor this piece in our tonal tradition; however, the expressed tradition contains an uncertain chromatic adjustment. So while it appears these first three measures commit to a specific tonal center (B), they avoid a commitment to a specific major or minor modality. This chromatic adjustment may be seen as a "tonal" reflection of the work's "atonal" organization, and perhaps represents a link between the two disparate compositional aspects of this work.

The fourth measure brings modal uncertainty directly to the surface with three triadic arpeggiations. In measure 4 of Example 2a, each arpeggiation is denoted with a lower slur. Inside each arpeggiation, an upper slur connecting the first two notes denotes the enharmonic major third of the chord moving to the minor third—another blurring of major/minor tonality. In addition to this surface-level triadic uncertainty, the D/D♯ fluctuation of the first three measures, which is denoted with the upper beam, is returned by the cycle-5 motion of the first, A♯, triadic formation moving to the D♯ formation, and then moving back to the A♯ formation. Thus, embedded in the modal uncertainty of the surface arpeggiations is a middleground return of the pitch fluctuation that renders the first three measures modally uncertain.

Laying modal uncertainty aside for a moment, we can say that the triadic formations moving in cycle-5 motion in measure 4 are key contributors to the tonal dimension of this work. Hence, heralding traditional harmony's most fundamental chord motion (cycle 5), a seemingly unexceptional event within a purely tonal context becomes a significant event within this chromatic environment. Measure 4 also suggests the even more specific tonal reference of a leading-tone triad moving to a triad built on the major third of B, which seems to "tonicize" D♯ and gives reason to suspect that the tonality has again shifted from minor, at the end of measure 3, back to major, here in measure 4.

By measure 5 there is little doubt as to the question of tonal center, especially since the octave Bs and supporting fifth, here, are anticipated by the directed motion from the last leading-tone chord in measure 4, which supplies a double-leading-tone motion: A♯ to

B, and E♯ to F♯.[11] Measure 5 also provides two additional events. First, as Example 2a shows, measure 5 effects a voice exchange of the tonally centered B and its fifth, from their positioning in the first three measures, which is shown in brackets.[12] Second, this voice exchange is used here in the same way a voice exchange is commonly employed in a traditional setting: to set up the repetition of a contrapuntal passage with the voice parts exchanged. As can be seen by comparing measures 1 and 5 of Example 1, the initial upper melodic activity with its lower B support, in measure 1, is inverted to lower melodic activity and upper B support, in measure 5.[13] This typical tonal voice leading highlights the pitch-center/fifth relationship and supports the tonal approach to this work.

Measures 6 and 7 confirm the centric B's new registral placement. In measure 7, the B sounds over more mixing of B-major/minor tonality. As shown in Example 2a, measure 7 prolongs D with an upper neighbor motion and then immediately sounds the G♭ enharmonic fifth. A consonant skip down from G♭ returns the minor third, and then the enharmonic major third, E♭, enters; this latter event, combined with the octave Bs surrounding the fifth of the chord on the downbeat of measure 8, compose out a B-major chord. The tonal significance of the middleground B-major chord is apparent in Example 2a when, in measure 8, the low E enters and the implied 3rd progression E-F♯-G marks the minor third of an E-minor harmony, while the fifth of the chord, an inner voice, completes the E-minor chord. Now, with B major preceding E minor, Martin's tonal process evokes a secondary dominant to E minor, and we can presume that, in measure 7,

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[11] In addition, this movement begins and ends in B; see Example 1. The fourth movement follows suit; see beginning in Example 8—ending is not illustrated.
[12] Brackets point out the retained position of notes to be exchanged.
[13] Of course, because of motivic development, measure 5 is a modified repetition of measure 1.

the mixing of major and minor has a traditional motivation. Also involved in this secondary dominant construct is the note C, at the end of measure 7, which seems to imply a pre-dominant function: C's motion into the root of measure 8's B-major arrival represents the voice leading of a lowered-sixth scale degree moving to scale degree five in a Phrygian iv^6 to V cadence (more will follow to support this claim).

Diatonic references remain strong at this point as the E-minor chord moves by cycle 5 to an A-major chord; see measure 9, Example 2a. Here, A major is articulated five times, in no uncertain terms, as the major third of the chord is ornamented in part by the continued sounding of the centric B in its new registral position (see m. 9, Example 1). However, Martin's chronic blurring of major/minor tonality takes its toll on A major, as it is immediately transformed to A minor on the downbeat of the next measure.

Example 2a now highlights a prolongation of the A-minor harmony that can be said to extend from measure 10 through measure 12. This prolongation comes about through a double voice exchange that inverts the positions of the root and minor third of the chord from their root position, in measure 10, to their first inversion, completed in measure 11, and back to root position, in measure 12. The A-minor harmony is complete in its first inversion when the fifth of the chord unfolds from the upper root, in measure 11. The first-inversion positioning of the chord tones C and E returns in measure 12, and at the end of this measure, the root and minor third exchange back to their original position—the former returning to its lower position from its structurally retained A5, which remains un-displaced until its A3 exchange.

A few things should be clarified in regard to this interpretation of A minor's prolongation. First of all, this study regards the C and E in measure 12 as a return of

these two A-minor chord tones in their first-inversion positioning from measure 11; however, the C and E in measure 12 might be regarded as the root and third of a root-position C-major chord, because the fifth of the chord (in parentheses) is directly adjacent; see Example 2a. Even so, the argument here for a strict A-minor reading stems from the fact that the A-minor prolongation is clearly framed, by the complete articulation of the chord on the downbeat of measure 10, and, then, measure 12's final articulation of the root and third in their original measure-10 positioning; because of this, this study does not consider measure 12's C and E a displacement of A minor, but simply a return of A-minor chord tones, and the adjacent G as only part of the chromatic activity.

Another issue to be clarified is the particular selection of A-minor chord tones forming our voice-exchange construct within measures 10 through 12. To clarify this, we will consider the candidates that were not selected in these measures, which are notated in small, stemless note heads in Example 2a. In measure 10, there are two other roots. The first, A4, can be said to act only in support of the structurally retained upper A5. The second root, A3, at the end of measure 10, is not retained in measure 11, and the exchanged A5, which is retained, has already been set into place; in addition, once the C5 in measure 10 is exchanged to C4 in measure 11, it directly engages the upper A5. At this point, it is clear that C4, which is returned in measure 11 and measure 12, is the lower stratum, and not A3. The next consideration is the fifth; indeed, in measure 11 an E3 comes in before the selected E5; however, only E5 seems to engage tonal process: it unfolds from A5 as an inner voice of the construct and allows A5 its upper retention.[14] Another root is present: the final A4 at the end of measure 11; however, by this point the

[14] Of course, all of the proposed tonal structures in this analysis are engaged through some tonal process.

voice-exchange construct is set, and although A4 may represent middleground retention of the background A5, it does not necessarily displace A5. Finally, there is also another third, C5, on the downbeat of two in measure 12; however, it has no tonal-structural weigh; this remains with the returned C4, on the downbeat of 3.

Continuing on, as Example 2a shows, measure 13 returns the centric B and fifth in their exchanged position from measure 5; as a result, one might consider all of the activity between measures 5 and 13 as a prolongation of the modally-void, B-over-fifth structure (indeed, measure 13 does not advance a specific B modality, nor do the twelve preceding measures, because of modal blurring). Our findings indeed support the modally-void, B-over-fifth prolongational notion. Measure 5 presents the B-over-fifth, which remains modally void in measure 6.[15] In measure 7, B minor is expressed, but this quickly blurs to B major to momentarily tonicize E minor, in measure 8. E minor immediately moves by cycle 5 to A major, in measure 9, a tonality itself blurred by the juxtaposed prolongation of A minor, in measures 10 through 12. Finally, in measure 13, the B-over-fifth structure returns, but still with no modal definition.[16]

Aside from the blurring of modality, the chordal motion of measures 5-13, which might be considered a I-V/IV-IV-♭VII-I progression, acts in a tonal-prolongational

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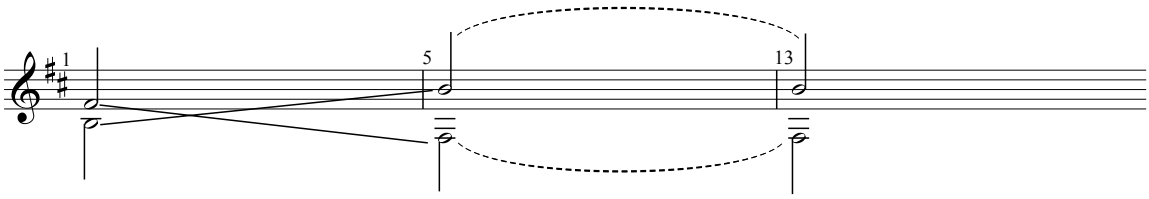
[15] Although the diatonic minor third (D4) resides in this measure, this study considers there to be no tonal process attach to this pitch. One might argue that this minor third is part of a linear-3rd, D4-C4-B3, progression, which defines modal motion to tonic minor; see measure 6, Example 1; however, this could only describe motion to Phrygian, or perhaps Locrian, neither of which are *tonal* modality.

[16] From measure 5, one might be tempted to lean toward a B-minor reading; however, we cannot overlook the B-major/minor blurring in the first three measures, and the fact that there is no B modality expressed in measure 13, when the tonic/dominant structure returns. Indeed, even within measures 5 through 13, the blurring of A major to minor, and the non-diatonic relationship of A minor to some B modality, adds to the difficulty of rendering a defined modality.

manner. Indeed, this progression expresses the chord motion of the whole section, notwithstanding the leading-tone chord motion in measure 3. As Example 2b shows, one could consider the first thirteen measures as a prolongation of the tonal-center/fifth structure: prolonged first as F♯ over B in measures 1-4, and then as B over F♯ in measures 5-13. All of the major/minor blurring in this section then becomes part of Martin's tonal process in prolonging what seems intended to be a modally-ambiguous, yet pitch-centric, interval-class 5 structure.

Example 2b. Section 1, prolongation of the tonal-center/fifth structure, Prélude, measure 1-13



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All of the tonal anchors discussed so far in measures 1 through 13 provide evidence that tonality, in the traditional sense, is being referenced: the triadic formations; the seemingly functional use of these formations; the adumbration of traditional voice-leading techniques; the determined presence of the tonal-center/fifth relationship; and, of course, major and minor modality, although neither are clearly defined. However, these references notwithstanding, traditional tonality remains elusive. For a piece such as this to express traditional tonality, its limited tonal resources would have to demonstrate that

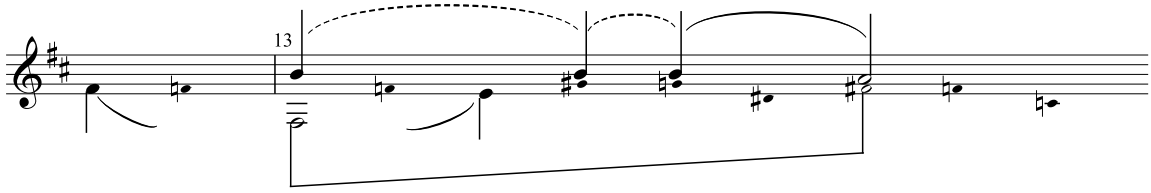
they are motivated by tonal motion. This requires a hierarchy of motion, based on key-defining cadential events, brought about by the functional dominant harmony at high levels of structure. This notion is essential in regard to expressing a functional tonality, to which Martin's musical aesthetic is devoted.

Schenker's theories are based on this notion: the idea of higher levels of structure—defined by cadential dominant function—generating musical activity down into the middleground and, eventually, the surface level of the music. So far, only surface activity has been identified. Measures 1 through the downbeat of measure 13 are a surface-level prolongation of the tonal-center/fifth relationship, brought about through voice exchange and a I-V/IV-IV-♭VII-I progression. This surface activity, though, does not attest to genuine tonal motion; the lack of a functioning dominant precludes this. However, even if a dominant were present, this is a surface-level prolongation; this type of prolongation disappears at higher levels of structure, where cadential motion resides; in fact, dominant harmonies that reside only in surface prolongations never serve a cadential function.

Of course, the surface activity in measures 1 through 13 cannot define tonal prolongation until the music produces a functioning dominant; this takes place in the last measure of this section. Once measure 13 returns to the tonal-center/fifth relationship, its character is transformed. As shown in measure 13 of Example 2c, the B over F♯ initiates a decisive 4-3 suspension: namely, the dissonant fourth resolves, with the upper B from the downbeat of one moving to A♯ on the downbeat of three; notice that the strength of

this suspension is supported by the continual sounding of B before its resolution.[17] With the sounding of A♯, F♯ is simultaneously rearticulated below, to confirm the suspension resolution; this, in a sense, seals the deal—in that an unmistakable suspended dominant harmony inhabits this final measure. And although the dominant harmony lacks its fifth (C♯), the seventh of the dominant occurs,[18] which itself is involved in a voice leading as emblematic of traditional tonality as the dominant 4-3 suspension. As Example 2c shows, the seventh (E), which is contained within the same beat as the initial articulation of the suspension, appears through what can be considered a traditional voice leading from the tonic of the chord: the F♯4 in measure 12 presents the registrally equal seventh in typical, downward-stepwise fashion.

Example 2c. Dominant function, Prélude, measure 13



Other issues strongly support the notion of a transformation to dominant function in measure 13. First, there is an issue of omission. What Martin chooses to omit from this measure is the pitch A. Such an occurrence would blur the modality of the triad based on

[17] The note symbol for B4 in Example 2c does not comport with that of B4 in Example 2a (measure 13), because the examples are showing this note at two different levels of structure. In Example 2a, B4 is part of the structurally weighted tonal-center/fifth relationship; however, once measure 13 returns this relationship, its character transforms: B4 becomes a subordinate embellishment of the now structural A♯ over F♯ structure.
[18] Indeed, common practice dominant sevenths often have an omitted fifth.

F♯. Indeed, at no other time over the course of these thirteen measures does a firm modality exist for any exposed tonal sonority. This movement begins with the blurring of B major/minor. When A major enters in measure 9, an equal blurring to A minor occurs in measures 10 through 12. Even the short-lived presentation of triads based on A♯ and D♯ in measure 4 attaches no firm modality to either sonority. However, measure 13's harmony based on F♯ is an unequivocal major tonality, rendered by the lack of a conflicting minor third (A), and courted by the 4-3 suspension—a decided contrast to what has happened previously.

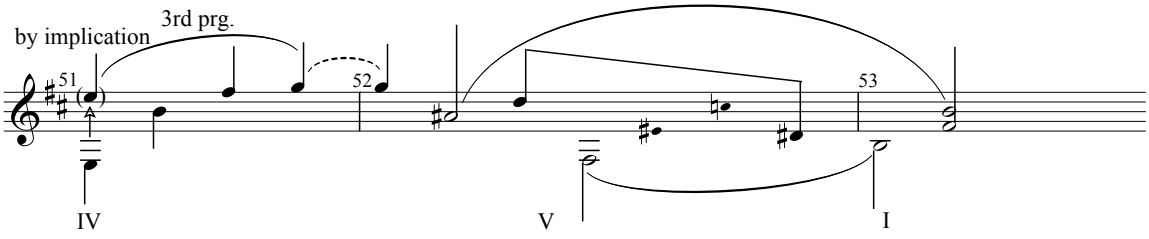
Another issue supporting the notion of measure 13's dominant function is that the F♯-major harmony, placed here in the final measure of this section, confirms high-level harmonic motion to the dominant from the B tonality of the opening measures; indeed, the dominant goal verifies the dominant function. Of course, this section's dominant goal also verifies that the B/F♯ relationship in measure 1 initiates a tonic structure, even though, as this structure develops, it does not align with a defined modality. In regard to the whole opening section, all activity between measures 1 through 13 can be reduced to a conventional I to V cadential motion. To be sure, this substantiates traditional tonal activity; for without this motion, this section only exhibits pitch-centric activity, even with the exposed traditional sonorities; indeed, these sonorities have no tonal meaning without the high-level motion to the dominant.

* * *

This movement adumbrates one other dominant function, and it occurs in the most traditional manner: in the penultimate measure, in root position. The strength of this occurrence is not supported by an appearance of a complete F♯ harmony: indeed, only the root and third are present; however, its emblematic appearance in the penultimate measure codifies the dominant reading. In addition, there is an undaunted resolution of this dominant to tonic in the final measure.

This dominant-to-tonic cadential motion is also expressed within a rendering of traditional harmony's complete cadential archetype: the predominant-dominant-tonic model. Example 3 illustrates this three-measure model. The first measure is a near exact return of the predominant, E-minor construct from the opening section. As before, the implied 3rd progression E-F♯-G marks the minor third of the E-minor harmony, while the inner fifth of the chord supplies support. Indeed, this predominant intent is undeterred by any chromatic activity in this isolated measure, only tonal designs are present.

Example 3. The predominant-dominant-tonic model, Prélude, measures 51-53



As Example 3 shows, the dominant is presented with the entrance of A♯, followed by the lower tonic of the chord. This simple expression is enough to evoke dominant function, mostly because of its root position, and the tonic resolution in the final measure.

As expected, the tonic resolution in the final measure is modally uncertain; it is influenced by the last pitch of the penultimate measure, D♯, which continues to confuse the overall determination of B-major or -minor tonality. On one hand, a B-minor reading is promoted by the minor IV predominant; however, on the other hand, the tight juxtaposition of the final D♯ with the final resolution promotes B major. In addition, as Example 3 shows, this modal uncertainty is compounded by the presence and coupling of D♮ with D♯ (shown with the upper beam) in the penultimate measure.

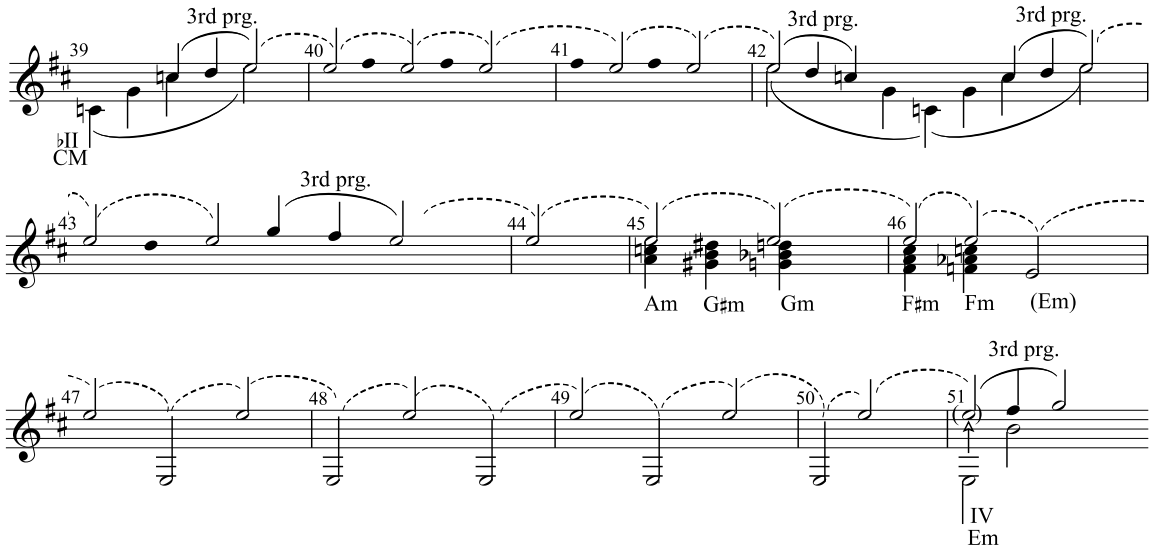
* * *

The clarity of Martin's tonal approach in this final cadence is aided by the complete absence of non-diatonic activity in the predominant and tonic measures, and because of this the chromaticism surrounding the dominant does little to upset such a traditional strategy. We can also consider the measures before this cadence, starting at the beginning of the second *Lent* section (measure 39), as an advancement of another traditional strategy we have already seen: that of harmonic prolongation; here, the harmony being prolonged is the predominant.

Example 4 illustrates the surface activity of this predominant prolongation. In the first six measures, an uncompromised C-major triad can be said to function as a predominant, ♭II-major chord. Indeed, this chord's root position is less common than its more traditional rendering as a Neapolitan sixth; however, as we already have, and will immediately see, Martin seems to have a penchant for root position triads. Following

C major, in the seventh measure of this prolongation (m. 45), there is, indeed, a sequence of root-position minor triads descending chromatically, beginning with A minor and ending with F minor. The next chromatic step down to the predominant E-minor triad is delayed, however, by the entrance of only a single E4, which is followed by a return of a chromatic passage (not shown in graph) from the end of the first section that has been metrically adjusted. This passage, however, continues to prolong the single root E of the anticipated minor predominant because its metric adjustment allows for a distinct rendering of an alternating double E5 to E3 pedal, in measures 47-50. (We will return to this passage in our discussion of Martin's chromaticism.)

Example 4. Predominant prolongation, Prélude, measure 39-51



Indeed, E is a single-note link throughout this entire predominant prolongation, and, therefore, it is highlighted in Example 4 with an open note head. In the first six measures, the ornamented E is not only part of the triadic arpeggiation, but it also the goal, or initial note, of the linear 3rd progressions. E then links to the minor-triad

sequence as the fifth of the first A-minor triad, from here it links to the end of the predominant prolongation as a pedal point. E can be said to prolong the tonality of the predominant from its tonally uncompromised ♭II-major inception in measure 39-44, through the tonally ambiguous minor triads in measure 45-46, and even through the tonally compromised chromatic passage in measures 47-50, to the predominant E-minor triadic goal in measure 51.

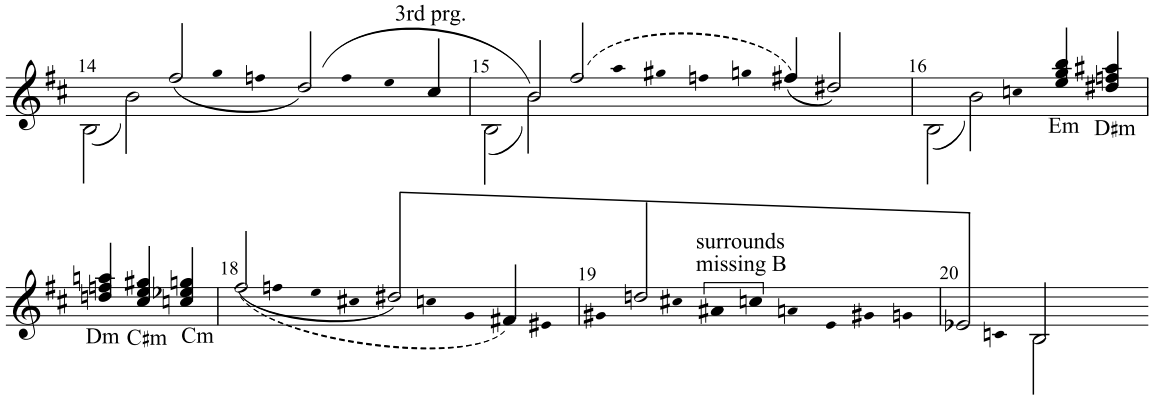
* * *

E is also the key contributor to the notion of musical anticipation. As the minor triads descend chromatically in measures 45 and 46 of Example 4, the half-step motion from F-minor to the lone E4, followed by the E5/E3 pedals, sets up the anticipation for the completed minor-triad chromatic descent, which comes about with the entrance of the E-minor IV chord in measure 51; when realized, E-minor acts as a predominant transformation of the ♭II C-major predominant that is prolonged in measures 39-44.[19]

Martin also brings about another anticipation—that of the tonic B-minor—using another chromatic sequence of root-position minor triads, in measures 16 and 17 of the first *Vite* section; see Example 5. The anticipation is set up in the first two measures of this section, measures 14 and 15. Measure 14 returns the first measure of this

[19] Straus nicely sets up the conditions that explain the subtext of tonal anticipation in "The Problem with Prolongation," 1-22. See also, Leonard B. Meyer, *Explaining Music* (Chicago: University Press, 1973).

Example 5. Anticipation by chromatic sequence of root-position minor triads, Prélude, measures 16 and 17

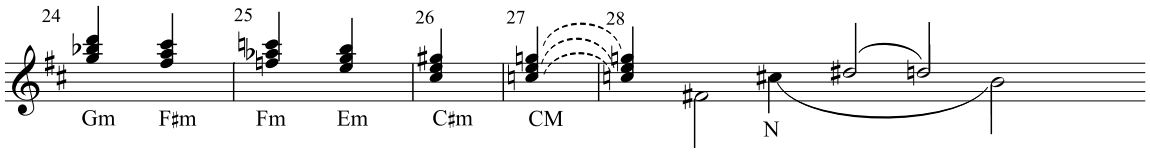


movement an octave higher, and thus outlines a convincing B-minor harmony, with the tonic octave, the consonant skip of F♯ moving to D, and the 3rd progression into the next measure: D-C♯-B. The second measure likewise returns at least the beginning of the second measure of this movement an octave higher, and, like its predecessor, blurs to B major with the tonic octave to F♯, which returns to form a consonant skip with D♯. The third measure also begins with the tonic octave, but this time the octave ushers in the chromatic sequence of minor triads, starting on E minor. From here, four semitone descents let the sequence fall to C minor; and, as is the nature of this piece, it would seem that C minor should fall one more semitone to return the tonality back to B minor; however, Martin lets the C-minor triad hang, unresolved to B minor. The next measure provides a slight hint of a B harmony, with the F♯ downbeat and the accentuated D♯ through contour. There is even a hint of B major/minor blurring because of the D♯ coupling with the similarly accentuated D♮ in measure 19; however, no B root is forthcoming. In measure 19, Martin seems to even go out of his way to expose the missing B, by surrounding it with A♯ and C♮. Finally a lone B arrives, after another hint

of modal fluctuation brought about by the return of D♯ (enharmonic E♭), on the downbeat of measure 20, although this is an inconsequential spot, because by this time the chromaticism of measures 18, 19, and 20 has eliminated any chance of interpreting this B as returned from the chromatic sequence of minor triads in measures 16 and 17.

Martin uses chromatically-descending, root-position triads to anticipate a B harmony once more. In Example 6, a three-semitone descent advances G minor to E minor from measure 24 to the end of measure 25; however, the chromatic advance is interrupted. In measure 26, C♯ minor suddenly enters, which then moves chromatically to an abrupt C-major chord in measure 27. In the next measure, Martin seems to be winking at us; unlike before, he actually does drop to the anticipated B harmony a semitone lower. However, Martin's chromatic descent of root-position minor triads to the penultimate C major triad points out his proclivity for modal blurring, and, indeed, when the B harmony arrives, in measure 28, it too has a blurred modality; in addition, the B harmony is disoriented by its inversion: the fifth is the lowest voice, while C♯ neighbors the inner root, and the upper D♯ moves to D♮.

Example 6. Anticipation by interrupted chromatic descent, Prélude, measures 24-28



With these three anticipations, Martin exposes the variety of his designs. The first employs a chromatic descent of root-position minor triads seemingly intended to return a B sonority that never comes. The second is an interrupted chromatic descent of root-position minor triads to a penultimate major triad, which playfully confuses the presumed resolution—that actually comes—but is, as expected, tonally blurred, and also inversionally disoriented. The last perfects all previous designs by bringing to fruition the complete chromatic-minor descent with the realization of the anticipated harmony in the predominant prolongation, E-minor, in the final measures of this movement.

Musical anticipations enhance Martin's tonal anchors. As a strategy, they support the tonal strategy of prolongation, and these strategies add depth to the simple use of traditional harmonic/melodic tools, such as triads and voice leading—all of which attest to Martin's tonal commitment.

3. Martin's Chromatic Sensitivity

> Could we not integrate the heightened sensitivity to chromaticism gained from the practice of Schoenberg's method, with the fundamental principles of Western music? Might not something new and valuable arise in this way? The heroic period of great discoveries is surely over, and our task now is to organize and to construct.[20]

With these words, Martin infers that his personal debt to Schoenberg is his heightened sensitivity to chromaticism, not a dogmatic embrace of Schoenberg's rules; and that the job at hand is not to discover, but to forge ahead with the accumulated tools of the past and present. With this understood, we can now approach Martin's chromaticism, a chromaticism that reflects Martin first and Schoenberg second.

Before discussing Martin's chromatic sensitivity, however, we will examine *Quatre Pièces Brèves* in terms of Schoenberg's most fundamental structure: the twelve-tone row. As mentioned, accounts of *Quatre Pièces Brèves* generally agree that of the four movements, the first and fourth display Schoenberg's influence; these movements, though it may be said that they contain twelve-tone rows, do not contain a Schoenbergian handling of their rows, defined by a continuous recycling of a row in its prime, inverted, retrograde, and retrograde-inversion forms.[21] As a result, these movements display no system, or method; they display more of a working process. Many might say that the lack of twelve-tone method based on the recycling of a row through its four forms makes any identified tone row simply a twelve-note melody, and therefore Martin's music

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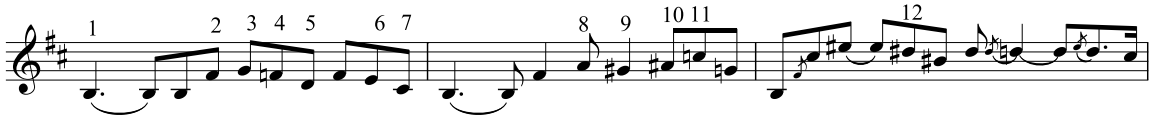
[20] Martin, "Schoenberg and Ourselves," 17.
[21] "Prime" refers to the original set and its transpositions (not to be confused with set theory's prime form).

cannot be said to be twelve-tone in a Schoenbergian sense. However, even if this is true, Schoenberg's fingerprints are on Martin's music in another way, as we will see.

In regard to the appearance of tone rows, the order numbers in Example 7a show what several authors have suggested to be the tone row in the first movement.[22] According to Donna Sherrell Martin, after the row is stated, it returns three times,[23] but, as Example 7b shows, in nearly identical shortened versions: the first seven notes of the opening row, in their original prime transposition, from measures 8, 14, and 36. These seven-note versions are all carefully aligned in one-measure segments, and this alignment provides us with an overall approach to the segmentation of this movement's chromaticism (this will be discuss below).

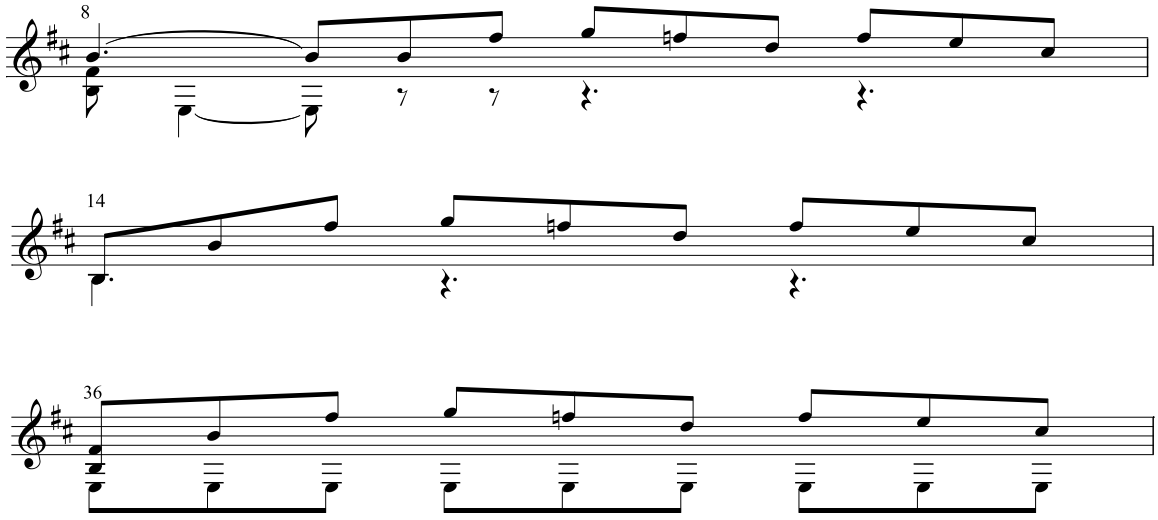
Example 7a. Tone row, Prélude, measures 1-3



Frank Martin Quatre pièces brèves|für Gitarre

[22] For example see Tupper, "Stylistic Analysis of Selected Works by Frank Martin," 25, and Martin, "The Piano Music of Frank Martin: Solo and Orchestral," 34.
[23] Martin, "The Piano Music of Frank Martin: Solo and Orchestral," 34.

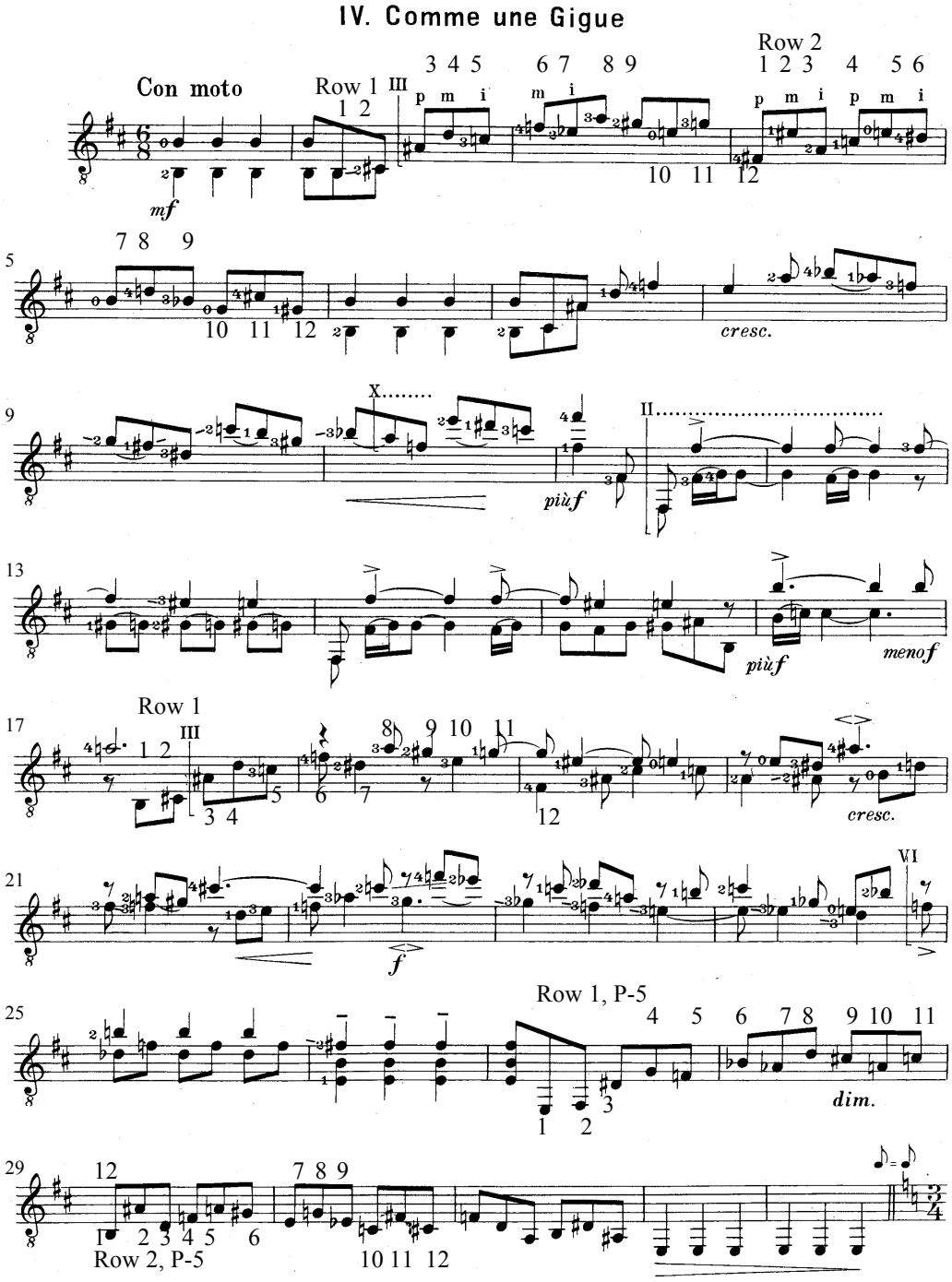
Example 7b. Row returns in shortened versions, Prélude, measure 8, 14, and 36



Frank Martin Quatre pièces brèves|für Gitarre

The fourth movement of *Quatre Pièces Brèves,* "Comme une Gigue," uses two rows: the first beginning on B, and the second on F♯ (as in the prelude, these two pitches represent a tonic/dominant relationship). Example 8 provides the first section of the fourth movement, which essentially contains all of this movement's row entrances. Measures 1 through 18, however, are repeated to close the fourth movement, so, technically, the rows contained in these measures do return after their first section appearance, but nothing changes. Again, order numbers indicate the rows. The last note of the first row becomes the first note of the second row, in measure 4. Row 1 returns in its original transposition in measure 17 and ends on the downbeat of measure 19. A

Example 8. Tone rows, fourth movement, *Comme une Gigue,* measures 1-33



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transposition by P-5 of row 1 begins in measure 27, and with its last note, in measure 29 (downbeat), a P-5 transposition of row 2 begins.[24]

Analyzing Martin's first and last movements of *Quatre Pièces Brèves* for the presence and handling of twelve-tone rows reveals that this music certainly does not display the "classical" rules of twelve-tone technique, as articulated by Schoenberg. In movement 1, one might even argue that there is no row, and certainly no twelve-tone method, only a single extended melody, incorporating all twelve pitches with the selected repetition of certain pitches, which is then followed by three partial entrances of that same melody. In movement 4, the presentation of five uninterrupted twelve-note series, two of which are transpositions of the two initial rows, indicates a limited twelve-tone technique; however, otherwise, Martin's chromaticism appears to show no order according to Schoenberg's method. This being determined, then, how does Martin show his sensitivity to Schoenberg?

We have referred to Martin's chromaticism as a process instead of a method. Viewed in this way, it becomes less difficult to see Schoenberg's influence on Martin's music. Essentially, Schoenberg's music, as a rule, presents a single-ordered aggregate and continues to recycle this aggregate through the use of four aggregate forms: prime, inverted, retrograde, and retrograde inversion. In Schoenberg's hands, this produces a chromaticism that is atonal. Martin's music, however, stubbornly adheres to traditional tonal routines; it is tonal first—as we know from Martin's expressed musical aesthetic. Martin then organizes his chromaticism in a way fashioned after Schoenberg, but not necessarily modeled after Schoenberg's recycling, all the while being faithful to his tonal

[24] P abbreviates Prime, and the integer indicates the transposition level above P-0: the row's initial entrance.

commitment, which makes it impossible for him to follow Schoenberg in a strict sense. As mentioned, Schoenberg presents and manipulates a single-ordered aggregate; Martin's music presents chromatic alignments, but he presents multiple alignments, in no specific order, and, indeed, even in varying sizes.

To proceed, we must accept Martin's substitution with mostly incomplete chromatic alignments for Schoenberg's twelve-tone rows, in order to compare Martin's process to Schoenberg's method.[25] Using set-class terminology borrowed from Forte, one might say that Schoenberg's use of the aggregate can also be termed a presentation of what results in the lone set class of cardinality 12: the set class of cardinality 12 and ordinality 1: 12-1.[26] The terms cardinality and ordinality, of course, rely on Forte's set-class labeling system, where the first number—the cardinal number—refers to the number of members in a set, and the second number—the ordinal number—refers to a set's 1st, 2nd, 3rd etc. position within the set-class series. Ordinal-1 sets are formed by adjacent chromatic alignments of n cardinality. Martin's chromatic presentations include the use of complete (the aggregate) but mostly incomplete ordinal-1 alignments, which, this study contends, are inspired by Schoenberg's presentation of ordered aggregate alignments. With this accepted, the examination of Martin's chromaticism lends itself to the matter of uncovering variously-sized ordinal-1 set classes.[27]

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[25] A concept of chromatic alignments, within varying sized pitch-class borders.

[26] The lone set-class of 12-1, obviously, has only one set member, because it is all-transpositionally and all-inversionally symmetric. (Set classes with only the trivial degree of symmetry have twenty-four members [trivial meaning that all sets map onto themselves at T_0]: a set and its eleven transpositions, and that set's inversion and its eleven transpositions.)

[27] Of course, Forte's set-class consideration does not include set classes over cardinality nine; however, considering Schoenberg's and Martin's music as presentations of ordinal-

* * *

We begin by first proposing a method of segmentation for Martin's chromaticism in the first and fourth movements of *Quatre Pièces Brèves*. In these movements, the music clearly follows an overall segmentation based on the measured length of the main ideas. In the first movement, the main ideas can be said to be the seven-note versions of the extended melody that opens the work; all of the entrances of the seven-note versions are carefully aligned in one-measure segments; indeed, even the motivic development of the seven-note versions of the melody is in one-measure segments. Of course, we can also be sensitive to the presence of anacruses into the one-measure segments, and elisions formed with the beginning of the following measure. For movement four, the main ideas are twelve-tone rows; indeed, all row entrances are two-measure segments, and, again, we will be sensitive to anacruses and elisions.

As a result of these one- and two-measure segmentations, Martin's chromaticism is presented simply and clearly—at no time does one find the complex segmentation found in much twelve-tone music. Indeed, Martin goes out of his way to segment his music in the most accessible manner. Also attesting to this music's accessibility is the fact that Martin never obscures return entrances of his rows and row motives with pitch-class arrangement of the notes; his arrangements, for the most part, are registral pitch equivalents of his initial statements; the most one finds is an octave adjustment of an

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1 set classes of potentially up to cardinality 12, provides a broad interpretation of this music, which furnishes a framework for considering Schoenberg's influence on Martin's approach.

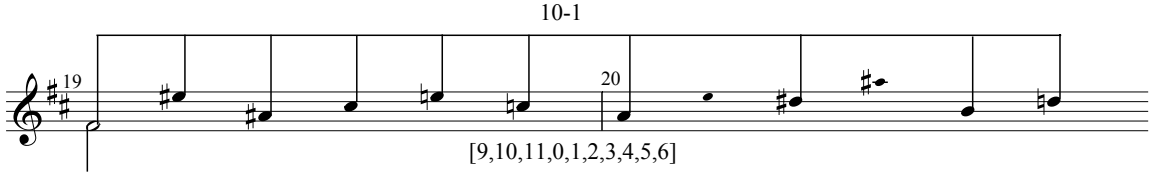
initial statement. All of these points bring us back to what has been said before: that Martin's music is a self-conscious integration. In as much as Martin's music is chromatic, this chromaticism is painstakingly clear in a traditional manner, both melodically and rhythmically; one might say that Martin's sensitivity to traditional tonality not only bespeaks of the past, but it also protects his chromatic designs.

* * *

Now we can begin uncovering Martin's ordinal-1 alignments, both complete and incomplete. Examples 9a, 9b, and 9c illustrate three compelling entrances in the first section of the fourth movement where all of the row forms of this movement appear.[28] Each example presents a set member of set-class 10-1. Example 9a's set [9,10,11,0,1,2,3,4,5,6], in measures 19-20, appears immediately after the return entrance of Row 1 in its original transposition (see Ex. 8, mm. 17-18). As mentioned, this movement uses two rows, in which the last note of the first row is the first note of the second. When Row 1's return ends on the F♯ downbeat of measure 19, it triggers Example 9a's entrance, and this entrance is now coupled with Row 1 in the same manner Row 2 is coupled with Row 1: with the elision of a last note becoming a first. Set [9,10,11,0,1,2,3,4,5,6], indeed, effectively replaces Row 2.

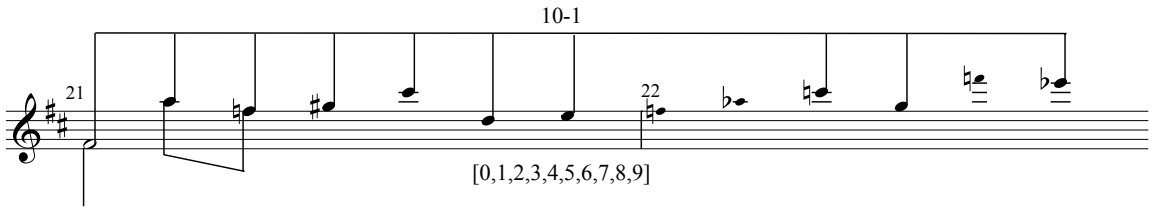
[28] Small note heads now indicate repetition within sets.

Example 9a. Set-class 10-1, fourth movement, *Comme une Gigue,* measures 19-20



The next two entrances of set-class 10-1 are shown in Examples 9b and 9c.[29] Example 9b immediately follows Example 9a, in measures 21-22. In Example 9b, set [0,1,2,3,4,5,6,7,8,9] enters on the same note (F♯) as set [9,10,11,0,1,2,3,4,5,6] in Example 9a (and, indeed, the same note as Row 2); this second entrance of set-class 10-1 seems to act as a transposed form of Example 9a. Of course, Example 9b is not a literal transposition of Example 9a's ordered series; however, it does represent a

Example 9b. Set-class 10-1, fourth movement, *Comme une Gigue,* measures 21-22

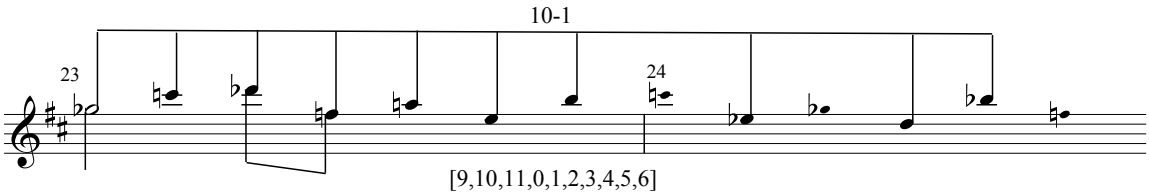


transposition, by T_3, of the set as unordered. One might speculate that, for Martin, this is analogous to a change of row form in twelve-tone method. This analogy becomes more credible with the entrance of Example 9c, which immediately follows Example 9b in

[29] Lower beams in these examples and in the ones to follow, indicate notes that sound together, which provides a clear count of the upper stems to their beam.

measures 23-24. Beginning again on F♯, though spelled this time as G♭, set [9,10,11,0,1,2,3,4,5,6] from Example 9a returns. Together, these three entrances give the impression that Martin's approach is not too far removed from Schoenberg's method of using different row forms; indeed, the coupling of set [9,10,11,0,1,2,3,4,5,6] to the return of Row 1, in the same manner Row 2 is coupled to Row 1, brings about a plausible replacement for Row 2; and, then, the transposition of set [9,10,11,0,1,2,3,4,5,6] to set [0,1,2,3,4,5,6,7,8,9], followed by the transposition back to set [9,10,11,0,1,2,3,4,5,6], all of which are triggered by the same starting pitch, suggests that an important chromatic collection is presented in a different "form."[30]

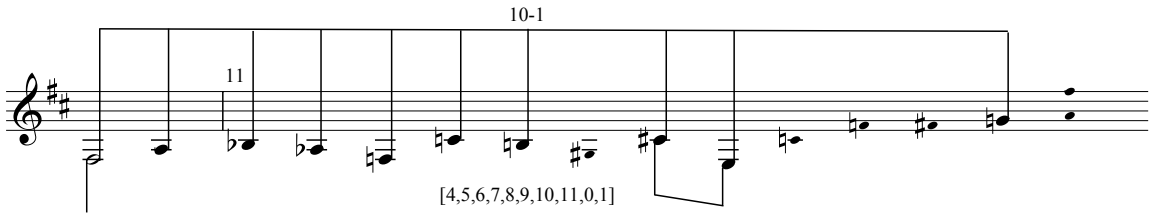
Example 9c. Set-class 10-1, fourth movement, *Comme une Gigue,* measures 23-24



[30] Indeed, accepting Martin's set-class 10-1 as influenced by Schoenberg's method may be questionable, because there is some repetition of notes within the entrances of these 10-1 set members, where within all of the entrances of the two rows in this movement there is no repetition of notes. However, the arrangements of all 10-1 entrances are similar, which strengthens the 10-1 relationships: the two [9,10,11,0,1,2,3,4,5,6] sets, in Examples 9a and 9c, are exact arrangements, in that they present seven successive notes, a one-note repetition, then the eight note of their series, another one-note repetition, and then the ninth and tenth notes of their series. Set [0,1,2,3,4,5,6,7,8,9], in Example 9b, follows a near exact design with, again, the presentation of seven successive notes, a two-note repetition, the entrance of the eight and ninth notes, another one-note repetition, and then the entrance of the tenth note. Indeed, for all three 10-1 entrances, there is brief repetition after the presentation of seven successive notes, followed by a one-note repetition within the entrance of the final three notes of their series. (Note: only repetitions that interrupt the successive entrances of set members are shown in the examples.)

Set- class 10-1 also appears in the first movement; see Example 10a, measure 11. This appearance announces a final three-measure chromatic passage resulting in the cadential goal of this movement's first section. As Example 10a shows, this appearance relates to its three counterparts in the fourth movement, in that it begins on F♯; even further, its first two notes are the same as the fourth movement's "transposed" form of 10-1; see Example 9b, measures 21-22. Also relating 10-1's first movement appearance to those in the fourth movement is its design: after the presentation of seven successive notes, there is a brief repetition, and then, as before, there is a second repetition placed between one pair of the final three notes of the series; this time, however, a bit more extended three-note repetition delays the entrance of the final note of the set. Another repetition takes place at the end of measure 11 directly after the entrance of the last note of the series; this repetition returns the first two pitch classes of the 10-1 set. This nicely frames the 10-1 segmentation and gives us a reason to consider some of Martin's note repetition as something more than subconscious inspiration.

Example 10a. Set-class 10-1, Prélude, measure 11

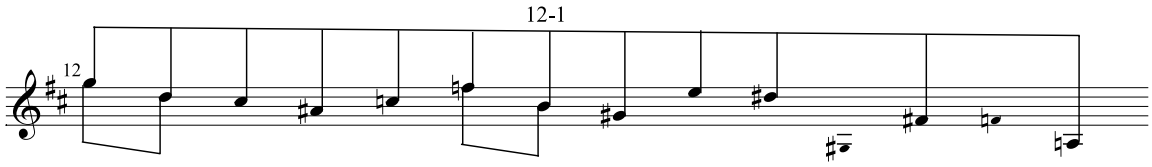


The set found in Example 10a is set [4,5,6,7,8,9,10,11,0,1]. This specific set, of course, is the only 10-1 set that excludes pitch classes 2 and 3 (D and D♯): namely, the

two pitch classes that, through the emphasis of one or the other, could project the modality of this movement. Interestingly, the absence of D and D♯ seems to reinforce this music's sustained avoidance of modal clarity for its tonic B, or, at least, their absence draws attention to it. Here, as before, it is tempting to speculate; this time the conjecture is whether this 10-1 set is indeed another projection of Martin's proclivity for modal ambiguity.

Immediately after set [4,5,6,7,8,9,10,11,0,1], there is a reinstatement of pitch classes D and D♯, in measure 12. This measure presents the second statement of the aggregate in this movement's first section.[31] Here, perhaps, is another effort to emphasize the pitches D and D♯, as these adjacencies fill the hole in the aggregate that measure 11 presents. Example 10b illustrates measure 12. Indeed, this aggregate is presented with very little interruption through repetition. In fact, this appearance of the aggregate is more closely aligned with the often-proposed Schoenbergian tendency of allowing no note repetition in tone rows, than this movement's first "row" entrance; refer to Example 7a.

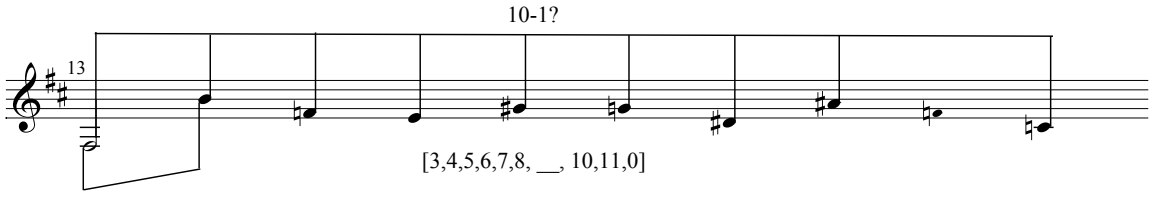
Example 10b. Set-class 12-1, Prélude, measure 12



[31] Of course, the first appearance of the aggregate is the "twelve-tone row," which spans the first three measures. Indeed, the length of the first aggregate is perhaps why it does not return in any form other than a seven-note motive, because, as mentioned, Martin's chromaticism predominantly organizes in one and two measure segmentations, based on the measured length of his main ideas.

The third measure of this section's closing passage (m. 13) is, of course, the cadential goal of this section, which explains this measure's bass-note downbeat F♯. However, this downbeat may be F♯ for an additional reason: namely, to relate the set collection in this measure to the other 10-1 sets, because the set collection here strongly implies another 10-1 set beginning on F♯. Example 10c illustrates. This closing measure would present set [3,4,5,6,7,8,9,10,11,0] if only pitch-class 9, A, were present; however, it has been proposed that this pitch class is intentionally left out in order to project an unequivocal dominant function in this closing measure. In terms of this closing three-measure passage, it can be argued that it inspires a set-class 10-1>12-1>10-1 balance, but this balance has to be summoned by the spirit of the missing A, a pitch seemingly emphasized through its absence. This absence, nevertheless, does not hinder this study's approach to Martin's chromaticism, because the closing measure still issues an ordinal-1 strategy; here, however, there are two ordinal-1 sets: [3,4,5,6,7,8] and [10,11,0].

Example 10c. Return? Set-class 10-1, Prélude, measure 13

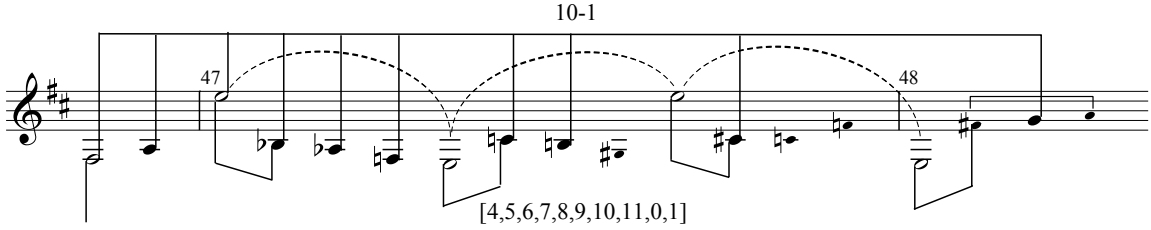


Set-class 10-1 couples with the aggregate once more in this first movement to usher in the final cadence. Indeed, this coupling is a near return of the same ordered 10-1 (again without D and D♯) and 12-1 sets. However, what is different is their metric alignment,

which allows a distinct rendering of an alternating double E5 to E3 pedal, in a consistent 9/8 meter. Example 11a shows the returned 10-1 set [4,5,6,7,8,9,10,11,0,1], as before, starting just before the downbeat of one, now in measure 47. There are three more differences between the way this set is presented here and as it appears in measure 11 (compare with Ex. 10a). The first is that the final note of the set extends into the following measure; the 9/8 meter, of course, causes this. The second difference is the entrance of pitch-class 4, E, which arrives on the first downbeat with the original B♭.[32] The reason is that E is the pedal, and Martin's format here allows the pedal to sound on each beat of the four-measure coupling of set-classes 10-1 and 12-1 (mm. 47-50). E's original entrance with C♯ in the first coupling of 10-1 and 12-1 (see Ex.10a), however, is preserved because of the continual sounding of E; see second entrance of E5. The last difference between the original entrance of set-class 10-1 and 10-1's entrance in Example 11a is the closing F♯/A frame; here, it surrounds the final note of the set (see bracket), which seems to better connect it to the 10-1 set, since the set spills into measure 48. The first time, the closing frame came directly after 10-1's last note; however, it was contained in the same measure as 10-1, which assured its association to the set, because of this work's segmentation.

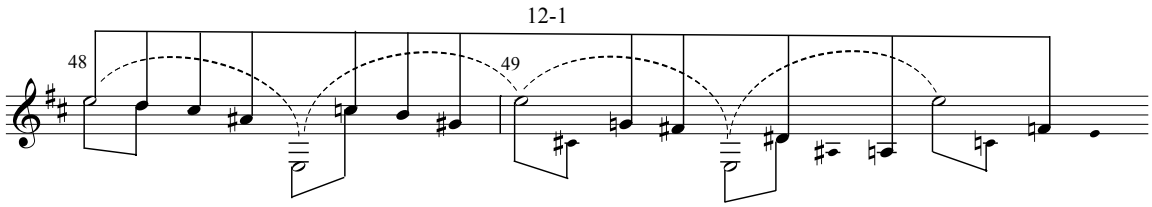
[32] Remember that in these examples, the lower beam indicates two notes that sound together; this allows a clear upper beaming.

Example 11a. Set-class 10-1, second coupling to set-class 12-1, Prélude, measures 47-48



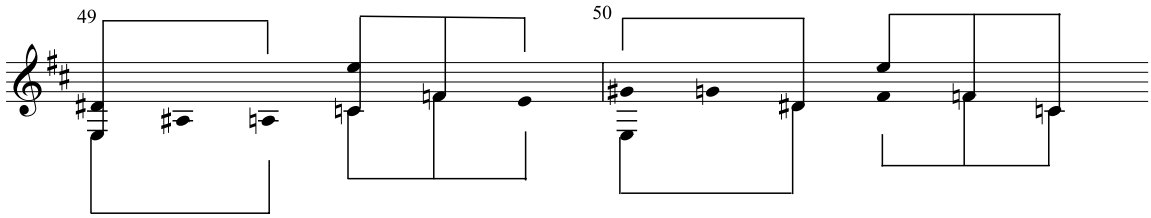
Example 11b illustrates set-class 12-1 as it is coupled to set-class 10-1 the second time. Now, the E pedal enters simultaneously with D, instead of D entering simultaneously with G, as before (compare with Ex. 10b). In the second coupling, the hexachord starting on D, [D,C♯,A♯,C,B,G♯], is ordered just as it is in the first coupling; however, the notes sounding above this hexachord are different the second time around: here, only E sounds with the hexachord, before, both G and F sounded with it. This second arrangement is more transparent, and most likely a result of the pedal emphasis. For the remainder of the notes in the latter 12-1 set, the arrangement changes; indeed, it needs to pick up the two pitches that were above the D to G♯ hexachord in the former entrance, and the order is also retooled.

Example 11b. Set-class 12-1, second coupling to set-class 10-1, Prélude, measures 48-49



The retooling is seemingly the result of a tag that Martin uses at the end of the latter 12-1 set. The last two beats of this set (remember: the meter here is 9/8) contain a reciprocal note content with the two beats in the ensuing tag, which is in 6/8. Example 11c illustrates the second and third beats of measure 49 and the two beats of measure 50. The notes of measure 49's second beat correspond to the notes in the first beat of measure 50, and the notes of measure 49's third beat correspond to the notes in the second beat of measure 50. Brackets organize the groups, and stems indicate the common notes between corresponding groups. The result of the tag is a musical hiccup that not only extends the E5/E3 pedal but also gives the sense that the music is running out of gas before the dramatic final cadence.

Example 11c. Last two beats of measure 49 and corresponding tag in measure 50, Prélude



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With one exception, so far the examples illustrating Martin's chromaticism have been exclusively chromatic, with no tonal anchoring present, but, of course, Martin's chromaticism also flows freely with his tonal anchors. This study will now close its discussion of Martin's *Quatre Pièces Brèves* with three examples that integrate both tonal

and ordinal-1 structures, and we will begin with our "exclusively chromatic" exception, which returns us to the cadential goal of movement 1's first section, measure 13. First illustrated as Example 2c, this cadential goal was discussed in terms of its tonality, and it was said that a decisive 4-3 suspension/resolution over F♯ brings about the dominant harmony. Example 10c then illustrated the chromatic collection attached to this cadential goal, and it was proposed that it inspires a 10-1 set class through its association with other 10-1 sets and the enduring presence of a missing pitch class. Example 12a now brings the set-class/tonal-anchor amalgam together.[33] The B over F♯ downbeat initiates both structures. Set-class 6-1 develops first, in an uninterrupted fashion. The 6-1 set, however, does not include the downbeat B; this pitch class has to wait to be recognized. Recognition comes immediately after set-class 6-1 with the entrance of A♯, which, as mentioned, confirms B's resolution as a tonal suspension.[34] We now have a complete tonal structure, comprised of three components, with the first, F♯, firmly established in both the tonal and chromatic structures. B and A♯, which so far only represent the tonal construct, are not firmly established in the chromatic structure, because they represent only an isolated incident outside of the governing ordinal-1 alignment; this, however, is remedied with the final entrance, namely C, which advances B and A♯ into set-class 3-1; 3-1 then aligns with 6-1 to bring about the elusive 10-1 set class that lingers behind the scene, if, as mentioned, one allows the notion of a missing, but nevertheless accentuated, pitch class.

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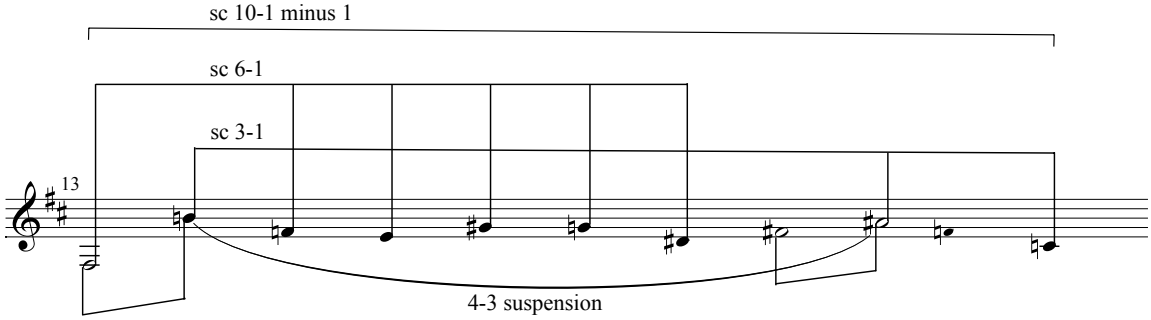
[33] The lower stems indicate the tonal anchor, and the upper stems and beams indicate the set collection (small note heads still indicate repetition within sets). Lower beams, as before, indicate two notes that sound together.

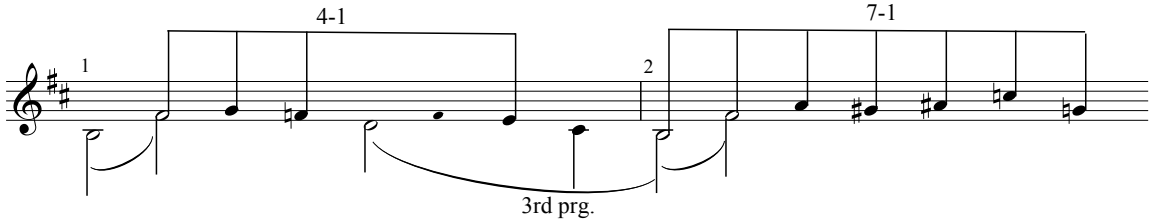
[34] This event is another example of Martin's note repetition being more than subconscious inspiration: A♯ enters with a returned F♯; indeed, the returned F♯ verifies the suspension/resolution.

Example 12a. Set-class/tonal-anchor amalgam, Prélude, measure 13



In the next two examples, the tonal and chromatic structures become more autonomous, because their components have less responsibility to perform both a tonal and chromatic duty. As Example 12b illustrates, the beginning of the Prélude offers a design that better defines a separate counterpoint between the tonal and chromatic structures. In the first measure, only the fifth of the B-minor harmony embraces the ordinal-1 set; although, once the tonic returns it joins its fifth in the formation of the second ordinal-1 set. However, the third, D, remains exclusive to the tonal dimension, as does the passing tone C♯. In regard to this work's overall chromatic structure, these first two measures, in a sense, are an exposition of what follows: namely, the presentation of ordinal-1 sets, with an early emphasis on F♯. In regard to the proffering of B minor, the root followed by the 3rd progression comfortably present the lower stratum as an independent tonal structure that counterpoints an equally independent modern-day upper stratum, at least, for a while, until the strata no longer have a single allegiance.

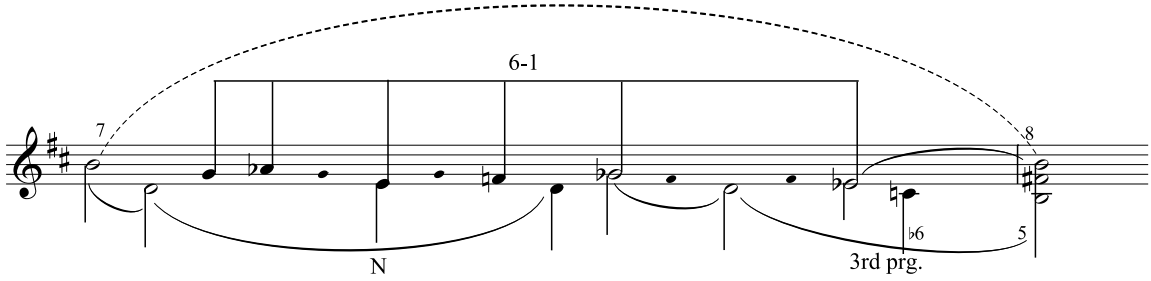
Example 12b. Tonal and chromatic structure autonomy, Prélude, measures 1-2



Example 12c better sustains its tonal and ordinal-1 structural autonomy. The independence is brought about in the same way as in the previous example: only the fifth (here G♭) of the B-minor harmony embraces the ordinal-1 set; however, this time, it remains so. Another similarity to the previous example is that the two structures, for the most part, inhabit the same stratum. When comparing Example 12b to 12c, both 4-1 and 6-1, respectively, develop above the third of the lower B-minor stratum. In regard to the latter example, the tonic arrives last in the lower stratum, as the goal of the 3rd progression.[35]

[35] This observation is advanced because the tonic downbeat of one in Example 12c, being registrally higher than the upper chromatic stratum, might be viewed as dissociated from the lower tonal stratum.

Example 12c. Tonal and chromatic structure autonomy, Prélude, measures 7-8



Not mentioned earlier, when we first examined the tonal structure of these two measures (mm. 7 and 8), is B minor's fixed first inversion in measure 7. This fixed inversion services the motion into the root of the root-position B-major triad in measure 8, also shown in Example 12c. The B-major triad, it was mentioned, composes out from its enharmonic third, E♭, at the end of measure 7, to the downbeat of measure 8, and it acts as a secondary dominant to an ensuing E minor triad (shown in Example 2a, m. 8). It was also mentioned that this secondary dominant construct involves the seemingly predominant final C of measure 7, because C's motion into B major represents the voice leading of a lowered-sixth scale degree moving to scale degree five in a Phrygian iv^6 to V cadence. Admittedly, though, C's surface motion into B major is a marginal two-note voice leading; however, just past the surface, C's predominant status improves, through a relationship it makes between B minor's fixed first inversion and the root-position B major. As shown in Example 12c, the lower stratum's final minor third initiates a 3rd progression that voice leads just behind the surface—through C—into the root of the secondary dominant; thus, a more valuable tonal voice leading forms, which not only strengthens C's predominant motion but also connects B minor to B major. In support of

the 3rd progression is this example's 6-1 set class, because it denies C as a set member, which renders C's participation within a tonal construct more probable. This last point is defended by an observation that has yet to be made, which this last example and, indeed, those that have come before express. The observation is that Martin "wastes" no notes; his technique leaves no notes outside of the tonal-anchor/ordinal-1-set structure, and, as we have seen here, all notes appear to be part of either one or the other structure, or part of both structures.

* * *

Of course, this analytical approach through tonal anchors and ordinal-1 sets cannot describe all of Martin's inspiration in this work. Therefore, when this approach breaks down, it should be expected that this would be the case. Indeed, Martin's designs and influences flow and change, and this can be said about Martin's chromatic writing as well as his tonal, as *Quatre Pièces Brèves* so masterfully demonstrates. Ordinal-1 sets and tonal anchors, however, offer a glimpse; they provide something tangible to hang on to, if only transitory. Indeed, no pair of analytical tools, no matter how refined, can answer all of the questions in this piece; in fact, the questions keep us coming back to this music, both aurally and analytically.

CHAPTER IV

CONFLICT AS A CRITICAL FRAMEWORK IN *NOCTURNAL AFTER JOHN DOWLAND FOR GUITAR OP. 70* BY BENJAMIN BRITTEN

When one is researching the music of Benjamin Britten, it does not take long to notice that descriptions of his music are similar. Whether the writing is a casual survey or a complex analysis, scholars often use a variety of polarized adjectives, such as conflictive, oppositional, ambiguous, dualistic, and so on. Certainly, these descriptions apply to Britten's stage works, referring to the idiosyncratic ways he responds musically to dramatic and symbolic struggles. These descriptions also pertain to his vocal and instrumental music associated with night, sleep, and dreams, where conscious and subconscious states are at odds. Indeed, such descriptions befit a large cross section of Britten's music, whether the music is programmatic or absolute. Analysts generally agree that Britten's musical language embraces conflict, and, indeed, this is the case for *Nocturnal after John Dowland* (1963). However, the expression of conflict, here, transcends what Britten's title implies: namely, a broad contextual conflict of "old versus new." Conflict, now, in the *Nocturnal,* motivates a critical framework through which we can scrutinize individual compositional mechanisms.

One particular compositional mechanism that Britten analysts have portrayed as conflicting is the pairing of two pitch classes that result in interval-class 1 (ic1 pairings). Such pairings are fundamental to Britten's conflicting musical structures in the *Nocturnal*. Arnold Whittall refers to the use of ic1 as a "well-tried device," and states that the character of the *Nocturnal* develops through "the interaction of notes, chords, and

keys a semitone apart."[1] Philip Rupprecht, whose analysis of the *Nocturnal* serves as a point of departure for the present study, considers chromatically paired pitch "oppositions" as the structural foundation of discrete tonal-textural layers.[2] Rupprecht finds historical precedent for Britten's use of ic1 pairings in the cross relations of earlier musical styles, and he suggests that "the familiar cross relation often points beyond mere taxonomy as a localized surface curiosity, toward a more contextual understanding of pitch conflicts over broader spans of activity."[3] Obviously, Rupprecht's intention is to elucidate Britten's use of ic1 pairings on immediate and remote levels of structure.[4]

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[1] Arnold Whittall, *The Music of Britten and Tippett,* 2nd ed. (Cambridge: Cambridge University Press, 1990), 210.

[2] This study is indebted to Philip Rupprecht's discussion of chromatic pairings. Rupprecht states that his approach is one of chromatic pitch opposition in fixed registral space, not one of pitch-class opposition; see "Tonal Stratification and Uncertainty," 332. Rupprecht also uses a variety of terms to express his chromatic oppositions: for example, "oppositions of chromatically distant pitches," "pairings of chromatically distant pitches," "chromatic pitch doublings," "chromatic related doubles," "tonal doubles," and simply "doubles"; see "Tonal Stratification and Conflict," 172-187, and "Tonal Stratification and Uncertainty," 332-346.

[3] Rupprecht, "Tonal Stratification and Conflict," 31.

[4] Indeed, in his analysis of the *Nocturnal,* Rupprecht sets the precedent for two of the chromatic pairings investigated here (again, analyzed within, as ic1 pairings): E-F and C-C♯. Rupprecht's analytical approach is, arguably, from a tonal perspective, and although he acknowledges the *Nocturnal* as a post-tonal environment, he refers to this environment as an elusive Dowland tonality, speaking of "the presence of the past," "relations to tonality," "diatonic leading-tone motions," "cadential gestures," and "tonal closure." Rupprecht's chromatic pairings, both long range and short, and both vertical and horizontal, are then advanced into this environment as conflicting forces that render "tonal uncertainty," the notion that is central to Rupprecht's work. The present study follows Rupprecht's lead in that it examines chromatic pairings; however, the pairings here do not define tonal uncertainty, they are simply a particular compositional mechanism; indeed, homage is paid to tonal structures only when they help illuminate non-tonal structures. This study, therefore, follows Rupprecht's lead with its examination of chromatic pairings, but it considers all chromatic pairings as ic1 components of set-theoretic structures. Also following Rupprecht's lead regarding the *Nocturnal* are Examples 4 and 6; these borrow and expand upon portions of Rupprecht's beamed upper and lower middleground graphing ("Tonal Stratification and Conflict," 174, and "Tonal Stratification and Uncertainty," 336). This is done for two reasons: (1) to illustrate set-

This study discovers that ic1 pairings work in conjunction with inversionally symmetrical sets.[5] Sets that map onto themselves under inversion are said to be inversionally symmetrical. These sets, although they consist of two identical, yet opposing, halves polarized around an axis of symmetry,[6] do not necessarily, in themselves, project a sense of conflict, perhaps, even, projecting the opposite; however, inversionally symmetrical sets intermix with ic1 pairings to such a degree that they appear to form a single complex structure, one so integrated that when one of these compositional mechanisms appears it signals the appearance of the other.

The *Nocturnal* is a set of eight variations that precede their poetic-music source: the lute-song "Come Heavy Sleep" from John Dowland's *First Book of Songs* (1597). The focus of the present study is the Nocturnal's first variation, which is where Britten establishes the musical vocabulary for the entire work. In a sense, the opening variation functions as the theme of the following seven variations. A comparison of Example 1a with the cantus of Example 1b reveals that the first variation engenders a clear theme-like character by imitating the phrasing of the Dowland song. This one-to-one correlation is marked in these two examples with parenthetic numbers.

The *Nocturnal's* harmonic and melodic organization is predominantly non-tonal; nevertheless, focal notes and pitch centers are implied. In addition, the Dowland song

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theoretic structure on this same middleground level, involving some of the same components that Rupprecht so astutely codifies; and (2) to address, in set-theoretical terms, structures Rupprecht illustrates, but does not find necessary to explain in his prose.

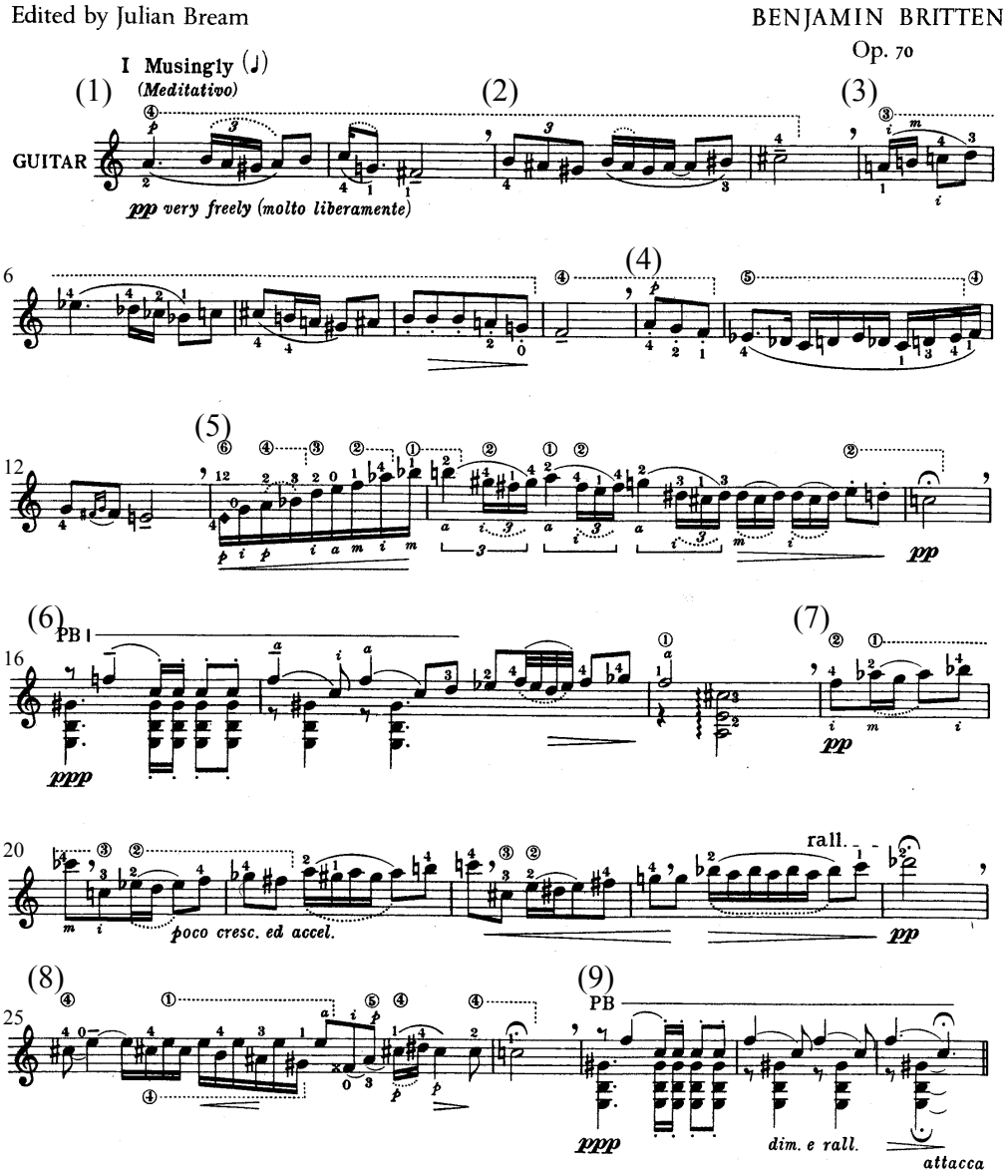
[5] For a recent explanation of inversional symmetry, see Straus, *Introduction to Post-Tonal Theory,* 85-91.

[6] For a recent discussion of symmetrical axes, see Straus, *Introduction to Post-Tonal Theory,* 133-139

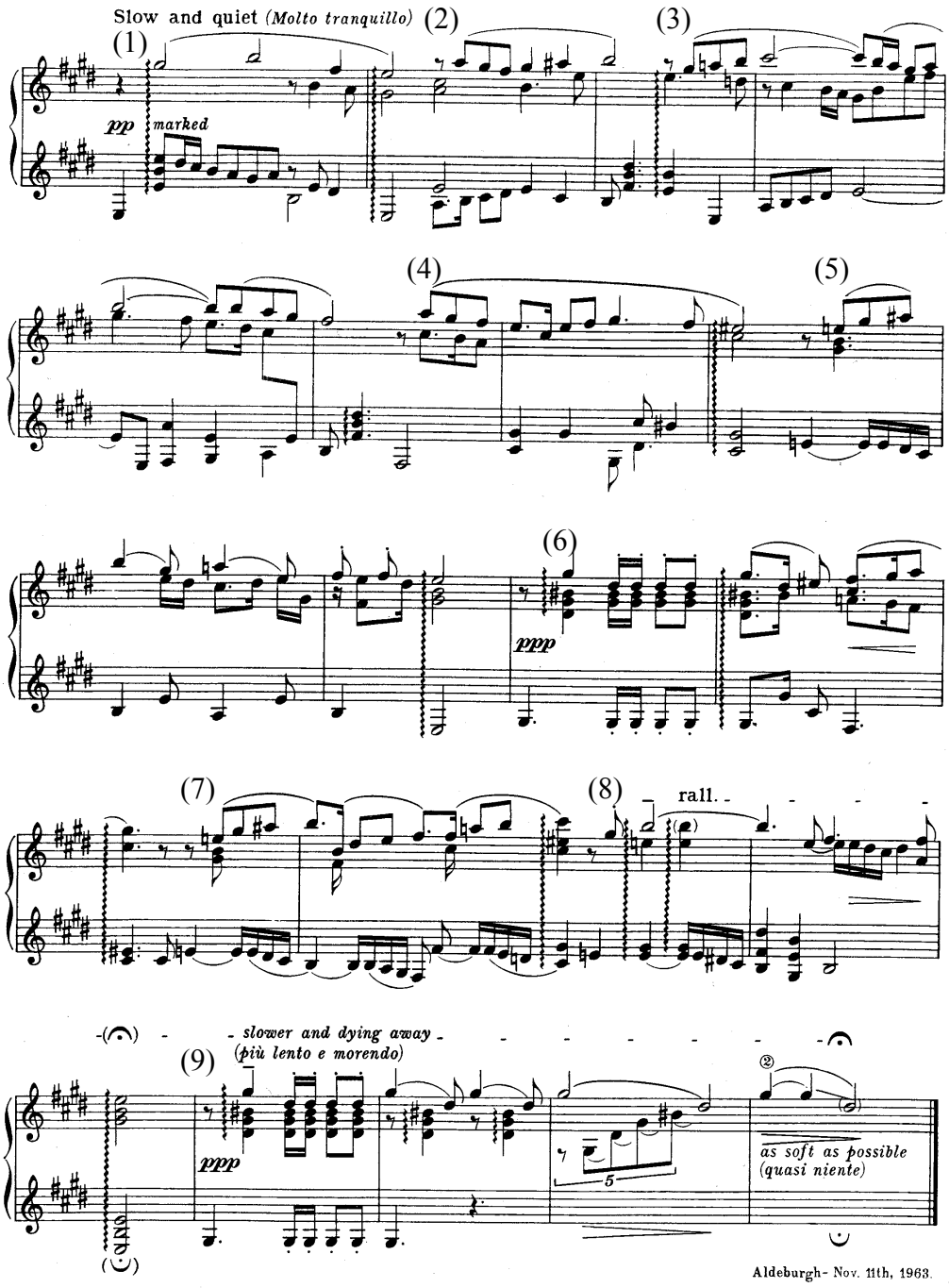
influences Britten's use of triads, stepwise voice leading, and occasional tonal gestures.[7] The integration of such elements, which are emblematic of traditional tonal practice, into a non-tonal musical syntax provides for this piece a general sense of conflict through the interaction of these irreconcilable relational events. However, more specifically, conflict lies within the fundamental structural imperatives central to this music's construction, and the compositional mechanisms generating such fundamental structures are the ic1/inversionally-symmetric set amalgams. This discussion focuses on the recurrence of ic1 pairings and inversionally symmetrical sets, and the synthesis of these two mechanisms on both foreground and middleground levels.

[7] Although Dowland's music is not actually tonal, it does advance many tonal characteristics, some of which are referred to here.

Example 1a. Britten *Nocturnal,* variation I



Example 1b. *Nocturnal*, final movement, Dowland theme



* * *

As seen in Example 1a, the first variation of the *Nocturnal* is primarily monophonic; only Phrase 6 and its partial return in phrase 9 are polyphonic. Since this limited amount of polyphony allows for the only simultaneous soundings of ic1 in the first variation, this material draws our initial attention. Phrase 6 produces two harmonic pairings of ic1: E-F, and B-C. Both of these pairings appear in the first sonority at the beginning of the phrase in measures 16 and 17. E-F alone appears in the second sonority at the end of the phrase in measure 18. Phrase 9's partial repeat of phrase 6 returns only the first of these two sonorities. This first sonority is an inversionally symmetrical set, which emphasizes the E-F pair at its registral extremes. E-F, essentially, is a frame for this sonority,[8] which is analytically significant because it is the only vertical structure to synthesize our two compositional mechanisms: ic1 pairing and inversional symmetry.

Example 2 illustrates this inversionally symmetrical structure and its E3-F5 frame in measures 16-17 of phrase 6. The frame also represents the roots of the two triadic components making up this structure: the E major triad, placed in the lower register, combines with its pitch-class inversion in the upper register: the triad F minor (F, C, G♯ [enharmonic A♭]). This set's normal form shows its symmetrical quality: [4,5,8,11,0].[9]

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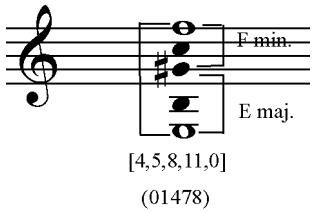
[8] Rupprecht refers to this E-F pair as a registral frame for "inner voice motion"; see "Tonal Stratification and Uncertainty," 337. This study borrows Rupprecht's notion of an ic1 frame, however, as applied only to the bordering of inversionally symmetrical sets. This, study specific, notion will continue below, especially in regard to *linear* presentations of inversionally symmetrical sets; indeed, framing in this study is both a registral and temporal device.

[9] For two slightly different definitions of normal form, see Forte, *The Structure of Atonal Music,* 3-5; and Straus, *Introduction to Post-Tonal Theory,* 35-38. Sets in normal form

The symmetrical halves of this set can be compared arithmetically by summing corresponding notes: 4 + 0 = 4, 5 + 11 = 16 = 4 (modulo 12), and 8 + 8 = 16 = 4 (mod 12). The consistent index number indicates that this set maps onto itself by I_4.[10] Knowing the value of n (the index number), we can use Joseph Straus's formula n/2 and n/2 + 6 to find the inversional axis around which this symmetrical set inverts: n = 4, therefore, 4/2 = 2, and 4/2 + 6 = 8, resulting in the inversional axis 2/8 (D/G♯).[11] Generally speaking, the pitch classes representing the two ends of an axis "pole" may or may not figure prominently into a given structure; in this case, the axis pitch G♯ is the center of this symmetrical set. Indeed, the G♯'s centricity would be more pronounced if Example 2 were registrally symmetrical, but although Example 2 does not registrally invert, the centricity of its axis pitch G♯ is understood; we can accept this single element as the central component of this structure. One might call Example 2's registral arrangement a "loose" registral symmetry, sufficient enough to indicate G♯'s centricity. The importance of this centricity will become clear later.

Example 2. Symmetrical set with E3-F5 frame, Variation I, phrase 6, measures 16-17



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are enclosed in brackets. (Note: normal form does not always reveal a set's inversional symmetry.)

[10] For a concise explanation of index number, see Straus, *Introduction to Post-Tonal Theory,* 47-49.

[11] For inversional axis, see Straus, *Introduction to Post-Tonal Theory,* 133-139. For Straus's formula, see *Introduction to Post-Tonal Theory,* 137.

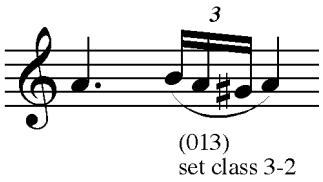
Phrase 6 has presented two discernible compositional mechanisms: ic1 pairing and inversional symmetry. We will find that these two mechanisms are used throughout this opening variation, and, consequently, appear to be important contributors to the conflicting nature of this piece. As seen in Example 2, Britten interrelates the two mechanisms. This interrelationship is important, as mentioned above: ic1 pairs and symmetrical sets will be repeatedly combined into an integrated whole.

For many analysts, an effective musical agent is one that is able to resonate beyond the surface level into more remote levels of structure, and this notion will apply here, specifically, to judge the importance of a particular compositional mechanism: a mechanism will be deemed important if it indeed appears on both foreground and middleground. In this non-tonal environment, middleground structures will not be based on prolongation, as in tonal music; we will follow Joseph Straus's lead and base our middleground structures on contextual associations.[12] Associations such as these eliminate any problems a prolongational model presents to a non-tonal setting. As mentioned in this study's introductory chapter when we discussed analytical strategy, Paul Wilson states that Straus fails to mention one remaining force for coherence: namely, a recognizable design linking the associational elements; this type of design is most relevant to the middleground structures here.

In phrase 1, we now find an inversionally symmetrical set on the middleground.[13] In Example 3a, phrase 1 begins and immediately tonicizes the note A with the turn B-A-G♯-A. This turn forms set (013): set class 3-2. The graph in Example 3b shows a second form of

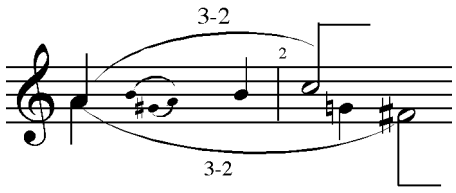
[12] Joseph Straus, "The Problem," 13.
[13] Obviously, the inversionally symmetrical set found in Example 2 lies on the foreground.

Example 3a. Set class 3-2, Variation I, phrase 1, measure 1



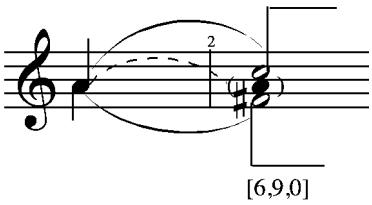
set-class 3-2 ascending from the tonicized A: A-B-C, while a third form descends: A-G-F♯. This descent is the registral inversion of the ascent. This compound melodic motion moving symmetrically outward from A composes out an inversionally symmetrical

Example 3b. Second and third forms of set-class 3-2, Variation I, phrase 1, measures 1-2



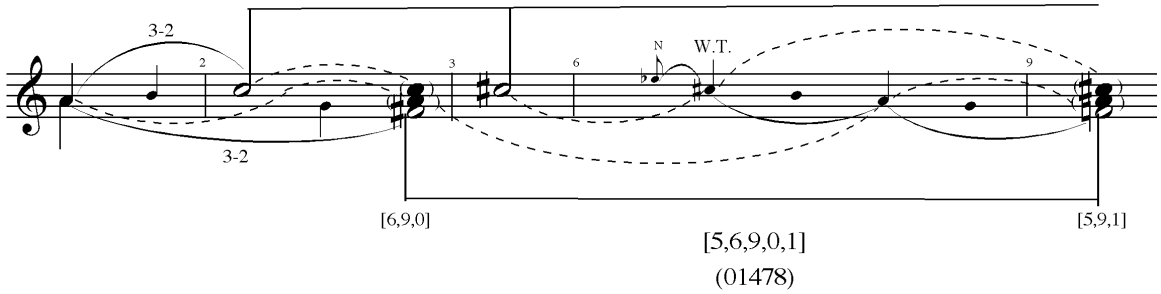
structure into the middleground. Shown in the middleground graph of Example 3c, the initial A and the noncontiguous registral high and low notes, C and F♯, form the diminished triad [6,9,0], which maps onto itself by I_6, resulting in the pitch-class axis 3/9, from which 9, or A, is the registrally centered pitch axis of the set. This is now the "strict" type of registral symmetry in comparison to the loose registral symmetry of Example 2.

Example 3c. Diminished triad, Variation I, phrase 1, measure 2



Interval-class-1 pairings are also quick to appear beyond the surface level. Example 4 continues the compound melodic motion initiated in phrase 1 into the middleground. The melodic finals of the first three phrases compose the linear progressions, which are designated with beamed half notes. Two discrete ic1 pairings develop: the upper C-C♯ ascent and the lower F♯-F descent.[14] Together, these two registrally separate chromatic motions compose out another inversionally symmetrical structure. As seen in Example 4, measure 9 reveals a middleground augmented triad F-A-C♯ [5,9,1]. This augmented triad expands the diminished triad from the middleground of phrase 1 (m. 2) by further moving the symmetrical motion outward from A, keeping A registrally centric.

Example 4. The composing out of the augmented triad from the diminished triad, Variation I, phrases 1-3, measures 1-9



[14] Again, Example 4 and, indeed, Example 6 compare to portions of Rupprecht's graphing to illustrate set-theoretic relationships for ic1 pairings; see footnote 3.

Both the diminished and the augmented triads are composed out on, or near, the surface by a linear process respective to their chord quality. Example 4 shows set-class 3-2 composing out the diminished triad in the first two measures, and 3-2 is an integral component of the octatonic collection, a collection sometimes referred to as the diminished scale. Also shown is a whole-tone collection composing out the augmented triad: C♯5 in measure 3, which is subsequently embellished by the E♭5, or enharmonic D♯ upper neighbor in measure 6, descends by whole step to F4 in measure 9.[15] These surface motions help substantiate the diminished and augmented triads.[16]

In the first nine measures, the two ic1-paired motions (C-C♯ and F♯-F) transform the diminished triad into the augmented triad. These middleground motions also compose out the *same* set class we have encountered on the foreground of phrase 6. As shown in Example 4, the diminished triad (F♯-A-C) and the augmented triad (F-A-C♯) combine to form pitch-class set [5,6,9,0,1], which is the T_1 transposition of the pitch-class set in Example 2: [4,5,8,11,0]. This transpositional relationship marks these two sets as members of the same set class, a set class that can be designated by the shared prime form of the two related sets: (01478). For convenience, Example 5 places Examples 2 and 4 next to each other as a means to consider the (01478) foreground and middleground constructions. As both constructions result in the (01478) set class, the pitch axes of the

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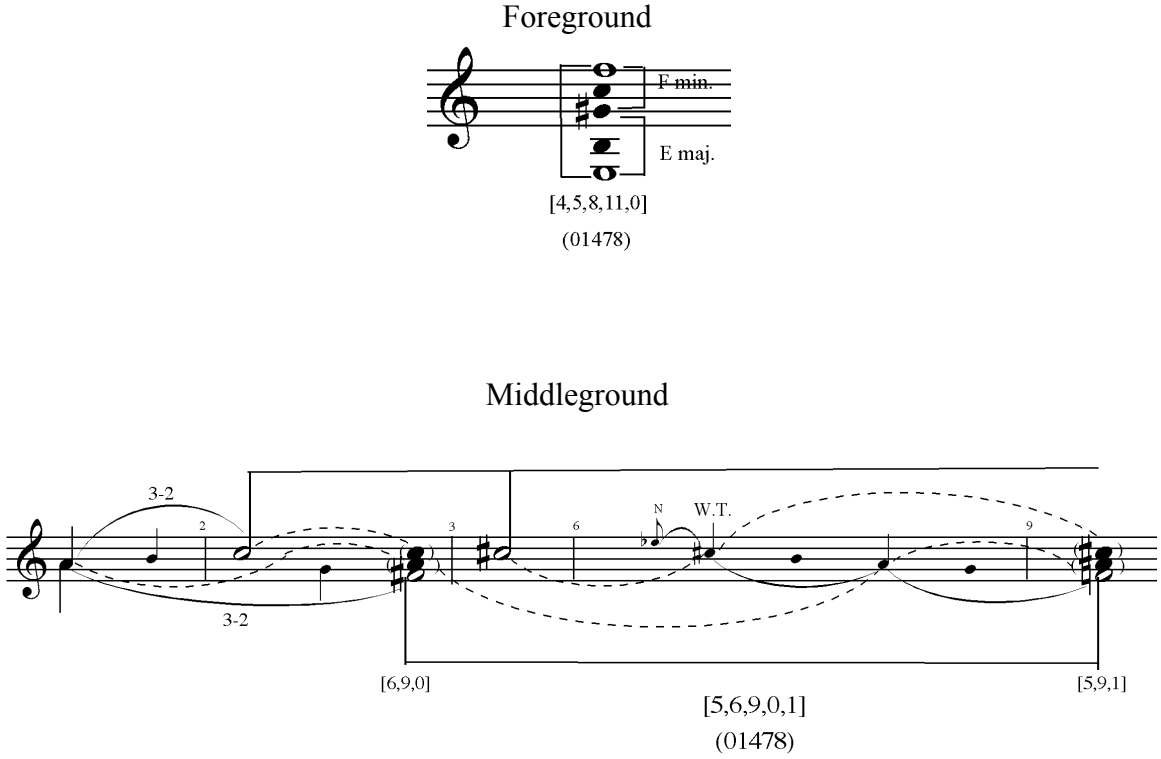
[15] Though not an essential element in composing out the augmented structure, the inclusion of E♭5 in this whole-tone scale serves two purposes: (1) it "tonicizes" C♯, and (2) it completes the cycle-2 motion: all notes of the "odd" whole-tone collection are present.

[16] Rupprecht's graphing, indeed, shows the whole-tone collection; however, his brief mention of it is in regard to the tonal uncertainty it offers to the overall texture; see "Tonal Stratification and Conflict," 175, and "Tonal Stratification and Uncertainty," 337. Example 4 includes the whole-tone collection in order to point out the relationship between two set structures: the whole-tone collection and the augmented triad.

two structures, A and G♯, are closely associated. Both of these axes are articulated at the registral center of their respective sets, and because of this shared musical domain, one way to view these two axial pitches is as an ic1 pair.[17] In addition, since A and G♯ represent both middleground and foreground levels, respectively, the pairing of A and G♯ satisfies, albeit by extension, our established criterion that compositional mechanisms should be pertinent to the foreground level as well as to deeper structural levels.

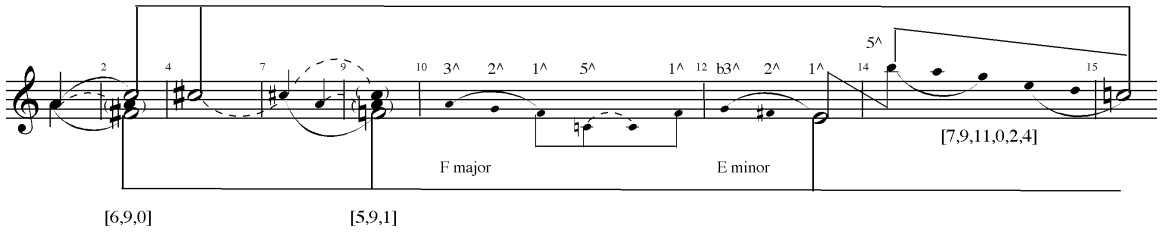
Example 5. Set-class 01478 on foreground (phrase 6, mm. 16-17) and middleground (phrases 1-3, mm. 1-9)



[17] There are other ways to view the "distance" between axes; for example, see David Lewin and Henry Klumpenhouwer's work in transformational techniques and networks.

Example 6 continues the middleground graph of Example 4 to the end of the opening monophonic section (phrases 1-5); again, melodic finals compose the linear progressions. The return to C in the last measure of this section (m.15) maintains an extended C-C♯ pairing in the upper voice of the compound melody.[18] In the lower voice, F4 (m.9) descends to E4 (m.12). This descent, according to Rupprecht, is a middleground linear succession of the E-F ic1 pairing that is subsequently verticalized in phrase 6 (refer to Ex. 2).[19]

Example 6. Continuation of the middleground graph of Example 4 to the end of the opening monophonic section, Variation I, phrases 1-5, measures 1-15



There are slight tonal gestures supporting the linear, middleground pairing of E-F in the opening monody. These can be seen to dissolve the earlier F-F♯ systematized pairing in measures 2-9, and isolate the E-F pair from the inclusive F♯-F-E middleground descent of the opening section. In Example 6, F4, measure 9, is subsequently repeated as part of a near-surface-level event in measures 10 and 11. The 3^-2^-1^ descent (A-G-F) and the ensuing tonic-dominant-tonic motion (F-C-F) compose out an F major triad. In measures 12-13, there is another near-surface event where the b3^-2^-1^ descent (G-F♯-E) and the

[18] Indeed, Rupprecht is the first to point out, and graph, this C-C♯ middleground pairing.
[19] Rupprecht, "Tonal Stratification and Conflict," 179; and "Tonal Stratification and Uncertainty," 337.

unfolding of 1^ to 5^ (E-B) compose out the triad E minor.[20] This allusion of functional surface harmonies makes a case for pairing E and F on the middleground level. Conversely, the first note of the lower middleground descent, F♯ (m. 2), having received no tonal focus in the traditional sense, becomes subtly separated from the second and third notes of the middleground descent (F and E).

In the last two measures of Example 6, there is another ic1 pairing involving the note C: this time with the pitch class below. The beam between B5, measure 14, and C5, measure 15, marks this ic1 pair in the graph. B5, the registral highpoint of the opening section, begins a phrase that ends on C5 at the close of the section. B-C is first established as an ic1 pair in Example 2. In addition, Example 2 sets the precedent, in this study, for an ic1 frame. In Example 6, the B-C pair would also function as an ic1 frame, if, indeed, the ornamented descent that it borders turns out to be an inversionally symmetrical set (ornamentation is not shown in the graph). The motion between B and C engages two related sets, shown in the graph with separate slurs. The relationship between these two sets implies the property of inversion; however, a relationship of transposition is also implied.

The complete collection framed by the B-C pairing at the end of Example 6 is [7,9,11,0,2,4].[21] As mentioned, the two component subsets relate by both transposition and inversion, since the first trichord [7,9,11] can either be transposed up by T_5 or down

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[20] This unfolding is returned from Rupprecht's graph to emphasize, here, its tonal connection to E minor; see "Tonal Stratification and Uncertainty," 336. (Note: Rupprecht's E-B unfolding appears in his graph, but not in his discussion ["Tonal Stratification and Uncertainty," 332-346].)

[21] Rupprecht's graphs illustrate this set; however, it is an unexplained event; see "Tonal Stratification and Conflict," 172-187, and "Tonal Stratification and Uncertainty," 332-346.

by $T_{7,}$ or inverted by I_{11} to yield the second trichord [0,2,4]. The local context appears to support a transpositional interpretation where the first trichord simply transposes down. However, as Richard Cohn has stated, "ultimately it is our interpretation of the larger environment which would lead us to prefer one . . . interpretation over the other."[22] As will be noted by the end of this study, much of the construction of the *Nocturnal's* first variation involves inversional symmetry. However, more importantly, if we interpret the two subsets as being related by inversion, then the complete [7,9,11,0,2,4] set is inversionally symmetric, which makes a strong case for this particular interpretation. The present study prioritizes this interpretation, because our two primary compositional mechanisms are again synthesized: namely, the B-C ic1 pair frames, notably, another inversionally symmetric set. For set [7,9,11,0,2,4], the degree of synthesis seems heightened because the framing B and C pitch classes also represent one end of the pitch-class axis around which the symmetric set maps onto itself at I_{11}.[23]

Example 6 reinforces that an interval-class-1 frame can be a useful tool for segmenting inversionally symmetrical sets, and phrase 8 provides us with another example. As illustrated in Example 7, phrase 8 presents another linear coupling of our two compositional mechanisms, which is among Britten's most lucid. Here, the familiar C-C♯ ic1 pairing from the middleground of measures 2-15 returns, appearing now on the foreground to frame the inversionally symmetrical collection [7,8,10,11,0,1,3,4]. With

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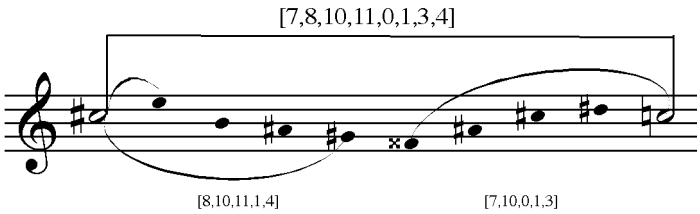
[22] Richard Cohn, "Inversional Symmetry and Transpositional Combinations in Bartok," *Music Theory Spectrum* 10 (Spring 1988): 33.

[23] For sets that map onto themselves by odd index numbers, the axis will pass between two pitches. According to Straus's formula for n = 11, $11/2 = 5^1/_2$ and $11/2 + 6 = 11^1/_2$. All axes resulting in mixed numbers are represented by two whole numbers—in this case, $5^1/_2 = 5/6$ and $11^1/_2 = 11/0$. Similarly, two letters can be used to indicate such axes—again in this case, F/F♯ and B/C.

this example, Britten adds depth to his inversionally symmetrical collections, in that, here, two melodic subsets, marked by the mirrored contour of the melody, also relate through inversion: namely, the descent, involving the pitch-class set [8,10,11,1,4] maps onto the ascent [7,10,0,1,3] by I_{11}.

Example 7. Inversionally symmetrical set with two invertible melodic subsets, Variation I, phrase 8, measures 25-26



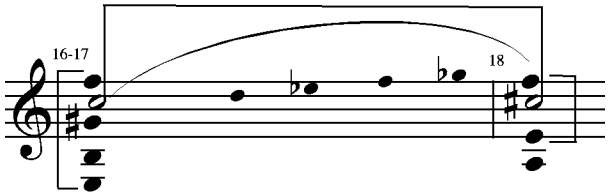
The foreground pairing of C-C♯ in Example 7, first established on the middleground in measures 2-15 (phrases 1-5), is not the first return of this pairing; its first return is on the middleground in phrase 6 (measures 16-18); however, in phrase 6, the pairing is not immediately obvious.[24] Example 8 illustrates the complete phrase 6 where the C-C♯ pairing is divided between the two vertical sonorities: {4,11,8,0,5} in measures 16 and 17, and {9,4,1,5} in measure 18.[25] The registral locations of C and C♯ (integers 0 and 1)

[24] Rupprecht was first to pinpoint the middleground C-C♯ pairing in phrases 1-5, and, indeed, its return on the middleground in phrase 6 ("Tonal Stratification and Conflict," 172-180, and "Tonal Stratification and Uncertainty," 334-337). This study now recalls this pairing's return in phrase 6, to piece together its dynamic presence in this first variation: it initiates on the middleground in measures 2-15, phrases 1-5; returns, as Rupprecht points out, and as we will again see here in Example 8, on the middleground in measures 16-18, phrase 6; and through the findings of this study, it is also found on the foreground, framing an inversionally symmetrical set, recall Example 7, above.

[25] Curly brackets indicate registrally ordered sets.

are the same in both voicings, lying directly below the top voice: F (integer 5). This fixity[26] serves to single out the pairing. Accompanying both the C and the C♯ in their respective sonorities is the salient E-F ic1 pair of this phrase, which appears within each sonority and, obviously, between the two sonorities. The invariance of the E-F pairing helps define the linear movement from C to C♯.

Example 8. C-C♯ pairing, Variation I, phrase 6, measures 16-18



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Three prominent interval-class-1 pairs are of particular interest. As Example 6 shows, E-F and C-C♯ are distinguishable middleground pairings in the opening monophonic section, and, as Examples 2 and 7 show, respectively, they both serve as important surface-level ic1 frames. No other ic1 pairings appear on both the foreground and the middleground; therefore, one might interpret E-F and C-C♯ as crucial because they resonate on multiple hierarchical levels. Another vital ic1 pairing can be abstracted if we allow the pairing of two pitch axes: G♯ and A. Pairing G♯ and A is justified because of

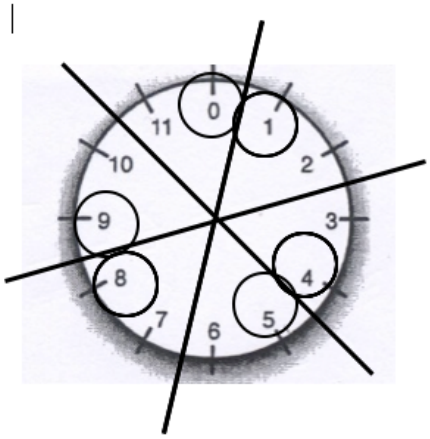
[26] A borrowed term from Rupprecht; see "Tonal Stratification and Uncertainty," 332-346.

the strong relationship between the two symmetrical sets that generate them: namely, both sets are members of the same set class: (01478), set-class 5-22. In addition, this pairing also involves both foreground and middleground levels of activity, a criterion used in the pairing of C-C♯ and E-F. The axis G♯ is at the center of a vertical appearance of (01478), while the axis A lies symmetrically at the center of (01478) as it is composed out across the middleground. Indeed, this is a somewhat retooled use of the criterion used in the pairing of C-C♯ and E-F, since each axis does not appear on *both* foreground and middleground levels; nevertheless, the axes G♯ and A represent the same set class, which *does*, in fact, appear on both foreground and middleground levels. Including this pitch-axis pairing with the two previous pitch pairings must take into account that in determining these three pairings we have mixed levels of abstraction; however, if this theoretical wrinkle can be accepted, we can consider a possible background level for this work, one that synthesizes the ic1/symmetrical interrelationship beyond what has been found up to this point.

If we conclude that the essential interval-class-1 pairings in this first variation are E-F, C-C♯, and A-G♯, we can then consider the pitch-class set these three pairings generate: the hexatonic collection [0,1,4,5,8,9]. These same integers represent the hexatonic's prime form. Hexatonic sets consist of three ic1 pairs each separated by a minor 3rd. These sets symmetrically divide the octave and are inversionally symmetric at three levels of inversion. This means that a hexatonic collection maps onto itself around three different axes of symmetry, axes that are represented by the three ic1 pairs in the collection. Figure 1 illustrates the hexatonic [0,1,4,5,8,9] and its three axes of symmetry. In a sense, this collection might represent a remote background level; and it appears that

on this level, the synthesis of our two compositional mechanisms intensifies, in respect that each ic1 pairing also functions as an inversional axis and vice versa.

Figure 1. The hexatonic [0,1,4,5,8,9] collection and its three axes



A comparison of this proposed hexatonic background with the aforementioned (01478) set class, which exists on both foreground and middleground levels, reveals intervallic similarity. Since these two sets do not fall into a subset/superset relation, we can consult a similarity relation presented by Robert Morris. Morris's similarity relation, or SIM, compares the interval-class vectors of each set class, a comparison based on the total number of interval classes that are different: the less different the interval classes and the lower the similarity index, the more similar the sets.[27] Figure 2 presents the hexatonic (014589) and the (01478) set classes, with their interval-class vectors and the resulting SIM index. The differences between each vector entry are simply added together to calculate the SIM index.

[27] Morris's similarity relations where mentioned earlier on page 63, footnote 36; see "A Similarity Index for Pitch-Class Sets," 445-60.

Figure 2. Similarity index for Hexatonic and (01478)

Hexatonic (014589) = 3 0 3 6 3 0
(01478) = 2 0 2 3 2 1
SIM = 1+0+1+3+1+1
Index = 7

Morris calculates a maximal similarity for all SIM relations based on the difference between the total number of interval classes in each set class. So, for our 6-note set class, which contains 15 interval classes, and our 5-note set class, which contains 10 interval classes, maximal similarity is 5. When comparing any of the ten available symmetrical 5-note set classes to the hexatonic, set class (01478) represents the lowest index: namely, index 7.[28] We can determine from this comparison that the prominent (01478) symmetrical structures found on the foreground and middleground have a degree of syntactic unity with the proposed symmetrical background: the hexatonic collection.

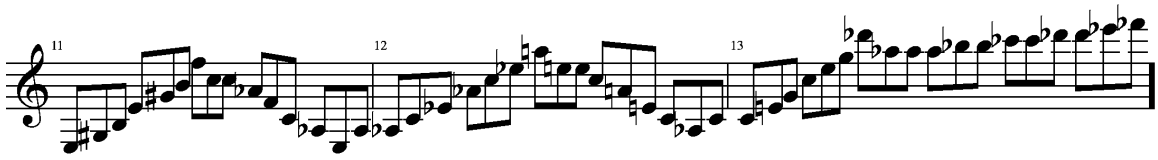
The abstraction of the hexatonic finds immediate support in the second variation. In Example 9 measures 11-13, the roots of the ascending-descending arpeggios E major-F minor, A♭ major-A minor, and C major-D♭ minor compose out the members of our hexatonic set [0,1,4,5,8,9].[29] Within the course of this composing out process, it is also possible to view a *bar-by-bar* interrelationship between ic1 pairing and inversional symmetry: our two compositional mechanisms. Each measure's major-to-minor mapping

[28] Only two other symmetrical 5-note set classes match this index when compared to the hexatonic, set class (01348) and set class (03458), and these two sets share the same interval-class vector.

[29] This analysis subjectively views a D♭ minor triad as being composed out by the D♭ minor mode at the end of measure 13, therefore keeping the idea of a major-minor triadic mapping consistent.

generates the prominent (01478) set class, and at the registral extremes of each of the three measures is one of the framing ic1 pairs, which, as mentioned, collectively compose out the hexatonic collection. Because of these bar-by-bar formations, the *figurative* hexatonic, expressing syntactic unity with set-class (01478) through Morris's SIM relation, becomes a *literal* hexatonic, expressing syntactic unity with set-class (01478) in musical structure.

Example 9. Variation II, measures 11-13



* * *

This chapter proposes that the notion of conflict in Britten's *Nocturnal for Guitar* transcends the broad contextual notion of "old versus new." Indeed, it contends that conflict motivates a critical framework through which we can scrutinize individual compositional mechanisms. One such compositional mechanism scrutinized in this manner is interval-class-1 pairing, a structure so telling in the music of Britten, that it launches the writings of Britten analysts. Forming an amalgam with ic1 pairings are inversionally symmetric sets; these sets intermix with ic1 pairings to such a degree that they appear to form a single complex structure, one so integrated that when one of these

compositional mechanisms appears it signals the appearance of the other. These two compositional mechanisms are then seen to interrelate both vertically and horizontally, forming set-theoretic structures that span both the foreground and the middleground levels. Evidence appears to support the emergence of a final inversionally symmetrical set, formed through the union of three interval-class-1 pairings whose strength of appearance on both the foreground and middleground levels marks their relationship. This final structure, considered to lie at a deep background level, provides syntactic unity across all three hierarchical levels, because of the strength of its relationship with the single unifying structure traversing the foreground and middleground.

SUMMARY/CONCLUSION

Conflicting musical structures of old and new coalesce in the music of Villa-Lobos, Martin, and Britten; indeed, conflict becomes a positive contributor to the musical soundscapes designed by these three composers. When conflict is defined by an irreconcilable coexistence of old and new elements, our analytical tools are both conventionally tonal and post-tonal. This dual approach provides a convenient and concise way of working with such disparate musical contexts. However, the conflict of coexisting elements of old and new may also be ameliorated as well, through analytical approaches that, in some respects, unite elements of old and new. Two strategies have been shown to unite elements of old and new: Straus's notion of misreading, and the neo-Riemannian notion of interplay. The evaluation of elements of conflict is aided by this study's chief organizational system: that of hierarchical organization; and because the musical structures are both tonal and post-tonal, both prolongational and associational models are considered.

The notion of misreading begins our examination, as applied to the fixed-left-hand fingering in Villa-Lobos's music. In Étude No. 1, it is found that a dominant seventh prolongation through chromatically planed diminished seventh chords, which embrace over a third of this etude's length, brings about a form-proportional misreading. Misreading also informs the planing technique in Prélude No. 2. Here, set-class 3-11 combines with two invariant pitches in the B section to produce a set-class constituency that is contained within the diatonic scale, set-class 7-35, which is viewed as a controlling background force. A rich mix of tonally emblematic elements in the B section gives the

impression that traditional tonality is fragmented, thus engendering a misreading; however, the misreading is more finely tuned. Other contributing factors link the B section with the tonally uncompromised A section and, therefore, enough structural parallels are drawn between the two sections to propose that the B section directly misreads the A section. Still another Villa-Lobos prelude misreads itself. In Prélude No. 3, the planing technique prolongs set-class 4-27, the class of dominant and half-diminished seventh chords. In the first section, an E dominant seventh is presented, prolonged, and returned. This chord then transitions into the B section where it is prolonged as the dominant of A minor, through traditional tonal procedures, which sets up a context in which this traditional dominant prolongation may be considered to be misread by the prolongation of set-class 4-27 in the first section; indeed, this misreading applies in retrospect; however, the repeat of the entire form confirms the misreading.

Prélude No. 3's planing technique is also examined through the lens of two neo-Riemannian approaches. The first displays how transformational relationships can richly inform the status of a member in a group, by way of a member's direct relationship to other members of that group. The second provides avenues of exploration concerning the shared relationship members of a group have collectively with an object outside of the group; this second neo-Riemannian approach, which is also used to examine Villa-Lobos's Étude No. 12, forms a unifying relationship between conflicting dissonant symmetrical formations and consonant asymmetrical deformations.

Conflict is perhaps expressed no more clearly than in Frank Martin's *Quatre Pièces Brèves*. Indeed, conflict results from Martin's self-conscious effort to integrate the two most fundamental ingredients of his compositional style: functional tonality and

Schoenberg's 12-tone technique. This study begins the examination of Martin's guitar piece with an investigation of Martin's tonal anchors, as exemplified in the first movement. With this investigation, we find the use of traditional harmonic/melodic tools, such as triads and voice leading, the use of goal directed motion toward a cadential V chord, and the appearance of an archetypal predominant-to-dominant-to-tonic cadential closing. Also adding depth to Martin's tonal agenda are the complementary strategies of prolongation and musical anticipation.

The examination of Martin's non-tonal strategy takes as its point of departure Martin's own writings, which place Martin's chromatic handlings as those modeled after Schoenberg's twelve-tone technique. But because Martin's chromatic approach displays a decidedly flexible interpretation of Schoenberg's method, this study uses set-class terminology to draw Martin's approach closer to Schoenberg's: namely, one might say that Schoenberg's use of the aggregate can also be termed a presentation of what results in the lone set class of cardinality 12: the set class of cardinality 12 and ordinality 1 (set-class 12-1); and that Martin's chromatic presentations are fashioned after Schoenberg's in the sense that Martin also presents ordinal-1 set classes; however, Martin's approach includes the use of both complete and incomplete chromatic alignments, with the latter defined by chromatic alignments within varying sized pitch-class borders.

Finally, in an effort to unlock Britten's musical structures in *Nocturnal,* the notion of conflict transforms from being a broad contextual conflict of old versus new, to become a critical framework through which we can scrutinize individual compositional mechanisms. The compositional mechanism that sets this analysis in motion is interval-class-1 pairing. Pairings such as these, and the conflict they induce, has been discussed

by several Britten analysts, and have been seen to inform structures on the surface of the music, as well as structures over broad spans of activity. This study discovers that interval-class-1 pairings are working in conjunction with inversionally symmetrical sets. Sets that map onto themselves under inversion are said to be inversionally symmetrical. These sets, although they consist of two identical, yet opposing, halves polarized around an axis of symmetry, do not necessarily, in themselves, project a sense of conflict; however, inversionally symmetrical sets intermix with ic1 pairings to such a degree that they appear to form a single complex structure, one so integrated that when one of these compositional mechanisms appears it signals the appearance of the other.

* * *

This study has been motivated by a desire to see the music of the guitar establish more of a presence in the vast store of scholarly/analytical writing, where the guitar's literature is arguably underrepresented. Indeed, contributions to the guitar's modern repertoire since Villa-Lobos's early efforts have grown exponentially, especially since the 1950s, with major works for the guitar written by leading contributors to modern musical trends. It is this author's hope that the scholarly community will soon embrace the modern literature of the guitar as a rich and valuable analytical resource, and that this music increases in stature and prominence. Perhaps, at some future date, the guitar's eloquent modern literature will approach the same academic standing as the piano's literature, since it can be said with certainty that the guitar's modern solo repertoire not only reflects the efforts of leading composers of the twentieth and twenty-first centuries, but that the

particular challenges the guitar presents to the composer has rendered musical soundscapes and idiomatic techniques comparable to no other solo medium.

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