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Triadic Music in Twentieth-Century Russia

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TRIADIC MUSIC IN TWENTIETH-CENTURY RUSSIA

by

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ABSTRACT

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Twentieth-century Russian music exhibits a diversity of approaches to triadic composition. Triads appear in harmonic contexts that range from tonal to atonal, as well as in referential contexts where triadic music evokes historical styles. Theorists in Russia have approached this repertoire from perspectives that differ from those of their English-speaking counterparts, but because little Russian theory has been reliably translated into English, the work remains largely unknown. This dissertation explores three case studies dealing with the treatment of triads in contrapuntal, functionally harmonic, and atonal contexts respectively, drawing on untranslated (or in one case, poorly translated) writings from twentieth-century Russian music theory.

The first study describes Sergey Taneyev's system of generalized invertible counterpoint, arguing that its algebraic approach, designed for sixteenth-century repertoire, can be extended in the analysis of tonal contrapuntal music. The second study traces the history of Russian thought on the common third relation, known in neo-Riemannian theory as SLIDE, the relation joining triads that share a chordal third, such as C major and C-sharp minor. The Russian conception of the relation, which predates the neo-Riemannian, applies not only to triadic adjacencies but also in functional harmonic substitutions, the transformation of thematic melodies, and the altered scale degrees of Prokofiev and Shostakovich. The third study examines the strings of major and minor triads that Alfred Schnittke deploys in his atonal works, arguing that Schnittke has cultivated a framework that deliberately avoids the patterns of tonal writing. This allows the triads to be understood without recourse to "polystylism," a historicizing practice under which Schnittke's triads have typically been subsumed. In general, ideas drawn from Russian-language scholarship complement existing English-language approaches by offering new insights into repertoires that have not been fully understood.

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My other committee members, Phil Lambert and Phil Ewell, read the dissertation manuscript meticulously and provided poignant feedback that greatly strengthened the final product. Phil Ewell, in addition, checked my earliest translations, giving me confidence in the efficacy of my Russian autodidacticism. Richard Cohn offered useful comments on an early draft of Chapter 3.

Studies with other professors, although they did not contribute directly to the content of this dissertation, were formative for my scholarly development. My work bears the influence of Mark Spicer and Richard Kramer, as well as David Beach, Ed Laufer, Ryan McClelland, and Mark Sallmen. It was Leslie Kinton who first suggested that I pursue music theory. I could already play the piano by the time I first met Jim Anagnoson, the thinking person's pianist, but he turned me into a musician, making a musical career possible for me.

There are a number of friendships that sustained me throughout graduate school, many beers and cups of coffee shared over informal scholarly (and not-so-scholarly) discussions. Several colleagues could be named, but I have particularly valued the weekly "summits" with Ryan Jones, Rachel Lumsden, Brian Moseley, and Andrew Pau. In many ways these were the sequel to my undergraduate get-togethers with Keith Johnston, Mark Richards, and Martha Sprigge, all of whom now hold PhDs.

My family has offered incredible encouragement throughout my studies. For their unwavering moral support, I am grateful to a whole network of parents, step- and/or -in-law: Dave, Joann, Jon, Leonie, and Liz. My mother, Mary, and my father, Simon, have been my most ardent supporters. They have always pushed me to succeed and taken pride at my accomplishments.

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NOTE ON TRANSLITERATION

In transliterating Russian-language names and titles, I follow the system introduced by Gerald Abraham in the first edition of the *New Grove Dictionary* with modifications as described by Richard Taruskin in his book *Musorgsky*.[1] The bibliography follows the system strictly, as do the author-date citations that appear in the footnotes. The main text adopts Taruskin's licenses for ease of reading: hard and soft signs are omitted, names ending *-skiy* are represented as *-sky*, diphthong *ay* is rendered as *ai*, and common Roman-alphabet spellings are used for certain names (hence Scriabin instead of Skryabin, Prokofiev instead of Prokof'yev). Some names appear one way in the main text and another in the bibliography, for instance that of theorist Lev Mazel (Mazel' in the bibliography and citations). The bibliography attempts to maintain the spellings of authors' names as they appear in the source documents; hence for instance there are citations to English- and German-language writings by Alfred Schnittke and Russian-language writings by Al'fred Shnitke. The name Chaikovsky appears without the customary initial T; I find Taruskin instantly convincing on this point: "If we're past Tchekhov, why not get past Tchaikovsky?"[2]

Except where otherwise noted in the bibliography, all translations from Russian and German are my own.

[1] See respectively Sadie (1980, 1:xvi–xvii) and Taruskin (1993, xix–xx).

[2] Taruksin (2009, 1).

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Preface

Historically, North American theory has privileged atonal currents in twentieth-century composition, using the dissonances of Schoenberg and his followers as a yardstick against which to measure all contemporary music. This attitude implicitly dismisses the tonal developments of the twentieth century, marginalizing them as retrogressive amusements uncommitted to the evolution of musical style. The all-too-commonplace narrative that late Romanticism pushed tonality to its very limits, and that Schoenberg's atonality constituted the only possible continuation of an increasingly dissonant tradition, has helped to perpetuate this attitude. If triads are necessarily backward-looking, and if triadic music is necessarily less sophisticated than the extreme chromaticism of the late nineteenth century, then it stands to reason that theorists interested in compositional ingenuity will find little of value in a modern triadic repertoire.

This attitude maligns a great deal of twentieth-century tonal music, including that produced in Soviet Russia, where composers were forced to write accessible, triadic music under penalty of loss of livelihood or life. The North American theorists of previous generations who were wedded to the cult of genius and autonomy may have written off Soviet music as having been diluted through externally imposed constraints, or they may have succumbed to the Cold War mentality of hearing all Soviet music as propaganda without compositional novelty. Yet Soviet composers were not interested in recreating the sounds of Haydn and Chaikovsky. Twentieth-century composers desired to write in a twentieth-century style, and consequently triadic composers sought new techniques by which to use triads. Composers conducted tonal experiments under the imposition of accessibility. Their new techniques deserve study on their own account, not merely as extensions of the procedures of earlier eras.

Theorists active in Soviet Russia were confronted with these new triadic practices, and they developed new models to account for them. These theorists performed a social function, too. By writing about the music of Prokofiev, Shostakovich, and others from tonal perspectives, they tacitly justified it as tonal to the authorities, potentially saving their composers from harmonic condemnation. Officially sanctioned writings were made broadly available. The journal *Sovetskaya muzïka* (Soviet music) published theoretical articles alongside composer interviews and concert reports, and its issues were distributed to musicians of all sorts, not merely academics.

English-language theory has historically focused on a German repertoire, in response to which it has developed theories of linear harmony, musical form, and pitch-class sets. Recent attempts to apply these theories to Russian compositions tell us how Russian music sounds to ears immersed in Haydn, Beethoven, and Webern. Russian theory, on the other hand, provides a greater insight into how Russian music sounded to the theorists who first heard it in the context of the Soviet era. Their theoretical models were developed for a Russian repertoire, and they offer perspectives that a German bias may not account for.

Present-day Russian-language scholarship cites sources in a variety of languages and thereby evinces some familiarity with English-language music theory. By and large, however, Russian theory remains unknown to English-language practitioners. It is rare, for instance, to find English-language sources that cite Russian material, even in articles on Russian-music topics. Clearly there are more Russian-language scholars with a reading knowledge of English than there are English-language scholars with a reading knowledge of Russian. The recent formation of the Russian Society for Music Theory demonstrates a Russian desire for cross-fertilization between the two theoretical traditions. This dissertation participates in this process by invoking Russian theory in the study of twentieth-century Russian music. Through several case studies, it attempts to understand the new triadic developments that appeared in Soviet music. Under political pressure, Soviet composers developed new harmonic languages that were in turn studied by Soviet-era theorists. This dissertation recovers theoretical testimony that bore witness to an outpouring of tonal creativity.

Chapter One

Introduction

Examples 1.1 through 1.5 all are triadic; each example is triadic in its own way. All five examples come from the twentieth-century Russian repertoire, and collectively they illustrate a range of triadic practices that in turn invite a range of analytical approaches. The first four examples demonstrate that triads can appear in a variety of harmonic contexts along a tonal–atonal spectrum; my analyses treat the first three examples as tonal and the fourth as atonal, for reasons explored below. In the fifth example, triads appear in a referential context, where they evoke a historical style and thus serve a significatory role, instead of a harmonic role.

The perspectives offered by Russian music theory and other untranslated Russian sources shed new light on the music under investigation. With tonal contrapuntal music, as with Example 1.1, from Shostakovich's Preludes and Fugues, the theories of Sergey Taneyev provide a mechanism for understanding the vertical and horizontal shifts that allow counterpoint to be reconfigured in various ways. With triadic music propelled by semitonal voice leading, such as Scriabin's *Feuillet d'album* (Example 1.2), ideas drawn from Varvara Dernova can help us to hear the music as fundamentally tonal. With music structured by the neo-Riemannian SLIDE relation, known in Russia as the common third relation, such as Prokofiev's Fourth Symphony (Example 1.3), the functional theories of Lev Mazel, Nikolai Tiftikidi, Serafim Orfeyev, and Yuri Kholopov offer insights not available through neo-Riemannian theory. By contrast, neo-Riemannian theory provides a useful pathway through atonal music that is based on successions of triadic relations, such as is found in Schnittke's *Requiem* (Example 1.4). Finally, Schnittke's own writings illustrate the purpose of referential triadic music used to signify historical practice, as demonstrated in the Violin Sonata No. 2 (Example 1.5).

This dissertation consists of case studies that explore different triadic practices in detail. Concepts from Russian theory complement North American perspectives while suggesting new ways to approach triadic analysis. The underlying goal of this study is to demonstrate that Russian scholarship can offer new insights into repertoires that have not been fully understood, arguing for further exploration of Russian theory and a more comprehensive integration into existing North American approaches.

More detailed discussions of Examples 1.1 through 1.5 offer an overview of the specific analytical concerns of this dissertation. Example 1.1 is an excerpt from the Fugue in F Minor from Shostakovich's Twenty-Four Preludes and Fugues, op. 87. The example is contrapuntal, with triadic harmonies expressed through the interaction of the three distinct voices. The fugue subject, which begins by arpeggiating the tonic triad, sounds in the lowest voice. All pitches in the excerpt derive from the F natural minor or aeolian scale. The harmonic progression draws attention to the use of natural $\hat{7}$, in place of the leading tone, through neighbor motions involving the major subtonic triad: i–VII–i. There is little emphasis on the dominant, the minor version of which appears on a weak beat in m. 26, between VII and i, and at m. 30, when the following subject entry begins. The use of diatonic modes in the fugue, together with strict counterpoint, may signify early-music practice, and Renaissance polyphony in particular.[1]

The three voices are written in invertible counterpoint at the octave, and various permutations of the three voices appear during the fugue. In Example 1.1, the three voices are labeled according to the melody each presents: voice I contains the subject, voice II the first countersubject, and voice III the second countersubject. Example 1.6 provides two excerpts in

[1] Mark Mazullo also relates the emphasis on natural $\hat{7}$ to the fugue's "strong modal inflections." See Mazullo (2010, 203).

which the voices are reordered. In Example 1.6a, the subject is sandwiched between the first countersubject above and the second countersubject below. The music now uses the corresponding scale degrees of the A-flat mixolydian scale. In Example 1.6b, the subject once again appears in the bass, but now the first countersubject appears above the second. The music here uses the pitches of the E aeolian scale. Throughout the fugue the subject and countersubjects are sounded at a variety of pitch levels using a variety of modes. At the work's climax mixolydian and aeolian entries sound in stretto (see Table 1.1).

In order for invertible counterpoint at the octave to work out, Shostakovich must adhere to a series of well-known rules regarding the treatment of consonant and dissonant intervals. Example 1.1 contains two conspicuous suspensions, both of which function properly in inversion. The 7–6 suspension in m. 25 between voices I and III inverts to the 2–3 bass suspension heard in m. 51 (Example 1.6a). Similarly, voice II enacts a 4–3 suspension in m. 29 over voice I, which becomes a 7–6 suspension in m. 55 when voice III appears in the bass (also Example 1.6a).

More conspicuous than the suspensions, however, are the parallel perfect fifths that arise between voices II and III in mm. 54–55 (Example 1.6a) and mm. 112–13 (Example 1.6b). At the equivalent point in the original combination, we find parallel perfect fourths (Example 1.1, mm. 28–29). Invertible counterpoint at the octave prohibits parallel fourths, and we might wonder why Shostakovich included them. The only available explanation is that, sixteenth-century signification aside, this is a twentieth-century composition, and parallel fifths need not be denied. Apart from the parallel fifths, the music largely follows the guidelines for strict invertible counterpoint.

The example follows Sergey Taneyev's practice of labeling the voices with Roman numerals. Taneyev's 1909 treatise *Movable Counterpoint in the Strict Style* concerns itself with the conditions under which excerpts of counterpoint may be "shifted" vertically (as with invertible counterpoint) or horizontally (as with stretto).[2] Taneyev generates a system that allows the rules to be calculated for any shift, encompassing both commonplace shifts, such as the invertible counterpoint at the octave employed by Shostakovich, and less commonly discussed shifts, such as those through dissonant intervals. Although Taneyev's book has been translated into English, the resulting translation is unreadable: its language is unidiomatic and its pages are filled with typographical errors and incorrectly copied musical examples. As a result Taneyev has been little studied by English-speaking scholars, and his ideas have not been extended. Chapter 2 of this dissertation offers a comprehensive overview of Taneyev's method, proposing applications to the analysis of nineteenth- and twentieth-century tonal contrapuntal music, including both Shostakovich's fugues and the compositions of Taneyev himself.

Example 1.2 provides the opening four measures of Scriabin's *Feuillet d'album*, op. 58. Only six pitch classes are articulated in mm. 1–4. Transpositions of this six-pitch-class collection structure the entire work.[3] The collection has been called the Mystic chord, and this marks its first appearance in Scriabin's piano music. Here the chord is interpreted as an extended and altered triadic harmony. Frequently Scriabin arranges the pitches of the chord so that the left hand sounds, from bottom to top, the root, seventh, and third of a major-minor (or dominant) seventh sonority.[4] The appearance of these pitches in a low register grounds the harmony. The

[2] Taneyev (1909), translated into English as Taneiev (1962).

[3] This may explain why several scholars have approached Scriabin's late music from the perspective of pitch-class set theory. See Pople (1983); Baker (1986); Bazayev (2007); Kallis (2008); Yunek (2012).

[4] Other scholars have also understood the Mystic chord as an altered dominant sonority. See especially Ewell (2006) and Taruskin (1997, 308–59), the latter of whom relates the chord's expressive function to Scriabin's mysticism.

analysis understands the Mystic chord as a dominant seventh chord with lowered fifth and added ninth and thirteenth.[5]

Example 1.3 is an excerpt from the first movement of Prokofiev's Symphony No. 4 (revised version), op. 112. Beginning on the third beat of the first measure, the bass line descends chromatically from C to G. The woodwinds harmonize the bass line with an alternation of major and minor triads. In both the second and third measures, there are pairs of triads joined by the SLIDE relation of neo-Riemannian theory, which relates major and minor triads that share a chordal third but have roots and fifths that differ by semitone.[6] The B minor and B-flat major triads are SLIDE-related, as are A minor and A-flat major. With regard to the latter pair of triads, the derivation of the term SLIDE is made aurally (and visually) apparent in the example's third measure. The common tone C is maintained in the flute through a lower neighbor figure as the bassoons and low strings slide down by semitone, yielding A-flat major from A minor. The term SLIDE refers to the voice leading that connects the triads.

Neo-Riemannian theory highlights instances of SLIDE-related triads appearing in direct succession, instances that are comparatively rare in pre-twentieth-century music. Russian theory, which has also studied the SLIDE relation, takes a more flexible approach. The Russian study of the "common third" relation predates the American study by three decades.[7] The differing name

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[5] The *Feuillet d'album* is analyzed more extensively in section 5.1 of this dissertation, which invokes the analytical ideas of theorist Varvara Dernova, and where the *Feuillet d'album* exemplifies a concern for semitonal voice leading.

[6] David Lewin named and first identified the SLIDE relation in transformational theory. It explicitly entered neo-Riemannian theory through the writings of Richard Cohn. See Lewin (1987, 178); Cohn (1998).

[7] Theorist Lev Mazel first wrote on the common third relation in 1957, thirty years before Lewin's introduction of SLIDE. The common third relation has been discussed in Mazel' (1957); Mazel' (1962); Orfeyev (1970); Tiftikidi (1970); Mazel' (1972, 371–88); Mazel' (1982, 160–84); Kholopov (2003, 436–41).

points to a differing concern. Russian theory draws greater attention to the common tone, C, in the third measure of the Prokofiev excerpt, and it notes the retention of that common tone in the melody. The focus is not on the voice leading between the triads, and perhaps because of this difference with the neo-Riemannian approach to SLIDE, Russian theory does not require common-third-related triads to be adjacent in passages of music.

Theorists in Russia point out that common-third-related triads can substitute functionally for one another. This is implicit in the North American concept of modal mixture. In a major key, the minor triads with Roman numerals iii and vi can be replaced with the equivalent triads diatonic to the parallel minor, the major triads with Roman numerals flat-III and flat-VI.[8] The triads iii and flat-III, as well as vi and flat-VI, are understood to have the same function. The triads in each pair are common-third-related, and their shared functionality is attributed in Russian theory to the common third between them.[9] Typically one or the other harmony appears in a progression, so that the SLIDE relation is not instantiated on the musical surface. (Example 1.7 provides an exception: both diatonic and mixture versions of Roman numeral VI appear in a row.)[10] Russian theory extends the idea to the primary harmonies as well. Triads common-third-related to the tonic, dominant, and subdominant triads can express the corresponding functions of these triads.

Example 1.8 provides an excerpt from Prokofiev's *Cinderella*. An eight-measure phrase begins in the main key of E minor but shifts suddenly to common-third-related E-flat major for a

[8] Such harmonies have been described as chromatic mediants, on which see Kopp (2002).

[9] Note that, for Daniel Harrison, the thirds of the tonic, dominant, and subdominant triads are the *agents* of those triads' function. See Harrison (1994). Here the argument is implicitly extended to secondary triads: the thirds of mediant and submediant harmonies also act as functional mediant and submediant agents.

[10] This example is cited in Mazel' (1982, 165).

half cadence (mm. 23–24).[11] This shift comes at the moment that the melody reaches a high G_6, the climax of the phrase and also the common third between E minor and E-flat major. This common third rings out melodically to emphasize the connection between the two harmonies, thereby pointing to the substitution of E-flat major for E minor. The E-flat major triad displaces the latter triad in its capacity as a new tonic leading to its own dominant.[12] Theorist Nikolai Tiftikidi writes that with the modal shift from minor to major, the pitch G suddenly acquires a bright major color. He likens the effect to that of a blinding "flash."[13] Yuri Kholopov notes that although the E-flat major triad is approached as a common-third-related tonic, it acquires subdominant function in the larger context. The music continues at m. 25 on an A minor triad, subdominant of the main key. The B-flat major triad in m. 24 functions locally as the Neapolitan of A minor, and the principal harmonic motion here is from B-flat major to A minor. Kholopov understands the E-flat major triad as subordinate to the Neapolitan B-flat major, to which it functions as subdominant. Consequently the E-flat major triad is the subdominant of the Neapolitan of the subdominant. Using the tuning ratios of just intonation, Kholopov demonstrates that the pitch E-flat would be tuned slightly differently according to the differing functional interpretations of the E-flat major triad: substitute tonic or subdominant of B-flat major. He argues that the striking effect of the common third relation derives from the instantaneous microtonal retuning that equal temperament imposes on the music.[14]

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[11] Deborah Rifkin relates the harmonic swerve at the moment of cadence to an "extreme-modern" tonal compositional style. See Rifkin (2006, 145–47).

[12] Orfeyev notes the tonic and dominant function of the E-flat major and B-flat major triads that constitute the half cadence. Mazel writes that the melody goes as far as it can in E minor before leading to an unexpected harmonization of $\hat{3}$. See Orfeyev (1970, 82); Mazel' (1982, 178–79).

[13] Tiftikidi (1970, 32).

[14] Kholopov (2003, 440–41).

Chapter 3 explores the Russian approach to the common third relation, emphasizing the nuances it adds to the North American understanding of SLIDE. In general Russian theory focuses on the use of the relation within tonal functional contexts, extending the relation beyond triadic adjacencies to encompass functional substitution, melodic transformation, and individual scale degrees. Russian theory shows that there is more to SLIDE than North American scholars have previously thought.

SLIDE appears in Example 1.4, but the context is now atonal. In the Hostias movement of Schnittke's *Requiem*, the music articulates a succession of major and minor triads without engaging harmonic function or an overall sense of key. Instead the emphasis is placed on the connections between adjacent triads, a fact that invites a neo-Riemannian approach. In the analysis above the score, each triad is represented by an uppercase or lowercase root, depending on whether the triad is major or minor.[15] Arrows connecting adjacent triads (or in one case, nearly adjacent triads) indicate the relations that join one triad to the next. Yet only three types of relations are labeled: P, the parallel relation joining triads sharing a root; S, the SLIDE relation joining triads sharing a third; and M, or the "minor third" relation, which relates a major triad to the minor triad with a root three semitones (or a minor third) higher, as with C major and E-flat minor. The P and S relations are familiar from neo-Riemannian theory; the M relation is newly labeled here.[16]

A typical neo-Riemannian analysis would label every arrow in the diagram using one of the three primary relations—P, L, and R—or some combination of these relations. This could

[15] The sopranos, altos, and tenors always form complete triads. The analysis ignores pitches sung by the basses that are not part of these triads, namely the C in m. 4 (beneath the upper parts' D minor triad) and the E in m. 6 (beneath the G minor triad).

[16] The M relation differs from another relation called M by David Kopp and is equivalent to Jay Hook's uniform triadic transformation ⟨–,3,9⟩. See Kopp (2002); Hook (2002).

easily be accomplished here. The M relation is equivalent to the combination PRP, and the four dotted arrows appearing in Example 1.4 could be labeled, from left to right, RP, RPR, LR, and PLP.[17] Even the SLIDE relation, a canonical neo-Riemannian operation, could be expressed as LPR or RPL. Any two major or minor triads can be related by some combination of P, L, and R, and this remains true outside of any musical context. The point of the analysis in Example 1.4 is not merely to make a series of true statements that say little about the music under consideration. Rather, I intend the analysis to make two important points. First, Schnittke's atonal music uses strings of triads that avoid the patterns of functional tonality. Second, he privileges the P, S, and M relations in particular.

Chapter 4 argues that the P, S, and M relations are the least tonal-sounding relations that preserve two, one, and zero common tones respectively. By using these relations, Schnittke permits himself maximum voice-leading flexibility at the same time that he minimizes echoes of traditional tonality.

Schnittke incorporates P, S, and M into his music in a variety of ways. Of particular interest to him are polychords formed by combining the pitches of P-, S-, or M-related triads.[18] Example 1.9 provides an excerpt from the Cello Sonata No. 1. The excerpt opens with a P-related polychord consisting of the pitches of both C major and C minor. The open C–G fifth in the piano's left hand contains the common tones between the two triads. The piano's right hand plays a complete C minor triad while the cello presents the split third, E-natural, derived from the C major triad. In m. 4, both piano left hand and cello slide down by semitone, turning C major

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[17] The last relation, PLP, is equivalent to the hexatonic pole relation, elsewhere called HEXPOLE or H. On this relation, see Cohn (1996); Cohn (2004); Cohn (2012).

[18] Schnittke discusses such polychords in an interview with Joachim Hansberger (Schnittke and Hansberger 1982).

into C-flat major. The piano's right hand maintains the C minor triad, and the result is an S-related polychord. Taken as a whole, the passage presents exclusively P- and S-related polychords. At certain points, P, S, and M are used to navigate from one polychord to the next by relating adjacent triads within the polychords' upper or lower strands. In mm. 8–12, the M relation connects an A minor triad to a G-flat major triad in the lower strand of the polychordal succession. Both triads participate in S-related polychords.

Several measures later, Schnittke increases the number of constituent triads within each polychord to three. Example 1.10 shows that Schnittke constructs vertical chains alternating S and P to create densely layered polychords. In m. 26, the piano's three lowest notes form an E major triad. The right hand's G-sharp is the common third with S-related F minor, supplied through the addition of right-hand pitches C and F. The three uppermost pitches in the right hand spell P-related F major. Each pitch that functions as a common tone—G-sharp between E major and F minor, C and F between F minor and F major—sounds only once in the piano part. The cello plays the chordal thirds A-flat (of E major and F minor) and A-natural (of F major).[19] In moving to the following polychord, the music presents an instance of M, which relates constituent triads F minor (mm. 26–27) and D major (mm. 28–30). Chapter 4 further explores how Schnittke uses P, S, and M to structure polychords, chains of alternating relations, and thematic transformations.

Example 1.5, also from Schnittke, provides a fifth approach to triadic composition in twentieth-century Russian music. The example is from the Violin Sonata No. 2, a work the

[19] In m. 27, the cello's Gs could be heard as neighbor notes to the A-flats, in the same manner that neighbor notes were heard earlier in the movement; in Example 1.9, consider the cello's neighbor-note Fs in mm. 2–3. Alternatively (or additionally), the Gs could be understood as thirds of an E minor triad, formed against the piano's left hand E–B open fifth. This adds an additional P relation to the polychord: E minor–E major–F minor–F major.

subtitle of which, “quasi una Sonata,” hints at its ironic deconstruction of the expectations of sonata form. The work is atonal but begins with a loud G minor chord, which returns periodically as if to force a “main key” onto the sonata framework. The G minor triad struggles to assert itself amid a welter of dissonant activity throughout.[20]

In the middle of the work, the dissonant writing is interrupted by short fragments that recall nineteenth-century tonality. The first two measures of Example 1.5 show one of these fragments. These measures are marked as standing outside the prevailing music in several ways. Whereas the music surrounding these measures is *allegro*, loud, sharply accented, and dissonant, the music of these two measures is *adagio*, quiet, *legato*, and consists of a tonal harmonic progression, as indicated with Roman numerals. These features set apart the music of the fragment, helping it to sound like an excerpted quotation stitched into the sonata in the manner of a collage.[21] The texture changes act as quotation marks.

In his essay “Polystylistic Tendencies in Contemporary Music,” first read in 1971, Schnittke outlined his conception of polystylism, the incorporation of historical styles into contemporary composition.[22] A key polystylistic technique is quotation. Although *quotation* in North American scholarship generally refers to the borrowing of excerpts from pre-existing

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[20] Schnittke, who refers to the work as a “borderline case of sonata form,” identifies the contrast between the consonant G minor triad and the dissonant atonal chords as primary to the piece. See Schnittke and Hansberger (1982, 48).

[21] In their monograph on Schnittke’s music, Valentina Kholopova and Yevgeniya Chigaryova make a similar point, identifying the use of chorale textures, classical chords, slow tempos, low register, and quiet dynamics as demarcating the sonata’s “quotations.” Kholopova and Chigaryova (1990, 57–58); see also Smirnov (2002), which provides an English translation of Kholopova and Chigaryova’s discussion of the sonata.

[22] The original 1971 text was eventually published in Shnitke (1990). The text was revised for publication in 1988 (as “The Polystylistic Tendencies of Contemporary Music”) and was reprinted in Shnitke (1994). An English translation appears as Schnittke (2002a); the translation is reliable, although see Schmelz (2009b, 303).

works, Schnittke uses the term idiosyncratically, referring instead to the imitation of an earlier historical style through newly composed music.[23] Schnittke's quotation is meant to evoke the sound world of an earlier time period without referring to a particular work. If the (Schnittkean) quotation is convincing enough, then it may sound like a (borrowed) quotation from some unknown work.

Several commentators have noted that the stylistic quotations in the Violin Sonata No. 2 evoke the lush romanticism of Brahms, Liszt, and Franck.[24] Valentina Kholopova specifically identifies the quotation in Example 1.5 as being written in the style of Brahms.[25] This may indeed have been Schnittke's intention, given that the violin line in mm. 257–58 spells out Brahms's name using pitch ciphers: B (B-flat), A, H (B-natural), S (E-flat, spelled enharmonically as D-sharp), or BrAHmS (the unused letters R and M do not correspond to German pitch names).[26] This is not the only monogram in the example. The *fortissisimo* dissonances of mm. 259 and 262 use the pitches of Bach's monogram: B (B-flat), A, C, H (B-natural).[27]

The Brahms stylization is internally tonal, as the Roman numerals in Example 1.5 show, but the context in which it appears is not. In collage compositions such as the Violin Sonata No. 2, triads are used for their referential quality, their ability to signify the sound of earlier styles.

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[23] Valentina Kholopova refers to this as a "quotation of styles." See Kholopova (2002, 42).

[24] Kholopova and Chigaryova (1990, 57–58); Kholopova (2002); Lubotsky (2002, 255).

[25] Kholopova (2002, 42–43).

[26] Schnittke himself has acknowledged the Brahms monogram. See Shnitke and Shul'gin (1993, 52).

[27] Schnittke's works contain dozens of newly constructed monograms (such as BrAHmS) and numerous instances of BACH. See Segall (2013).

They do not provide harmonic structure (as with Examples 1.1 through 1.3), nor are they treated as objects to be manipulated through voice leading (as with Example 1.4). Rather, they fall outside the tonal–atonal spectrum completely, serving the alternative purpose of association.[28]

This dissertation focuses primarily on three of the triadic practices described here: tonal contrapuntal practice (Example 1.1), the use of the common third relation (Example 1.3), and Schnittke's atonal triadic practice (Example 1.4). Brief comments on the two remaining practices, concerning Scriabin's altered, extended sonorities (Example 1.2) and Schnittke's polystylism (Example 1.5), can be found in the penultimate chapter. Triads appear in a number of different contexts in twentieth-century Russian music. This dissertation invokes Russian theory to testify to these different practices, providing fresh perspectives on a repertoire that has fascinated English-speaking analysts for decades.

[28] Section 5.2 below takes up the topic of Schnittke's polystylism in further detail.

Chapter Two

An Introduction to Taneyevan Counterpoint with Application to Tonal Contrapuntal Analysis

Twentieth-century Russian composers of tonal music were drawn to counterpoint. Several wrote collections of (preludes and) fugues, most notably Shostakovich, Kabalevsky, and Shchedrin. Just as these composers were interested in updating tonal harmonic practice for the modern era, so were they interested in updating tonal contrapuntal practice. Fugal writing was a creative application of the counterpoint they studied in school.

Sergey Ivanovich Taneyev looms large over Russian conservatory counterpoint training. As a composer, Taneyev was fascinated by counterpoint, experimenting with such tricks as writing music that could be played right side up or upside down.[1] As a theorist, Taneyev produced a treatise that comprehensively covers invertible and canonic counterpoint at any interval. Studying Taneyev, one does not have to learn separately rules for invertible counterpoint at the octave, tenth, twelfth, and so on. He generalizes the rules of invertible counterpoint so that the restrictions on shifts (as he calls them) at any interval can quickly be determined. The method both reveals the underlying foundations of contrapuntal practice and highlights with subtlety the utility of various less common shifts.

Although he designed his method for the study of sixteenth-century counterpoint, Taneyev notes throughout his book that many of the less common shifts can be found among works of later centuries, pointing for instance to an example of invertible counterpoint at the seventh in Beethoven. Taneyev believed that the contrapuntal principles of Renaissance

[1] One thinks of related tricks in classical music, such as Haydn's palindromic Menuet *al Rovescio* (found in both the Keyboard Sonata in A Major, Hob. XVI:26 and the Symphony No. 47 in G Major), which is repeated backward, or the retrograde-invertible canons of Bach's *Musical Offering*, with clefs printed upside-down and backward.

polyphony were foundational for subsequent tonal contrapuntal practice, and that they remained so even as that practice evolved. This chapter demonstrates how twentieth-century Russian triadicism, seen through the lens of counterpoint, builds on but differs from earlier triadic practices. Because Taneyev's treatise is well known among but little studied by English-speaking theorists, a direct result of the errors of translation and typography pervasive in the published English-language edition, this chapter begins with a detailed exegesis of the treatise, exploring its contribution to contrapuntal theory.

Movable Counterpoint in the Strict Style (1909)[2] presents a systematic, comprehensive approach to writing contrapuntal combinations whose voices can be shifted higher or lower in pitch, or forward or backward in time.[3] Taneyev offers an algebraic method of working with "vertical-shifting" and "horizontal-shifting" counterpoint that improves upon prior models of counterpoint instruction by offering consistent sets of rules that reveal nuances missed by other theorists. The treatise deals primarily with sixteenth-century counterpoint, adducing numerous examples from Palestrina and other composers.[4] Following Taneyev, however, who asserts the

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[2] The published English translation uses an alternative transliteration of Taneyev's name, crediting the volume to Serge Ivanovitch Taneiev. References to the English edition will be to Taneiev 1962; references to the Russian original will be to Taneyev 1909.

[3] In the English translation, the title is given as *Convertible Counterpoint in the Strict Style*, perhaps to emphasize the relation to "invertible counterpoint," which is a type of movable counterpoint. The Russian word *podvizhnoy* ("movable"), also translated as "shifting" within the text, could be rendered, to use a word in vogue among modern-day music theorists, as "transformational." (The transformational possibilities of movable counterpoint will not be pursued here, however.)

[4] Thus, in the introduction to the English edition, the endorsement of Serge Koussevitzky, who claims that "Taneiev's *Counterpoint* was an invaluable asset on innumerable occasions in working out interpretations of orchestral scores—especially those of Bach, Handel and Brahms," seems disingenuous, all the more so given the compositional orientation of the treatise (Taneiev 1962, 7).

relevance of his method to the tonal composition of later centuries, I will demonstrate its utility in analyzing triadic music that contains contrapuntal passages.

The details of Taneyev's work are not well known among English-speaking scholars, owing in no small part to a nearly unreadable translation by G. Ackley Brower, completed in 1932, that preserves the sentence structure of the original Russian while adding copious errors, particularly among the numerous mathematical formulas that pervade the book.[5] The secondary English-language literature is no more reliable. Discussions by Jacob Weinberg and Ellon D. Carpenter refer only to examples found in the introduction to Taneyev's volume. By ignoring the body of the text, they cannot fully assess the book's methodology, scope, or utility.[6]

The aim of this chapter is twofold. First, I intend to reintroduce Taneyev's method to English-speaking audiences, a method that allows one to quickly calculate the conditions and restrictions on contrapuntal combinations involving any vertical or horizontal shift. Having consulted the original Russian edition, I will attempt to navigate the errors of the English translation and present the details of Taneyev's ideas in a clear fashion. (Interested readers will hopefully be able to navigate the treatise themselves with the aid of my exegesis.) Second, I will demonstrate that Taneyev's ideas can be profitably used in the analysis of tonal contrapuntal music. This is an implicit point within the treatise itself, which occasionally applies its concepts to post-Renaissance music—with varying degrees of success, as I will show. My own original analyses apply and extend Taneyev's method to two Russian compositions, illustrating the extent to which strict-style techniques inform triadic counterpoint in the free style.

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[5] For more on the unreliability of Brower's translation, see section 2.5.

[6] Weinberg (1958); Carpenter (1983a). See also Randall (1964), a "review" of the English translation in the form of a collage, which mashes together quotations from a variety of sources in such a way as to suggest that Taneyev's pre-Revolution treatise cannot but be read in the context of Cold War Soviet propaganda.

2.1. Vertical-Shifting Counterpoint

Taneyev's method generalizes the rules of invertible counterpoint for any interval. This is not how Taneyev himself characterizes it. Taneyev is concerned more broadly with "vertical-shifting" counterpoint.[7] Given a passage of good two-voice counterpoint, his method seeks the conditions under which one voice or both voices may be diatonically transposed up or down such that the resultant combination also contains good counterpoint. If the voices are shifted so that the upper voice becomes the lower voice, then the shift corresponds to invertible counterpoint. Other options are possible. The two voices may come closer together or move farther apart without swapping relative registral positions. These are all cases of vertical-shifting counterpoint.

Taneyev works out his problems mathematically, and much of the book devotes itself to demonstrating and proving various rules. Although Taneyev provides tables summarizing the rules for vertical shifts at every interval, the book is detailed enough to allow readers to generate the tables on their own. The conditions for every shift are not merely provided, but also thoroughly explained.

In order for mathematical calculations to work out, Taneyev assigns the number 0 to the interval of a unison. Seconds are interval 1, and so forth. This has arithmetical advantages. In traditional nomenclature, a third plus a third yields a fifth, but this is not expressible by 3 + 3 = 5. In Taneyev's system, this is 2 + 2 = 4. Negative intervals indicate voice crossings, where the upper voice takes a pitch lower than that of the lower voice. Thus for instance –4 represents a fifth produced through voice crossing.[8]

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[7] Taneyev's term *vertikalno-podvizhnoy* ("vertical-shifting") incorporates the term *podvizhnoy* ("movable" or "shifting") found in the treatise's title.

[8] Taneyev (1909, 13–15); Taneiev (1962, 25–27).

In an original combination, the upper voice is symbolized by I, the lower voice II. The formula I + II refers to this original combination. When one voice shifts, or when both voices shift, a derivative combination is produced.[9] In a derivative combination, Taneyev measures the interval by which each voice shifts, with the symbol *v* standing for the vertical shift.[10] Positive values for *v* indicate that the voices are moving away from one another. This corresponds to an upward shift for voice I or a downward shift for voice II. Negative values express the opposite.[11] To take some examples, the derivative combination $\mathrm{I}^{v=1} + \mathrm{II}^{v=6}$ means that the upper voice has shifted up a second and the lower voice down a seventh, whereas $\mathrm{I}^{v=-2} + \mathrm{II}^{v=-7}$ means that the upper voice has shifted down a third while the lower voice has shifted up an octave.

If, in a derivative combination, voice I remains higher than voice II, the shift is direct. By contrast, in inverse shifts, which correspond to invertible counterpoint, voice I goes below voice II. Taneyev uses symbols for the direct shift and inverse shift (Figure 2.1).[12]

The index value of vertical-shifting counterpoint is given by *Jv*, which is the sum of the *v* values.[13] With $\mathrm{I}^{v=-2} + \mathrm{II}^{v=-7}$, the index is $Jv = -9$, or invertible counterpoint at the tenth. Various combinations of shifts can produce the same index, for instance $\mathrm{I} + \mathrm{II}^{v=-9}$, $\mathrm{I}^{v=-9} + \mathrm{II}$, $\mathrm{I}^{v=-5} + \mathrm{II}^{v=-4}$, and so on. This corresponds to the fact that, in this case, invertible counterpoint at the tenth can be actualized by moving the upper voice down a third and the lower voice up an octave, or only the lower voice up a tenth, or only the upper voice down a tenth, and so on. The resultant series

[9] "Original combination" and "derivative combination" are Brower's translations of Taneyev's terms *pervonachaloye soyedineniye* and *proizvodnoye soyedineniye* respectively.

[10] Taneyev (1909, 23); Taneiev (1962, 34).

[11] Taneyev (1909, 16–17); Taneiev (1962, 28).

[12] Taneyev (1909, 24–26); Taneiev (1962, 34–36).

[13] Taneyev (1909, 26–27); Taneiev (1962, 36–37). The plural of *Jv* is given as *JJv*.

of intervals between the voices will always be the same, although the voices will be at different pitch levels.

With certain direct shifts, the voices move farther apart from one another, as with $Jv = 4$.[14] It seems that Taneyev's exploration of such shifts is a byproduct of having generalized the conditions for invertible counterpoint in particular, although Taneyev is not explicit on this point. He does mention that $Jv = 0$, or simple counterpoint, can be thought of as a special case of the vertical shift.[15]

In examining the conditions for shifting contrapuntal combinations, Taneyev begins by reviewing the rules of simple counterpoint.[16] These rules constitute a basic set of limitations or prohibitions to which further limitations may be added, depending on the specific context.

A few of these rules are worth repeating here, even though they are well known. Similar motion to a perfect consonance, which includes parallel motion, is forbidden. Contrary motion between a perfect consonance and its compound, as between a fifth and a twelfth, is similarly forbidden. Taneyev forbids strong-beat unisons.

With respect to dissonances, Taneyev clarifies that passing and neighboring tones may occur on weak beats only, although in 2/2 time passing tones may also occur on the third quarter.[17] Suspensions must occur on (relatively) strong beats and resolve down by step.

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[14] Index values such as $Jv = -1$, while negative, are unlikely to involve voice crossing and are still considered to involve direct shifts (Taneyev 1909, 34; Taneiev 1962, 42).

[15] Taneyev (1909, 31); Taneiev (1962, 40).

[16] Taneyev (1909, 47–61); Taneiev (1962, 53–65).

[17] Taneyev (1909, 51–54); Taneiev (1962, 57–59). Taneyev refers to 4/4 time, although this did not exist in the Renaissance. His example illustrating his point shows a cut time signature, implying 2/2 with quarter-note subdivisions. Brower corrects the text to 2/2 but misunderstands the point; see section 2.5.

Sometimes the resolution occurs in the upper voice, sometimes the lower. When the interval of suspension is a second, the lower voice must resolve down by step to form a third; the suspension may not resolve to a unison. With ninths, on the other hand, either the upper or lower voice may resolve (to an octave or a tenth respectively). Sevenths may resolve to sixths but not octaves, which means that the upper voice must move down by step, never the lower. Suspended fourths may resolve to fifths or thirds.

Taneyev's method involves an efficient technique for determining the conditions under which each interval may be used contrapuntally such that vertical shifting at any given *Jv* may be effected. The first important component of this method lies in the use of his "suspension symbols" ("tie-signs" in the English translation) that indicate how dissonances can be treated correctly as suspensions.[18] The suspension symbol is notated as a short horizontal line. Placed above an interval number, the symbol indicates that voice I can resolve down by step. Placed below, the symbol indicates that voice II can resolve down by step. The symbol placed in parentheses, (–), means that the corresponding voice cannot resolve a suspension. Taneyev provides a table that summarizes these conditions (Figure 2.1.2).[19]

Interval 1 takes the sign (–) above because with this interval, the second, as a suspension, the upper voice cannot resolve down by step, for that would form a unison. The lower voice may resolve down by step to a third, and so interval 1 takes the sign – below. The situation is reversed with interval –1, which indicates a second in which voice I is below voice II. In this case, as

[18] Taneyev's term for "suspension symbol" is *znak svyazki*.

[19] The English translation transmits an error from the original Russian edition, which, however, was correctly identified in the errata to the Russian edition. Interval –6 appears in the English translation with the sign – above and (–) below (Taneyev 1909, 62; Taneiev 1962, 66).

voice I is the lower voice and must therefore resolve the suspension, the sign – appears above the interval number.

The conditions represented in the table apply to all combinations of two-voice counterpoint. If a particular vertical shift is desired, then additional conditions are added to these.[20] For instance, at $Jv = 1$, a sixth in the original combination will become a seventh in the derivative. In order for the derivative seventh to be used properly, the same restrictions on the use of the seventh (interval 6) must also apply to the sixth (interval 5) in the original combination. Interval 5 adopts the symbols used for interval 6: – above and (–) below. In the original combination, interval 5 must therefore be treated as though it were a dissonance, as it will yield dissonant sevenths in the derivative. According to the symbol – above, interval 5 may form a suspension, with voice I resolving down by step. This produces a suspended sixth resolving to a fifth. In the derivative, this becomes a suspended seventh resolving to a sixth.

To take another example, at the index value $Jv = -4$, a seventh (interval 6) in the original combination becomes a third (interval 2) in the derivative. In the original combination, the upper voice of a suspended seventh resolves down by step, forming a sixth. In the derivative, this produces a third "resolving" to a second, a dissonance. This pattern will work out in both original and derivative if the note corresponding to the resolution is itself treated as a passing tone or neighbor note. Taneyev uses the symbol –× to indicate a suspension whose resolution corresponds to a dissonant note. At $Jv = -4$, interval 6 takes the symbol –× above. Example 2.1.1 illustrates this configuration.[21] The example shows the derivative combination in question.

[20] Taneyev (1909, 63); Taneiev (1962, 67).

[21] The example appears within §92 in the original Russian edition, but has been omitted from the English translation—accidentally, it seems, as an empty line in the text is introduced by a colon (Taneyev 1909, 64; Taneiev 1962, 67).

Taneyev does not provide the original combination, which can be imagined by moving the lower voice down a fifth to D–C (Example 2.1.2). In the original combination, the note of resolution, B, would be treated as though it were a neighbor note, even though it would form a consonant sixth with voice II. As soon as it is articulated, it returns to C, which in turn would function as a passing tone to D. In the derivative combination shown in Example 2.1.1, B functions as a dissonant neighbor note.

Taneyev outlines the procedure for determining the restrictions for any given *Jv*. This involves writing out a list of all the intervals that may be used in the original combination and comparing them with the corresponding intervals under transformation by the appropriate *Jv*. Taneyev draws attention to the different transformational possibilities involving consonances and dissonances. Consonances that remain consonances and dissonances that remain dissonances are termed *fixed* intervals. Consonances that are transformed into dissonances and dissonances that are transformed into consonances are *variable* intervals.[22]

To determine which intervals in an original combination correspond to which other intervals in a derivative combination, one writes out two rows of numbers and inspects the results. Taneyev follows this procedure in the text for the purposes of demonstration, but he advises his readers to take a more efficient approach: "To compare original and derivative intervals, one should use the movable table and not waste time copying out numbers."[23] The Russian edition comes with a "slide rule" that can be moved back and forth to align two rows of interval numbers (Plates 2.1 and 2.2). Both the slide rule and Taneyev's remark recommending

[22] Taneyev (1909, 65); Taneiev (1962, 70). "Fixed" and "variable" are Brower's translations of Taneyev's *ustoychiviÿ* and *neustoychiviÿ*. These terms could also have been translated as "stable" and "unstable."

[23] Taneyev (1909, 66).

its use are omitted from the English edition.[24] As will be explained below, the suspension and other symbols reproduced on the slide rule make it a rather useful tool for quickly generating the conditions for a given *Jv*.

Taneyev discusses fixed and variable intervals in turn. Looking first at fixed consonances, Taneyev demonstrates that every *Jv* contains at least one fixed consonance. At *Jv* = –9, all the consonances are fixed (Figure 2.3). For *JJv* whose index values correspond to intervals that can be perfect but not major or minor—Taneyev refers to these index values as the ^{1}JJv—perfect fixed consonances remain perfect and imperfect fixed consonances remain imperfect. For those *JJv* corresponding to intervals that can be major or minor but not perfect—these Taneyev refers to as the ^{2}JJv—perfect fixed consonances yield imperfect consonances and vice versa.[25] As a result, with a ^{2}Jv, similar motion to any consonance, perfect or imperfect, is prohibited, and therefore similar motion is ruled out altogether.[26]

For fixed dissonances, any restrictions that apply to the derivative dissonance must be transferred to the corresponding original dissonance in order for the counterpoint to work out in both combinations. Stricter limitations overrule those that are less strict. For instance, at *Jv* = 5, interval 1 in the original becomes interval 6 in the derivative. According to Figure 2.2, interval 1 normally takes the suspension symbol – below. However, the (–) below interval 6 expresses a stronger restriction, and this restriction must be adopted by interval 1 in the original combination.

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[24] Gerald Abraham (1966) also laments the absence of the slide rule from the English edition.

[25] There is one exception to this generalization. At *Jv* = –8, fifths (interval 4) are transformed into new fifths (interval –4). This does not hold for compound fifths (interval 11 becomes 3). Taneyev 1909, 66; Taneiev 1962, 71.

[26] Taneyev (1909, 65–68); Taneiev (1962, 70–72).

At *Jv* = 5, interval 1 takes the sign (–) both above and below. It cannot be used as a suspension—only as a passing tone or neighbor note.[27]

The slide rule indicates all suspension symbols mandated by simple counterpoint. Taneyev therefore advises readers to use the slide rule to determine restrictions on dissonances.[28] One slides its two rows of interval numbers into alignment at a particular *Jv*. Where two dissonant values align, as with 1 and 6 at *Jv* = 5, one need compare the corresponding symbols above each value to determine the resultant symbol to be placed above the interval number. Similarly, one compares corresponding symbols below each value to determine the resultant symbol below the interval.

Taneyev demonstrates this with *Jv* = –9 (see again Figure 2.3).[29] The fixed dissonances combine suspension symbols of original and corresponding derivative dissonances. In this case, the symbols for intervals 1 and 6 remain the same as in simple counterpoint, since the conditions governing the use of their corresponding derivative intervals are less limiting. By contrast, intervals 3 and 8 are subject to new restrictions in the original combination, so that intervals –6 and –1 will be used properly in the derivative.

Taneyev illustrates the compositional implications of these signs with an original passage in invertible counterpoint at the tenth (Example 2.1.3). In this passage, all four permissible dissonant suspensions are used.

Variable consonances become dissonances in the derivative. These consonances must be used according to the restrictions on the corresponding dissonance. In nearly all cases,

[27] Taneyev (1909, 81–83); Taneiev (1962, 84–85).

[28] Taneyev (1909, 84).

[29] Taneyev (1909, 83–84); Taneiev (1962, 85–86).

consonances used in the manner of suspensions will lead to dissonant intervals. The single exception is found when sixths resolve to fifths or vice versa. Fifths and sixths are the only pair of consonant intervals adjacent in size.[30]

When comparing a variable consonance to its derivative dissonance, one must nearly always add × to the suspension symbol –, since, when used as suspensions, most consonances "resolve" to dissonant intervals. To account for the single exception governing fifths and sixths (interval numbers 4 and 5), Taneyev introduces a further symbol, a dotted line placed below interval 4 and above interval 5. The dotted line below interval 4 accounts for a lower-voice motion down by step that transforms a fifth into a sixth; the dotted line above interval 5 accounts for the upper-voice motion that transforms a sixth into a fifth. (The dotted line is also placed above interval –4 and below interval –5.) One uses the dotted line when comparing restrictions on original and derivative intervals. It indicates that one need not add the symbol × to the suspension sign –, since the note corresponding to the resolution will be consonant against the other voice.

Taneyev's examples are instructive. In the equations reproduced in Figure 2.4, *m* refers to an interval of the original combination and *n* refers to the corresponding derivative interval. Every *m* is a variable consonance, since it is transformed into a dissonant *n* at the given index value. Where the symbol – appears on *n*, one of two things happens. In most cases *m* adopts the symbol – but adds ×, since most consonances used as suspensions will lead to dissonant intervals when one voice moves down by step. The dotted line accounts for the only exception, governing cases where sixths move to fifths or vice versa. Therefore when the symbol – corresponds to the

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[30] Taneyev (1909, 89–91); Taneiev (1962, 90–91).

dotted line on m, the symbol × is not added. The suspended consonance will not lead to a dissonance.

Example 2.1.4 provides musical realizations of the situations described by Figure 2.4. At $Jv = -11$, a sixth (interval 5) becomes a dissonant seventh (interval 6). The symbol –× below 5 indicates that a sixth can be used as a lower-voice suspension in the original combination, but that the note corresponding to the resolution will actually be dissonant. In the realization this note is a passing tone that proceeds to an octave, a fixed consonance (7 becomes –4). The derivative suspended seventh resolves to a consonant sixth, which continues to a perfect fifth. At $Jv = 1$, a sixth is once again transformed into a seventh. In this case the symbol – appears above 5, without the symbol ×. As shown in the realization, the upper-voice suspended sixth moves down by step to a consonant fifth. The dotted line above $m = 5$ accounts for the stepwise motion between the two consonances. In the derivative this produces a suspended seventh resolving to a sixth. Example 2.1.4 also displays realizations of the third and fourth equations in Figure 2.4, demonstrating that the symbol × corresponds to dissonant intervals in the original or derivative, or both.

A similar process inheres in the treatment of variable dissonances. The symbol × must always be added to –, except where the corresponding symbol is the dotted line. Taneyev further identifies perfect consonances with a small p placed above the interval. The symbol p transfers to the variable dissonance, indicating that it must be treated according to the rules governing perfect consonances—for instance, similar motion to it is not allowed. Once again, Taneyev illustrates his method of generating restrictions with several sample equations, some of which are reproduced in Figure 2.5. Each m in Figure 2.5 is a variable dissonance that corresponds to a consonant n in the derivative.

Example 2.1.5 depicts various implications of the second equation. At *Jv* = –10, a fourth (interval 3) is transformed into an octave (interval 7). The symbol –× appears above 3. In the original combination, a suspended fourth in the upper voice resolves to a third that must be treated as a dissonance, since in the derivative this becomes an octave leading to a dissonant ninth. The symbol –× also appears below 3. A suspended fourth in the lower voice resolves to a fifth, but this fifth corresponds to a dissonant seventh in the derivative and must be treated according to the sign ×. Finally interval 3 adopts the symbol *p* from interval 7, indicating that it may not be approached in similar or parallel motion. Example 2.1.5 illustrates the parallel octaves produced in the derivative from fourths on successive beats in the original.

By this point, Taneyev has explained all of the rules that will allow readers to generate the complete set of restrictions for any *Jv*. One can use the slide rule to align two rows of intervals, compare corresponding signs, and determine the appropriate restrictions.

With the inverse shift, Taneyev notes a shortcut for generating the complete set of restrictions. Intervals equidistant from half the value of the *Jv* have the same suspension symbols in the opposite order. This is true for both even and odd *JJv*. As an example, Taneyev considers *Jv* = –8; 4 is half of 8. Intervals the same distance from 4—such as 3 and 5, or 2 and 6—have the same suspension symbols in the reverse order—the upper symbol of one is equivalent to the lower of the other (Figure 2.6). Therefore, in order to determine all the restrictions of a given *Jv*, one need only consider half of the intervals.[31]

Intervals 5 and 6 are the same distance from half of 11. At *Jv* = –11, interval 5 has the symbol (–) above and –× below, whereas interval 6 has the symbol –× above and (–) below. Taneyev remarks that Zarlino is somewhat more strict in his discussion of invertible counterpoint

[31] Taneyev (1909, 98–100); Taneiev (1962, 97–100).

at the twelfth, prohibiting the use of sixths (interval 5) and sevenths (interval 7) altogether.[32] Taneyev believes that his approach offers more nuance, demonstrating that there are indeed conditions under which sixths and sevenths can be used as suspensions in invertible counterpoint at the twelfth.

Taneyev, in an appendix to the section dealing with two-voice vertical-shifting counterpoint, offers sample passages written at every index value.[33] The example for $Jv = -11$, the first few measures of which are reproduced as Example 2.1.6, contains instances of sixths and sevenths used as suspensions. In each case, the note corresponding to the resolution is treated as a passing tone, a usage reflected in the symbol –×.

Having concluded his discussion of generating conditions for every index value, Taneyev addresses an important set of contrapuntal techniques: complex forms of resolutions (or ornamental resolutions) to suspensions.[34] Taneyev interprets such techniques according to the mechanics of his method. The free note in a suspension, the pitch that does not resolve down by step, may progress to a new note at the moment of resolution (Example 2.1.7a).[35] The voice containing the suspended pitch may leap to an interpolated note consonant with the free note before sounding the pitch of resolution. In this case, the intermediate note must form a fixed consonance (Example 2.1.7b). Alternatively, if the suspension is governed by the symbol –×, the

[32] Taneyev (1909, 99); Taneiev (1962, 99).

[33] Taneyev (1909, 367–91); Taneiev (1962, 303–27).

[34] Taneyev uses the word *slozhnïy* (“complex”), which Brower interprets to mean “ornamental.”

[35] This rule was first formulated in 1589 by Giovanni Maria Artusi, who referred to the suspended note as the *patiente* and the free note as the *agente*. Artusi stated that whereas the *patiente* must resolve by descending step, the *agente* is free to progress to a new note at the moment of resolution. By contrast Zarlino had required the free note to remain in place. See Palisca (1994, 54–87).

suspending voice may leap a third and change direction, forming a passing tone that corresponds to the resolution (Example 2.1.7c). The note corresponding to the resolution can also function as the free note of a new suspension (Example 2.1.7d).[36]

Taneyev discusses the cambiata.[37] Although the cambiata is typically understood to be followed by a downward skip of a third and an upward step, Taneyev adduces examples from Josquin where the skipped pitch is not returned to. In general, Taneyev notes that the interval immediately following the cambiata pitch should be a fixed consonance. Taneyev further notes, in a side remark, that cambiatas in an *ascending* direction can be found in some works by Russian composers, for instance in the main theme of Chaikovsky's Piano Concerto No. 1 (Example 2.1.8).[38]

Taneyev summarizes the different ways that the resolution to the suspension governed by the symbol –× may be treated.[39] The symbol × may indicate a passing tone or neighbor note. It may, instead, take a fixed consonance if the other voice changes pitch at the moment of resolution. It may function as the free note of a new suspension. It may, finally, represent a cambiata pitch.

If one wishes to write counterpoint that can be shifted at multiple index values, one combines the restrictions for those various index values in order to determine the limitations on the original counterpoint. (Taneyev notes that if one combines a ${}^{1}Jv$ with a ${}^{2}Jv$, the result will be

[36] Taneyev (1909, 107–10); Taneiev (1962, 105–7).

[37] Taneyev (1909, 110–12); Taneiev (1962, 108–10).

[38] Taneyev (1909, 112). Brower confusingly omits "in an ascending direction" (Taneiev 1962, 109).

[39] Taneyev (1909, 113); Taneiev (1962, 110).

a ^{2}Jv and thus will not admit similar motion.[40]) Rather than having readers write out all the intervals for each index, Taneyev directs readers' attention to the General Table of Indices found at the back of the book (Plate 2.3).[41] The row corresponding to $Jv = 0$ provides all the restrictions for simple counterpoint. The other rows, which list JJv between –13 and 6, show those modifications that are necessary to change the restrictions for simple counterpoint into those for the given index. Blank squares indicate interval numbers that may be treated the same as at $Jv = 0$; the remaining squares show restrictions on interval numbers that differ from those at $Jv = 0$. The table therefore summarizes all of the restrictions for every index value.[42]

When comparing restrictions for two different index values, one need only consider those restrictions that differ from those of simple counterpoint. The General Table of Indices provides an efficient way to accomplish this. If one wishes to write counterpoint invertible at both the octave and the twelfth, one would need to compare restrictions for $^{1}Jv = -7$ and $^{1}Jv = -11$. The table shows restrictions on interval numbers 3 and 4 at $Jv = -7$ and interval numbers 3, 5, and 6 at $Jv = -11$ (Figure 2.7). Counterpoint invertible at both index values must adhere to all restrictions. The symbol –× appears below interval 3 at $Jv = -7$, indicating that the interval can

40 Taneyev (1909, 123); Taneiev (1962, 115).

41 Brower, incredibly, directs the reader to consult the General Table of Indices even though this table is not reproduced in the English translation (Taneiev 1962, 116).

42 Some other features of the table are worth noting. The interval numbers in squares around the upper and right-hand sides of the table are listed as "intervals of the derivative combination." If one follows the diagonal line leading down and to the left from each square, one encounters the interval of the original combination that produces the given derivative interval (in the initial square) at the given Jv. For instance, reading diagonally down from derivative interval 2, one sees that this interval is produced from original interval 8 at $Jv = -6$, from original interval 7 at $Jv = -5$, and so on. The restrictions on these original intervals are also shown. The series of darkly bordered boxes on the diagonal with interval 0 indicate those values which, in the original combination, may not be used on strong beats, as they correspond to unisons in the derivative. This rule was stated in Chapter 5 (Taneyev 1909, 68; Taneiev 1962, 72).

be used as a suspension, but the note corresponding to its resolution must be treated as if dissonant. This is more restrictive than the – below interval 3 at $Jv = -11$, and so –× appears below interval 3 in the row of combined conditions in the figure.

The resultant conditions will allow the counterpoint to be inverted at both the octave and the twelfth. Taneyev offers an illustration that contains suspensions involving all four restricted interval values (Example 2.1.9).

Taneyev remarks that his mathematically based system offers a vast improvement over the case-by-case approach of other writers. In particular, he singles out J. E. Habert, in whose 260-page *Die Lehre von dem doppelten und mehrfachen Kontrapunkt* (1899) 135 pages are spent detailing the conditions for forty-six different combinations of "double counterpoint."[43] Taneyev's system allows the rules for combining different index values to be readily generated.

In two-voice counterpoint, there are two possibilities for the relative disposition of the voices in the derivative. The shift will either be direct or inverse.[44] When dealing with three-voice counterpoint, there are six possibilities (Figure 2.8).

For the most part, in order for three-voice vertical-shifting counterpoint to work out, the counterpoint must be able to be shifted for any of the three two-voice pairs. In the original combination, voice I is the highest voice, voice II the middle, and voice III the lowest. Voice I shifts up with a positive value for v; voice III shifts down. Voice II shifts down relative to voice I and up relative to voice III and is thus given two values for v. With $v = \pm 2$, voice II shifts down a third. With $v = \mp 2$, voice II shifts up a third. In both cases, the upper sign (+ or –) corresponds to

[43] Taneyev (1909, 129); Taneyev's quotation marks. In Brower's translation, Habert lists fifty-six combinations taking up 155 pages (Taneiev 1962, 120).

[44] Taneyev does acknowledge the possibility of a mixed shift, in which the voices cross back and forth over one another. At any given moment within such a setting, however, the shift is either direct or inverse.

the combination I + II, while the lower sign corresponds to II + III. The index corresponding to I + II is symbolized Jv', that corresponding to II + III is symbolized Jv'', and that corresponding to I + III is symbolized $Jv\Sigma$. The value of $Jv\Sigma$ will always be equal to $Jv' + Jv''$. As an example, if voice I shifts down an eleventh ($v = -10$), voice II shifts down a sixth ($v = \pm 5$), and voice III shifts down a third ($v = 3$), the index values would be $Jv' = -5$, $Jv'' = -2$, and $Jv\Sigma = -7$.[45]

A few new rules suggest themselves in three-voice counterpoint. These concern the use of fourths and ninths. In two-part counterpoint, the fourth is considered a dissonance. In multi-voice textures, however, fourths can be used as consonances when they do not involve the bass. Because such fourths may proceed in parallel motion, they are treated as imperfect consonances. Taneyev adds two rules governing the treatment of fourths. In the first rule, fourths can be used between voices I and II in the original combination if they yield consonances in the derivative. In this case, intervals 3 and 10 are released from their restrictions in Jv', and intervals that lead to 3 and 10 do not require the symbol ×. If the fourths generate perfect consonances in the derivative, then intervals 3 and 10 acquire the symbol *p*. An additional component of this rule is that for index values $JJv = 0, -6$, and -13, in which original fourths yield derivative fourths, intervals 3 and 10 may be treated as consonances so long as voices I and II remain the two upper voices in the derivative. This situation arises with either of the first two diagrams of Figure 2.8.[46]

By the second rule, consonances yielding fourths between the upper two voices of the derivative can be treated as fixed consonances. Depending on which of the six diagrams from

[45] Taneyev (1909, 175–77); Taneiev (1962, 159–60).

[46] Taneyev (1909, 182–85); Taneiev (1962, 164–67).

Figure 2.8 is used, a different pair of original voices may adopt this exception. Suspensions resolving to this fixed consonance do not require the symbol ×.[47]

Taneyev allows ninths formed against the bass to resolve to octaves, but not ninths formed against an inner voice. Therefore, the first of his two rules concerning the treatment of ninths states simply that the index governing the two upper voices, Jv', must always place suspension symbol (–) above interval 8, indicating that the uppermost voice may not contain a suspension at this interval. The second rule requires that the index governing the two upper voices of the derivative must place the symbol (–) above or below (in the case of invertible counterpoint) whichever interval generates 8 or –8 in the derivative.[48]

Taneyev understands *triple counterpoint* to refer specifically to combinations that permit any pair of voices to be inverted by some constant interval, according to all six possibilities in Figure 2.8. Contrary to what is stated in the translator's preface, Taneyev demonstrates that by this definition only triple counterpoint at the octave is possible, where $Jv' = -7$, $Jv'' = -7$, and $Jv\Sigma = -14$.[49] If one is willing to forgo the possibility of producing derivatives according to *all six* diagrams, then the potential for creating original combinations that can generate derivatives at different sets of index values arises.[50]

[47] Taneyev (1909, 185–87); Taneiev (1962, 167–68).

[48] Taneyev (1909, 180–81); Taneiev (1962, 163–64).

[49] Brower writes that no prior text "deals with triple counterpoint at any interval other than the octave, and one of them (Jadassohn) definitely states that such a thing is impossible. Taneiev shows how it is done" (Taneiev 1962, 10). Taneyev demonstrates that the mathematical demands of triple counterpoint at other intervals make successful writing so extremely difficult that the problem is not worth pursuing. He concludes that "triple counterpoint at the octave is a case unique of its kind" (Taneyev 1909, 208; Taneiev 1962, 185).

[50] Taneyev (1909, 213–21); Taneiev (1962, 190–97).

2.2. Horizontal-Shifting Counterpoint

Taneyev's investigation of vertical-shifting counterpoint constitutes part of a larger project that deals with shifting voices relative to one another up and down in pitch, forward and backward in time, or both. Taneyev thus associates vertical shifting with horizontal shifting, the latter a generalized approach to what has sometimes been called counterpoint "with and without rests."[51] For both vertical and horizontal shifting, Taneyev offers a method for working out in advance the conditions under which movable counterpoint can be successfully composed, without resorting to trial and error. The nature of this method, however, differs greatly between the two kinds of shifts. With vertical shifting, Taneyev uses a mathematical approach that generates constraints on the use of different intervals. The method is comprehensive, as it can be applied to any index value. With horizontal shifting, under which harmonic intervals are not altered in a consistent way, he forgoes the mathematical approach, thereby dropping the focus on intervals. Rather, he propounds a particular compositional strategy that requires advance knowledge of the specific horizontal shifts to be used. The vertical method is more analytically useful, since one can use it to scan existing contrapuntal combinations for new potential index values by which the counterpoint can be shifted. Taneyev actually discourages doing this with the horizontal method, which is somewhat more ad hoc. Writing a contrapuntal combination first and looking for potential shifts second is a resolutely ineffective method for working out

[51] Taneyev's term for "horizontal-shifting" is *gorizontalno-podvizhnoy*. The addition or removal of rests at the beginning of a line causes that line to shift forward or backward in time. Taneyev notes that some prior writers have referred to horizontal-shifting counterpoint as counterpoint "with and without rests," but he reserves the term for the particular case of Franco-Flemish composer Pierre Moulu, who wrote a mass that can be performed with or without *any* of its rests longer than a minim, whether found at the beginning of a line or not (Taneyev 1909, 329–46; Taneiev 1962, 284–98).

horizontal shifts, and Taneyev expresses confidence that no composer would have approached the technique from such a perspective.[52]

In horizontal-shifting counterpoint, Taneyev labels the upper voice I and the lower voice II. In an original combination, voices I and II form correct counterpoint. In a derivative combination, one voice shifts forward or backward in time relative to the other. Taneyev illustrates this with an example from Palestrina (Example 2.2.1). In the original combination, voice I enters first. The derivative uses the same melodies at the same pitch levels, but now voice II enters first. One voice shifts relative to the other. If the shifting voice is voice I, it has moved two measures forward in time, respective to stationary voice II. Note that this can be conceived the other way around. Perhaps voice I is the stationary voice, and voice II has shifted two measures backward in time.

Taneyev uses the value h to measure temporal distances in horizontal shifts. This value tracks the number of measures by which a voice is shifted. It may involve fractions, as for instance when a voice is shifted by half a measure. With voice I, the upper voice, positive h values indicate shifts to the left, negative values to the right. With voice II, the situation is reversed: positive h values indicate shifts to the right. This is usefully schematized in Figure 2.9.

As with v values, h values act in opposite directions on voices I and II. As a consequence, the shift in Example 2.2.1 acquires the same index value whether we conceive voice I or voice II as doing the shifting. If voice I shifts two measures forward in time, we have $h = -2$ for voice I. If voice II shifts two measures backward in time, we have the same $h = -2$, now for voice II. In both cases, the index value, Jh, the sum of the hh for both voices, is -2.

[52] Taneyev (1909, 238–39, 258); Taneiev (1962, 210–11, 226).

If we regard the second system of Example 2.2.1 as the original combination and the first as the derivative, then negative h and Jh values become positive. Taking the second system as a basis, the first system involves either a leftward shift of voice I or a rightward shift of voice II, in both cases corresponding to $h = 2$ and consequently $Jh = 2$. The values of h and Jh are contingent upon a particular interpretation of the shifting and can therefore be expressed in various ways.

By a convention that has practical compositional benefits (as will be shown), Taneyev conceives of shifts as taking place in a rightward direction, or forward in time. The earlier entry of the shifting voice is called the *proposta*, symbolized *P*. The later entry is the *risposta*, symbolized *R*. The non-shifting voice is symbolized *Cp*, since it forms counterpoint against the shifting voice.[53] In Example 2.2.1, if we consider the first system the original combination and the second the derivative, then voice I is the shifting voice, since it moves to the right. In the original combination, voice I is the *proposta*: *P* I. In the derivative, voice I is the *risposta*, having shifted two measures to the right: $R\ \mathrm{I}^{h=-2}$. Note that if we consider the second system to be the original combination, then voice II is the shifting voice, since it is the voice that moves to the right. Here, the original combination (second system) would contain *P* II, while the derivative (first system) would contain $R\ \mathrm{II}^{h=2}$. In general, positive Jh values indicate shifts in voice II, while negative Jh values indicate shifts in voice I.[54]

The second system of Example 2.2.1 contains rests at the end, perhaps implying that voice II exits before voice I has completed its melody. Taneyev conceives of horizontal shifting as taking place within larger compositional contexts. In this larger context, voice II would likely continue in free counterpoint beneath the remainder of voice I's melody. If not, other voices

[53] Taneyev (1909, 234); Taneiev (1962, 208).

[54] Taneyev (1909, 253–55); Taneiev (1962, 222–24).

would be used to fill out the texture. In either case, horizontal shifting is seen to involve only fragments of complete vocal lines.[55]

Taneyev focuses on compositional strategies for writing counterpoint that can admit horizontal shifts. In particular, he offers two methods, both of which involve working out all eventual combinations simultaneously: $P + Cp$ and $R + Cp$. In the first method, P and R are written in canonic imitation before Cp is added. The entire texture is a three-voice combination, $P + R + Cp$. Taneyev calls this combination a "basic construction," or "basic version" in Brower's translation.[56] Example 2.2.2 shows the basic construction corresponding to Example 2.2.1. The three-voice setting is in fact what appears in Palestrina. Here, P and R combine with one another at a temporal interval of two measures. A third voice written in free counterpoint against the $P + R$ combination constitutes Cp. This single Cp enters one-and-a-half measures after P and one-half measure before R. The combinations $P + Cp$ and $R + Cp$, corresponding to Example 2.2.1, can be extracted from the basic construction, with the assurance that they will contain correct counterpoint.

The basic construction of Example 2.2.2 matches the $Jh = –2$ interpretation of Example 2.2.1, that is, the conception of the example's first system as the original and the second system as the derivative. The alternative interpretation ($Jh = 2$), where the second system is taken as the original and voice II is conceived as shifting, yields an alternative basic construction.[57] Example 2.2.3 shows this possibility. Here, the melody in voice I represents the non-shifting Cp. The melody in voice II is now imitated canonically as P and R. Horizontal shifting accrues between

[55] Taneyev (1909, 236); Taneiev (1962, 209).

[56] Taneyev (1909, 234–35); Taneiev (1962, 208). The original Russian term is *osnovnoye postroyeniye*.

[57] Taneyev (1909, 261–62); Taneiev (1962, 227).

the extracted two-voice combinations *P* + *Cp* and *R* + *Cp*. Note that Examples 2.2.2 and 2.2.3, although themselves different, produce the same pairs of two-voice combinations. These combinations correspond to Example 2.2.1.[58]

The basic construction provides a three-voice framework in which two-voice combinations—*P* + *Cp*, *R* + *Cp*—can be simultaneously worked out. The canonic imitation between *P* and *R* is incidental, as there is no requirement that the basic construction itself appear in the final composition. Because of this, it is not necessary that *P* and *R* actually form correct counterpoint with one another. Example 2.2.4 shows a basic construction in which *P* and *R* cannot combine with one another. Taneyev notates *R* as set apart from the *P* + *Cp* combination, referring to *R* as an "imaginary" voice and symbolizing it with a series of dots: *R*….[59] The compositional process is the same as with Example 2.2.2. One begins by writing the *P* and *R*… of the basic construction. One then adds a *Cp* that can form correct counterpoint with both. The addition of the imaginary *R*… to the basic construction is necessary to ensure that *Cp* can work against it.

As demonstrated here, Taneyev's first method involves a complete *P* imitated canonically with either a real *R*, with which it forms correct counterpoint, or an imaginary *R*…, with which it does not. One adds *Cp* to the real or imaginary canon so that *P* + *Cp* and *R* + *Cp* can be extracted from the resultant texture. Note that the shifted voice in Example 2.2.4, which uses an imaginary canon, contains a melody considerably simpler in length and rhythmic variety than does the shifted voice in Example 2.2.2, which uses a real canon. In general, Taneyev does not advocate

[58] The parallel unisons between *P* and *R* at their moment of overlap renders the alternative basic construction contrapuntally deficient. In general, there is no guarantee that any given basic construction will contain correct counterpoint, a possibility accounted for by Taneyev with his use of "imaginary" voices, as explained below.

[59] Taneyev (1909, 236–38); Taneiev (1962, 209–10).

the imaginary approach, whose dissonant *P*/*R*… combinations can render impossible proper dissonance treatment in *Cp*. Rather, he remarks, it is considerably easier to write a *Cp* against a *P* + *R* combination in real canon, even if that canon is not used in the eventual combination.[60] Imaginary voices, on the other hand, can be used to great advantage when *P* has not already been written, when *P*, *R*, and *Cp* can all be constructed simultaneously. This leads to Taneyev's second method.

To employ Taneyev's second method, one has to know in advance at what temporal intervals the voices are to be shifted. Taneyev presents this as a problem to be solved. One of his examples gives the following problem: $\mathrm{I}^{h=0} + \mathrm{II}^{h=\pm2} + \mathrm{III}^{h=1}$. This represents a three-voice texture in which the uppermost voice, voice I, does not shift relative to the other two voices. The middle voice, voice II, shifts at $h = \pm2$. As with vertical-shifting counterpoint, the upper sign (here, +) indicates the voice's shift relative to voice I, while the lower sign (–) indicates its shift relative to voice III. Interpreted either way, this indicates a shift of two measures to the right. Voice III, the lowest voice of the texture, shifts one measure to the right.[61]

The *h* and *Jh* values suggest how the problem should be carried out. First, one must determine the three *Jh* values. As with vertical-shifting counterpoint, Jh' governs I + II, Jh'' governs II + III, and $Jh\Sigma$, which is equal to $Jh' + Jh''$, governs I + III. Each index value is calculated by adding the relevant *h* values. Since the combination of voices I and II is, specifically, $\mathrm{I}^{h=0} + \mathrm{II}^{h=2}$, Jh' is the sum of *h* values 0 + 2, or 2. For voices II and III, the combination is $\mathrm{II}^{h=-2} + \mathrm{III}^{h=1}$, yielding $Jh'' = -1$. The remaining index value, $Jh\Sigma$, is the sum of the other two: 2 + (–1) = 1.

[60] Taneyev (1909, 238); Taneiev (1962, 210).

[61] Taneyev (1909, 313–14); Taneiev (1962, 271–72).

These three index values are used to determine the placement of imaginary voices. Recall that for negative index values, the upper voice is conceived as shifting to the right, while for positive index values, the shift occurs in the lower voice. Each pair of voices is treated individually. Both Jh' and $Jh\Sigma$ are positive values, implying a shift in the lower voice. Since $Jh' = 2$, the combination is I + $\text{II}^{h=2}$; $Jh\Sigma$ produces I + $\text{III}^{h=1}$. The negative value of Jh'' places the shift in the upper of its two voices: $\text{II}^{h=-1}$ + III.

The basic construction consists of the three original voices, I + II + III, plus the three voices shifted to the right: $\text{II}^{h=2}$ (+I), $\text{III}^{h=1}$ (+I), and $\text{II}^{h=-1}$ (+III). These three shifted voices are represented as imaginary voices, used to help construct the original voices indicated in parentheses. We use $\text{II}^{h=-1}$ to help write voice III, since it combines with III according to the formula for Jh''. We use the *union* of $\text{II}^{h=2}$ + $\text{III}^{h=1}$ to help write voice I, since *both* combine with I according to the formulas for Jh' and $Jh\Sigma$. Example 2.2.5, adapted from Taneyev, illustrates the compositional process step by step.[62]

Step 1: Write the three real voices, I + II + III, up to the point that the first imaginary voice enters the texture. Two of the imaginary voices are written at an interval of one measure, so this step involves completing the first full measure of the original combination. Taneyev begins voices II and III with rests, but this has nothing to do with horizontal-shifting counterpoint. One is free to open the composition however one likes.

Step 2: In the second measure, two imaginary voices begin: $\text{II}^{h=-1}$ (+III) and $\text{III}^{h=1}$ (+I). Both represent one-measure shifts of real voices. Transfer the music from m. 1 of voices II and III to these imaginary voices in m. 2.

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[62] Taneyev's treatise provides only the ultimate basic construction, given here as Step 8. In most of the book's examples, the process is implicit in the result. With this particular example, Taneyev does explain the compositional strategy by which the basic construction is produced, somewhat differently than it is explained here (Taneyev 1909, 316–18; Taneiev 1962, 273–74).

Step 3: Complete real voice I so that it forms correct counterpoint with imaginary voice $\text{III}^{h=1}$. Since in this example, the imaginary voice contains only rests in this measure, the problem is trivial.

Step 4: Complete real voice III. It must form correct counterpoint with *both* real voice I *and* imaginary voice $\text{II}^{h=1}$, which do not sound simultaneously with *each other*. It should be clear that real voices I and III must form correct counterpoint with one another, since they represent two voices of the original combination. It is also important that voice III form correct counterpoint with imaginary voice $\text{II}^{h=1}$. Although voice II shifts two measures to the right overall, according to the stated problem ($\text{I}^{h=0} + \text{II}^{h=\pm 2} + \text{III}^{h=1}$), voice II shifts *one* measure to the right *with respect to* voice III, since voice III also undergoes a shift of its own. As will be seen in Step 7, the combination of (imaginary) $\text{II}^{h=1}$ with (real) III in m. 2 will help construct voice I in m. 3.

Step 5: Complete real voice II so that it forms correct counterpoint with both I and III in m. 2. Voice II does not interact with any of the imaginary voices. (Rather, it generates imaginary voices.)

Step 6: Moving on to m. 3, transfer the music of real voices II and III to the imaginary voices. In this measure, the remaining imaginary voice, $\text{II}^{h=2}$ (+I) enters the texture. This voice involves a shift of two measures, and so it takes the music of voice II from two measures earlier. There are now two imaginary voices based on voice II present in the construction: $\text{II}^{h=-1}$ (+III) and $\text{II}^{h=2}$ (+I). Since they interact with different real voices (III and I respectively), they should not be understood to sound simultaneously or in canon with one another.

Step 7: By contrast, imaginary voices $\text{II}^{h=2}$ (+I) and $\text{III}^{h=1}$ (+I) *do* interact with the same real voice (i.e., voice I) and should be understood as sounding together. Complete real voice I in

m. 3 so that it forms correct counterpoint with the union of these two imaginary voices. We can already be assured that $\mathrm{II}^{h=2}$ and $\mathrm{III}^{h=1}$ will form correct counterpoint with each other. This is because, in Step 4, voice III was composed to sound against imaginary voice $\mathrm{II}^{h=-1}$. The music of $\mathrm{II}^{h=-1}$ + III in m. 2 becomes the music of $\mathrm{II}^{h=2} + \mathrm{III}^{h=1}$ in m. 3. Now, when we write voice I against $\mathrm{II}^{h=2} + \mathrm{III}^{h=1}$ in m. 3, we are writing the combination that will appear in the derivative: I not shifted, II shifted two measures to the right, III shifted one measure to the right. Approaching the problem by this method ensures that we can compose the setting from beginning to end while enabling the given horizontal shifts to be possible.

Step 8: The process is recursive. We now write real voice III so that it forms correct counterpoint against imaginary voice $\mathrm{II}^{h=-1}$, and then we complete the texture with real voice II. We can then transfer the music to the imaginary voices of m. 4, complete real voice I in that measure, and so on. This can be continued until the entire piece is complete. The three real voices of the basic construction form the original combination. Example 2.2.6 shows the derivative, which is equivalent to real voice I + imaginary voices $\mathrm{II}^{h=2} + \mathrm{III}^{h=1}$.[63]

Exercises in double-shifting counterpoint, admitting of both horizontal and vertical shifts, proceed according to the same method. Imaginary voices still repeat the music of real voices, but they not only enter the basic construction later than the equivalent real voices, they also do so at different pitch levels. Example 2.2.7 reproduces one of Taneyev's examples. Note the use of both *Jh* and *Jv*. The horizontal index values determine which real voices will have imaginary cognates. In this particular case, both *Jh′* and *Jh*Σ are equal to 2, which means that imaginary voices $\mathrm{II}^{h=2}$ (+I) and $\mathrm{III}^{h=2}$ (+I) will collude to help construct voice I. With respect to the vertical

[63] Rather than allowing the shifted voice II to continue for two additional measures, Taneyev recomposes its ending so that all three voices reach their final pitches simultaneously. Here, voice II ends on the pitch A, instead of the F sounded two measures before the end in the original combination.

index values, note that $Jv'' = -16$. Since this index controls voices II and III, these two voices must be written according to the constraints of invertible counterpoint at the tenth. When their music is transferred to the imaginary voices, these voices are shifted vertically—voice II a fourth down, voice III a fourteenth up—so producing this invertible counterpoint. Real voice I is written against these double-shifted imaginary voices, yielding the derivative also shown in the example.[64]

Taneyev's method has a pragmatic, compositional orientation. It mirrors the technique commonly taught for writing canons, as Taneyev mentions.[65] One begins with the *proposta*, transfers its beginning to the *risposta*, and continues the *proposta* in counterpoint against this *risposta*. It is unclear how this method could be applied analytically. With Taneyev's method for vertical-shifting counterpoint, one can inspect a passage of counterpoint that has already been written, observe its use of dissonances and similar motion, and determine whether or not it conforms to the conditions for certain index values.[66] The method for horizontal-shifting counterpoint provides no systematic way to discover new intervals at which the counterpoint could potentially be shifted. For Taneyev, the analytical use seems to involve more a reconstruction of the compositional thought process. It is obvious to him that a composer would create a basic construction first and foremost, before writing any two-voice combination extracted from it. By studying his method of horizontal-shifting counterpoint, Taneyev believes

[64] Taneyev (1909, 324–26); Taneiev (1962, 279–81).

[65] Taneyev (1909, 235); Taneiev (1962, 208).

[66] Taneyev (1909, 217–21); Taneiev (1962, 194–97).

that one learns aspects of the contrapuntal craft long known to composers, but kept secret from theorists.[67]

2.3. Taneyev's Analyses of Post-Renaissance Compositions

Taneyev's book deals with sixteenth-century counterpoint. His teachings clearly derive from careful study of the Renaissance vocal polyphonic repertoire and are not intended to apply to the music of any other style. Nevertheless, Taneyev does at times relate his comments to the music of later composers, as with the Chaikovsky example cited above. His method does not apply systematically to such music but can perhaps be amended to provide certain insights. In this section, I will briefly discuss three instances where Taneyev discusses the music of later composers. First, Taneyev looks at three-voice counterpoint in some of the fugues from Bach's *Well-Tempered Clavier*. Second, Taneyev observes the use of less common index values in passages of music by Glinka and Rimsky-Korsakov. Third, Taneyev remarks on an example of horizontal shifting in a Glazunov symphony. These three instances are among the only moments where Taneyev attempts to apply his methodology analytically.

Taneyev notices the use of double counterpoint at the twelfth in a three-voice passage from the A-flat major fugue from Book 1 of *The Well-Tempered Clavier* (Example 2.3.1). In this passage, the index values for both Jv' and $Jv\Sigma$ are –25, equivalent to –11 with an additional shift of two octaves, or invertible counterpoint at the twelfth. The use of invertible counterpoint ends at the points marked with asterisks and thus lasts for a total of six quarter-note beats. The music is almost entirely sequential; the model of this sequence is two quarters in length.

[67] Taneyev (1909, 342–46); Taneiev (1962, 295–98).

Taneyev refers to this as an example from the "era of free counterpoint," in which, he clarifies, "the free use of sevenths… opens up an extensive field for diversified harmonic combinations."[68] Bach's sevenths, conceived as part of the harmony, do not require preparation in the same way that Palestrina's do. In the original combination of Example 2.3.1, it is true that the sevenths between the lower two voices, II + III, are prepared before they resolve down by step, but Taneyev does not consider the sevenths occurring between the upper two voices, I + II, to be prepared.[69] The last sixteenth note of m. 11, C in voice I, forms a seventh with the D-flat of voice II and moves immediately down by step to B-flat, creating a sixth on the downbeat. In the derivative combination, this downbeat sixth becomes a seventh of its own, A-flat–G, now between bass (voice I) and soprano (voice II). The upper-voice G is, in this case, a suspension.

Taneyev makes the following point regarding analysis: "In analysing polyphonic works one is not limited to a study of the derivative combinations actually used; analysis can be carried further, and be made to include all possible derivatives, whether or not the composer employed them."[70] For Taneyev, then, the purpose of analysis is to demonstrate the index values whose conditions are satisfied in a given passage of music. A passage of music may be written in, say, invertible counterpoint at the twelfth, even if this inversion is not actualized at some point within the composition itself. Analysis involves demonstrating this possibility. Taneyev does exactly that with another of Bach's fugues, the D major fugue from Book 2 (Example 2.3.2). In his

[68] Brower's translation (Taneyev 1909, 198; Taneiev 1962, 176–77).

[69] The florid sixteenth-note motion of voice I could be heard to contain multiple contrapuntal strands. In such a hearing, the sixteenth-note C at the end of the first measure, forming a seventh with the D-flat in voice II, would be prepared by the C in the same register on beat 3 of that measure.

[70] Brower's translation (Taneyev 1909, 198; Taneiev 1962, 177).

hypothetical derivative, voice III is shifted up by $v = -11$, demonstrating invertible counterpoint at the twelfth.[71]

Both original and derivative exhibit a descending-thirds progression typical for Bach.[72] If each quarter-note beat is interpreted as a separate harmony, then each setting follows the progression I–(vi)–IV–ii–(vii^{o})–V^{7}–(iii)–I, moving from tonic to pre-dominant to dominant to tonic with third-related harmonies bridging the gaps.[73] The original begins with ii, the derivative with IV. A continuous descending scalar motion, found among the three voices, abets the progression by descending thirds. Several of the weakest eighth notes contain pitch configurations that, while unlikely to be heard as separate harmonies at tempo, correspond to complete or incomplete seventh chords. In the derivative's second measure, the second eighth note suggests V$^{6/5}$, the fourth V$^{4/3}$, the sixth iii^{7}, and the eighth I$^{4/3}$ from this perspective. Crucially for Taneyev, the chordal sevenths in these cases are not prepared; each arises as a downward passing tone. Whereas in the "era of free counterpoint" certain contrapuntal requirements are relaxed, the music imposes strong *harmonic* requirements. The harmonic aspect of the music plays an important role in justifying the counterpoint.[74]

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[71] Taneyev places derivative voices I and II in a lower register than would have been available to Bach; the B_1 in the first measure is below the lowest note in the *WTC*, C_2. With the two voices placed closely together so low in the texture, the hypothetical derivative has somewhat of a murky, ugly sound.

[72] See Tymoczko (2011b, 233–34).

[73] This resembles Tymoczko's thirds-based model of tonal harmony, although he does not regard the vi, vii^{o}, and iii harmonies as hierarchically subordinate to I, IV, ii, and V. Tymoczko (2011b, 226–67).

[74] Taneyev remarks: "In passing from strict to free counterpoint it is necessary to have a good command of harmony." Brower's translation (Taneyev 1909, 347–48; Taneiev 1962, 299).

In another chapter, Taneyev remarks that modern music affords opportunities for using those index values that are rarely encountered in music of the sixteenth century. He adduces a short excerpt from Beethoven's *Missa solemnis*, not reproduced here, that illustrates the index $Jv = 6$. He follows this with examples from Glinka and Rimsky-Korsakov that, in various ways, involve tritones.[75]

In general, Taneyev's theory does not have a place for interval quality. His modal polyphony does not differentiate among qualities of intervals of the same size. Tritones are treated like perfect fourths and fifths, except for the fact that when they arise where consonances are expected, they must be altered. In an early chapter, he mentions that one can avoid tritones when writing strict counterpoint by adding accidentals at will or by amending the key signature.[76] Therefore, in the excerpt from Glinka's *Kamarinskaya* (Example 2.3.3), he simply labels the shift in the lower voice as $v = –4$, although he does remark on the "strange and unusual" harmony the tritone produces.[77]

Kamarinskaya consists of innumerable repetitions of the same melodic figure over (at times) changing harmonies. In Taneyev's example, the original combination features voice II remaining on a single note, F-sharp. In the derivative, voice II is simply on a *different* pitch (C-natural), although—and perhaps this is what Taneyev felt justified the example—the rhythm is the same. This seems a trivial use of the concept of index values or vertical shifting, not least because the "counterpoint" that voice I forms with voice II does not correspond to the rules that $Jv = –4$ requires.

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[75] Taneyev (1909, 169–70); Taneiev (1962, 152–54).

[76] Taneyev (1909, 44–46); Taneiev (1962, 50–52).

[77] Brower's translation (Taneyev 1909, 169; Taneiev 1962, 153). Brower, confusing the prepositional for the nominative, refers to this well-known piece as *Kamarinskoi*.

As Taneyev's *Kamarinskaya* analysis illustrates his movable counterpoint only superficially, he may have chosen the example more for the identity of the piece than for the efficacy of the principles it allegedly demonstrates. *Kamarinskaya* is an important work in the history of Russian orchestral composition. Glinka is considered the first prominent modern Russian-born composer, and *Kamarinskaya*, based on Russian folk music, is one of his defining compositions. Taneyev is likely attempting to show that the principles of movable counterpoint can be found even in works central to the Russian orchestral canon.

The treatise's following example excerpts six dissonant measures from Rimsky-Korsakov's 1905 opera *Kashchey the Immortal* (Example 2.3.4). The situation is similar to that of the Glinka excerpt, in that the melodic line repeats without change as the lower parts transpose their music exactly. Here, the lower parts articulate melodic tritones, and the transposition is successively down by semitone. Taneyev does not offer an interpretation using index values.

The inclusion of an excerpt from this particular opera may very well be Taneyev's way of expressing solidarity with Rimsky-Korsakov and a number of conservatory students embroiled in a scandal of 1905. Late in 1904, Taneyev, Rimsky-Korsakov, and several other musicians signed a resolution calling for reform of the political structure of the conservatories. As students and professors became increasingly active in demanding improved conditions for music academics, the conservatory boards sought to quell the mounting tension. One result was Rimsky-Korsakov's dismissal from the St. Petersburg Conservatory. In early 1905, the premiere of *Kashchey* was politicized as audience members expressed their support for its composer and called for more performances of his works. Many interpreted *Kashchey* as a political allegory, with the evil Kashchey representing the societal forces holding back Russian high culture.[78]

[78] Sargeant (2011, 231–50).

Outside of this context, it is difficult to see what the *Kashchey* excerpt adds to Taneyev's book. Its counterpoint proceeds in flagrant disregard of the rules of the strict style adumbrated in the treatise. The sequential downward transposition of the lower parts bears little resemblance to the highly principled vertical shifting of the Renaissance excerpts or of Taneyev's original examples. If Rimsky-Korsakov has learned to move his bass line down by semitone, it is not because the ancient rules of counterpoint have carried over into this passage. Taneyev may be attempting to illustrate the application of his ideas to a wide range of music, but the fact remains that these ideas do not actually apply to *Kamarinskaya* or *Kashchey*.

When dealing with horizontal-shifting counterpoint, perhaps because of the acute compositional focus of the horizontal-shifting half of the treatise, Taneyev offers comparatively little commentary on post-Renaissance composition. He does have two insights, however.

The first stems from his principle that successful basic constructions must be worked out in advance, whether or not they actually appear in a composition, or whether they appear chronologically prior to the two-voice combinations they incorporate. This principle applies, on the one hand, to horizontal shifting: both $P + Cp$ and $R + Cp$ appear together in the basic construction. But, on the other hand, it applies also to works in which multiple themes are introduced individually, only to be combined contrapuntally at moments of culmination. Taneyev mentions the finale of Mozart's "Jupiter" Symphony as an example, where five different melodies are introduced in various combinations and then presented all together in the movement's coda. Mozart would have written the ultimate combination of all five melodies first, ensuring that the counterpoint would work out, before extracting the pairs of melodies introduced earlier in the movement.[79] Horizontal shifting itself, however, is not implicated.

[79] Taneyev (1909, 298); Taneiev (1962, 257).

Taneyev's second insight regards the use of true horizontal shifting in post-Renaissance works. He cites an excerpt from Glazunov, reproduced here as Example 2.3.5. Two of the melodic strands in this texture exhibit double-shifting counterpoint, whereby a horizontal shift is accomplished in invertible counterpoint at the twelfth ($Jh = 2$; $Jv = -25$). With reference to vertical-shifting counterpoint, Taneyev previously pointed out that, in recent centuries, more dissonant values of Jv began to appear. (Recall Example 2.3.3, from Glinka's *Kamarinskaya*.) Here, Taneyev notes that the conditions governing horizontal-shifting counterpoint are, in fact, no different between the eras of strict and free counterpoint—the same principles apply in both cases.[80]

2.4. Analytical Application to Tonal Contrapuntal Music

Taneyev's analyses of eighteenth- to twentieth-century music in *Movable Counterpoint* achieve success to varying degrees. Certain aspects of his method can nonetheless be fruitfully extended in order to offer insights into later contrapuntal music. In this section, I explore, in original analyses, what Taneyev's method can reveal about two specific compositions. The first is the Scherzo *in contrapunto alla riversa* from Taneyev's own String Trio in D Major (1879–80), written a full three decades before the publication of his counterpoint treatise. The second is the C major fugue from Shostakovich's Twenty-Four Preludes and Fugues, op. 87 (1950–51).

2.4.1. Taneyev, String Trio in D Major (op. posth., 1879–80), II

Taneyev's fascination with counterpoint pervades his compositions. Already in the 1870s, he was experimenting with contrapuntal tricks. The Scherzo of the String Trio illustrates this

[80] Taneyev (1909, 301–2); Taneiev (1962, 260–61).

quite well. The main theme of the movement, mm. 1–93, is written in A major. Beginning at m. 139, the complete main theme is recapitulated upside down (Example 2.4.1). The cello plays the violin part upside down, the violin plays the cello part upside down, and the viola plays its own line upside down. All melodic intervals are preserved, but each line is inverted. Instead of the violin beginning with an ascending fourth, E–A, the cello begins with a descending fourth F-sharp–C-sharp. This transforms the music into F-sharp minor, using an Aeolian scale. In modern-day theoretical terms, this is a pitch-space inversion about F_4.[81]

This counterpoint *alla riversa* is not invertible counterpoint. In the latter, two voices exchange relative registral positions but otherwise play their lines "right side up," transforming every harmonic interval. In counterpoint *alla riversa*, because the individual voices play their lines upside down, every harmonic interval is preserved in the corresponding voices. The right-side-up statement, in A major, begins with an eighth-note third followed by an octave in the violin and viola. The upside-down statement, in F-sharp minor, begins with the same intervals between viola and cello, a third followed by an octave. In terms of the intervals formed between parts, the operative index value here is $Jv = 0$.

Dissonance treatment must be carefully controlled. In three-part textures, fourths are permitted between the two upper voices. In counterpoint *alla riversa*, the original fourths between upper voices become derivative fourths between *lower* voices and therefore cannot be used as imperfect consonances. The texture must expand to four voices before fourths can be used in this way. In this case, fourths can appear between the two inner voices.

[81] The precise inversion maps A major onto the C-sharp Phrygian scale. In dualist terms, major prime A, supporting upward-generated tonic triad A major, maps onto minor prime C-sharp, supporting downward-generated tonic triad F-sharp minor, with the pitch F-sharp as under-fifth. I follow the octave designation system of the Acoustical Society of America.

Suspensions—as well as their "free counterpoint" relatives, unprepared sevenths—pose a particular problem. In a suspension, the dissonant note resolves down by step. Depending on the interval of suspension, this resolution must occur in either the upper or lower voice. *Alla riversa*, this becomes a resolution up by step and occurs in the wrong voice (Example 2.4.2).

In order for the suspension to resolve properly *alla riversa*, the free note must move up by step at the moment that the suspension resolves down by step. This produces a wedging effect. Either both voices move out by step, or both voices move in by step.

Example 2.4.3 examines the suspensions mandated by the symbol – at $Jv = 0$. If the symbol is placed below the interval number at $Jv = 0$, then the voices must wedge out. If the symbol is placed above, the voices must wedge in. With interval numbers 3 and 8, either wedging is possible.

Since wedging is required *alla riversa*, the size of the interval following the suspension will always be two greater or two less than the interval of the suspension. In some cases, the interval corresponding to the resolution will itself be dissonant. These are indicated with the symbol × in Example 2.4.3. As with Taneyev's use of the symbol ×, the symbols here indicate that one of the two pitches at the moment of resolution must be treated as a passing tone, as a neighbor note, or according to one of the other possibilities Taneyev offers (see section 2.1 above). The symbol × should also be added to the suspension symbol for the interval number. This produces the set of restrictions for $Jv = 0$ *alla riversa* given in Figure 2.10.

Inspecting Taneyev's scherzo, one finds a preponderance of consonances. In the excerpts cited in Example 2.4.1, for instance, the very few dissonances that appear are easily explained as neighboring and passing tones. Taneyev otherwise privileges consonances in consecution.

Dissonant sevenths do appear, however, in an interior theme, heard at m. 49 in B-flat major and m. 186 in F minor. Example 2.4.4 compares the first four measures of the theme's original and derivative settings. Throughout the passage, the viola line wavers back and forth between two harmonic pitches, in effect generating the inner voices of a four-part texture. Because of this, the viola is able to articulate perfect fourths between its upper and lower voice-leading strands.

As shown in Example 2.4.5, the full texture articulates a second-inversion A half-diminished seventh sonority on the downbeat of m. 50, with the interval of a second between the viola's two lines and the interval of a seventh between violin and viola. The harmony does not resolve immediately, but rather is expanded for two full measures. The dissonant intervals in the counterpoint, similarly, do not resolve until two measures later, at the downbeat of m. 52. The seventh between violin and viola, A–G, wedges inward to a fifth, B-flat–F, in accordance with the restrictions on interval 6. The second in the viola, G–A, wedges outward to a fourth, F–B-flat, in accordance with the restrictions on interval 1. Since this fourth appears between the two inner voices, it may be treated as a consonance and not according to the provisions of the symbol ×. Harmonically, the music articulates a second-inversion leading-tone half-diminished seventh as an upper neighbor harmony to a first-inversion tonic triad, the return to which is syntactically sound.[82]

Alla riversa, interval numbers 1 and 6 resolve appropriately as well. From m. 189 to m. 190, the seventh E-flat–D-flat between cello and viola resolves inward to an F–C fifth, and the

[82] My analysis interprets the harmony of mm. 50–51 as a leading-tone seventh chord, although the doubled G, the seventh of this chord, is not particularly suggestive of this interpretation. An alternative analysis that resonates with the dualistic implications of the upside-down counterpoint might proceed from a Riemannian standpoint, interpreting the same harmony as being generated downward from a prime of G, with the pitch A as under-seventh. (The symbol for this harmony would be ${}^{0}g^{7}$.)

second in the viola, D-flat–E-flat, resolves to a consonant inner-voice fourth, C–F. With F heard as local tonic, the harmonic progression is Aeolian in flavor. An E-flat major-minor seventh leads to a root-position tonic F minor chord, thereby articulating uninflected VII^7 as lower neighbor to i. The VII^7 chord could alternatively be heard as pointing toward A-flat major, as a dominant seventh that resolves deceptively to the F minor triad of m. 190. As shown below, further aspects of the interior theme *alla riversa* play on the relation between F minor and A-flat major.

The original music of mm. 53–56 is derived *alla riversa* in mm. 191–94 (Example 2.4.6). Taneyev allows one deviation from his strict mirror symmetry. In m. 194, within the derivative, the viola wavers between G and E-flat for two quarter-note beats. The original ought to contain a similar wavering in the opposite direction: E-flat to G in m. 56. As shown in the excerpt, Taneyev substitutes the pitch A for the second G, occurring on the fourth eighth note of the measure. The harmonic implications of this change are explored with regard to the textural simplification of Example 2.4.7.

In mm. 53–56, the outer-voice 1:1 counterpoint uses only consonant intervals and avoids similar motion. The third beat of m. 56 acts as a pickup to m. 57, where the interior theme's melody begins again in the manner of an antecedent–consequent repetition. The harmonic progression, however, prevents the first phrase from articulating antecedent function. Tonic is expanded in mm. 54–55 through a 5–6 voice-leading motion. The downbeat ii that follows concludes the melodic idea without a half cadence. Had ii returned directly to I^6 in m. 56, the supertonic chord would have functioned anomalously as a passing chord from I to I^6. Taneyev's substituted viola pitch—A for G—permits a more typical expansion. A $vii^{ø6/5}$ chord can be heard on the second beat, participating in a subordinate progression I–ii–vii$^{ø6/5}$–I^{6} that subsists across the phrase boundary suggested melodically.

Alla riversa, the expected half cadence appears, albeit in A-flat major and not the putative local tonic of F minor.[83] At m. 194 the antecedent phrase ends, preparing the melodic return of the consequent, beginning again with F minor harmony.

2.4.2. Shostakovich, Fugue in C Major

Of all the fugues in Shostakovich's op. 87, the C major fugue most suggestively invites analytical scrutiny from a strict-style perspective. The counterpoint is extremely clear and stripped down—the quarter-note rhythm is never broken, not admitting even a single eighth note. No accidental appears anywhere in the score. This is a white-key fugue, in which entries at different pitch levels suggest different modes rather than different keys. Although Shostakovich uses the diatonic modes more literally than his early-music forebears—the uninflected Locrian diminished fifth at mm. 48–49 is more stylistic of twentieth-century practice than sixteenth—the presence of the modes nonetheless signifies a link to early technique.[84]

As a work from a later era than the music that Taneyev principally investigates, the fugue involves triadic structures, including six-four chords, used in ways that sixteenth-century composers would not have readily allowed. When applied to Shostakovich's music, Taneyev's

[83] The half cadence can be heard as vi–V, with an "apparent" I^{6} embellishing the dominant, as in the reading offered in Example 2.4.5(b). Alternatively, one could hear the I^{6} as expressing tonic function and participating in the half cadence in its own right (I^{6}–V).

[84] Dolzhanskiy (1970, 12–16) also associates the regular white-key pitch circulation with the regular quarter-note rhythm, both as markers of the strict style. Fanning (2001, 106–7) associates the use of C major in such a context with purity and childlike simplicity. On the relation of the fugal subject to other themes and melodies, see Mazel' (1982, 244–60), Fanning (2001, 137), and Mazullo (2010, 60–67).

interval-based approach to counterpoint points directly to the places where the contrapuntal rules break down and harmonic considerations take over, demanding explanation from a triadic perspective. In the analysis that follows, I use Taneyev's ideas to explore how twentieth-century triadic composition can incorporate the principles of movable counterpoint, probing the extent to which Shostakovich retains the rules of earlier practice.

The fugue is in four voices, although the four voices are rarely present all at once in the texture. The subject and its two countersubjects combine to form triple counterpoint at the octave. Over the course of the fugue, five of the six possible registral dispositions for three-voice vertical-shifting counterpoint are used.

The three voices of this combination first appear at m. 19 (Example 2.4.8). In this original combination, voice I has the subject, voice II the countersubject, and voice III the second countersubject. This statement is on C (Ionian). In order for triple counterpoint at the octave to work out successfully, all three pairs of voices must employ the restrictions according to $Jv = -7$. These restrictions are summarized in Figure 2.11.

Many of Shostakovich's dissonances can be understood to arise through passing or neighboring motions in one voice. Other dissonances invite careful contemplation. In what follows, I examine the extent to which the original combination exhibits the features necessary for triple counterpoint at the octave.

In the pickup to m. 20, a quarter-note D in voice III can be understood as a passing tone between C and E, particularly when compared against the leap of a fifth in voice I. Notably, however, the interval produced between voices II and III at this moment, the perfect fifth D–A, is treated in accordance with the suspension symbol –× that appears above interval 4. The A in voice II is prepared with a fixed consonance (interval 5, C–A), suspended over the D, where it becomes a variable consonance, and resolves down by step to a downbeat G. Here the suspended A forms a consonance over the D, but in order for the counterpoint to be invertible at the octave it must be treated as though it were dissonant, according to the fact that it will invert to a fourth (interval 3). At the moment of resolution, voice III moves up by step to E—in accordance with this voice's passing function compared against voice I—forming a fixed consonance with voice II (interval 2, E–G). The use of a fixed consonance here satisfies the requirements of the symbol × above interval 4.

In m. 20, voice I sustains the pitch G while voice III moves by step in quarter notes, E–D–C–D–E. The perfect fifth on beat 3 presents a potential problem, since this will invert to a perfect fourth, dissonant when voice I forms the derivative bass line. What may justify the use of this figure at $Jv = -7$ is the presence of passing Ds before and after the C. In the original combination, these Ds form dissonant fourths with voice I, but inverted at the octave, they generate consonant fifths. The C in voice III could potentially, then, be considered a neighbor note to the two Ds in an inverted texture. While plausible, this interpretation nevertheless contradicts one of Taneyev's strict-style rules, that which states that only passing tones, and not neighbor notes, may appear on the third quarter of the measure.[85]

In m. 21, voices I and II form a perfect fifth on the downbeat. As interval 4 takes the sign – below, voice II moves down by step to B on the second quarter. At this point, voices II and III now form a perfect fifth. Here, as interval 4 also takes the sign –× above, the upper voice, voice II, moves down by step to A on the third quarter. This A, forming a dissonant fourth with voice III, must be treated as a passing tone and continue on to G. (This fact is reinforced by the suspension symbol – appearing above interval 3.) The A indeed passes on to G, arriving on the

[85] Taneyev (1909, 51); Taneiev (1962, 57). See also section 2.5 below.

latter pitch on the downbeat of m. 21. Before this arrival, voice III embellishes its E with an upper neighbor, F. This upper neighbor forms a fixed consonance with voice II. Alternatively the E in voice III could be interpreted as a suspended upward-resolving leading tone to F, a possibility not allowed in Taneyev but plausible in tonal practice. Intervallically the upward resolution of the lower voice would have the same effect as a downward resolution of the upper voice—interval number 3 resolves to 2—and would therefore satisfy the requirement imposed by the appearance of the symbol – above interval number 3.

Measures 22–23 repeat the material of mm. 20–21, with some minor adjustments. Voice I adds an upper neighbor, A, to its sustained G. Against this G, the figure E–D–C–D–E appears in voice II instead of voice III. This figure has been shifted temporally by half a measure, so that the potential neighbor note C now appears on a downbeat instead of the third quarter, further contravening Taneyev's rule for the placement of unaccented dissonances. In measures 23 and 24, voices II and III move with passing tones on weak beats.

The end of m. 24 contains several features worth drawing attention to. On the third quarter of the measure, the three voices combine to form a root-position C major triad. This involves a perfect fifth (interval 4), a variable consonance, between voices I and III. Interval 4 takes the symbol –× above, and in accordance with this, the G of voice I must be led down by step to F. Here, however, another pitch, A, is interpolated between the two notes. The A forms a sixth with the C of voice III. As this is a fixed consonance, Taneyev's stipulation for the use of interpolated pitches is satisfied.[86] At the same time, the A forms a fourth (interval 3) with voice II. As interval 3 takes the symbol –× below, the E of voice II is impelled down by step to D.

[86] Taneyev (1909, 109–10); Taneiev (1962, 107).

This E does not proceed immediately to D, however. On the downbeat of m. 25, the pitch F appears in voice I following the interpolated A. The E in voice II is suspended against this F, producing a dissonant second. The resolution of E to D in voice II, therefore, satisfies the conditions both for resolution of the downbeat second (interval 1 takes the symbol – below) and for resolution of the fourth on the previous beat. With that fourth, the symbol × appeared. The fact that voice I moves to F before voice II resolves its E satisfies the restriction corresponding to ×. The pitch A (in voice I) moves to F so that, when voice II resolves the suspended E down by step to D, a fixed consonance (D–F, interval 2) is formed.

The downbeat F in voice I also forms a dissonance against voice III. The interval is a fourth, or interval 3, which takes the symbol –× below. The C in voice III moves down by step to B, but this B is treated as a passing tone to A. This satisfies the conditions of the symbol ×.

When this A arrives in voice III in the second half of m. 25, it forms a perfect fifth with the E in voice II. The conditions on this fifth are given by the symbol –× appearing above interval 4. The E must progress down by step to D. Once again, an interpolated pitch appears between the two notes. Voice II leaps down to C before moving to D. This C forms a fixed consonance with both voice I (C–C, interval 7) and voice III (A–C, interval 2). At the moment that the D arrives in voice II, on the downbeat of m. 26, both voices I and III change pitches, forming fixed consonances with voice II (D–F and D–D).

Measures 26 and 27 repeat the music of mm. 24–25 down a diatonic step and do not require additional comment.

The foregoing discussion shows that Shostakovich's counterpoint largely conforms to Taneyev's requirements for invertible counterpoint at the octave. The one exception is the use of a perfect fifth between outer voices on the third quarter of m. 20. It is worth pointing out that with this fifth, as well as with every subsequent fifth in the setting, the third voice completes the triad. The use of complete triads may justify the breaking of sixteenth-century rules in a twentieth-century context.

The entry on G (Mixolydian), which begins at m. 27, preserves the original relative ordering of the three voices. It is a strict transposition with all JJv trivially equal to 0. Subsequent entries involve reordering of the voices in various inverted configurations.

At m. 40, the entry on E (Phrygian) shifts the voices according to the fifth diagram in Figure 2.8, with II on top ($v = \mp 9$) , III in the middle ($v = -9$), and I in the lowest register ($v = -5$).[87] These shifts produce the index values $Jv' = -14$, $Jv'' = 0$, and $Jv\Sigma = -14$. The index $Jv = -14$ is equivalent to $Jv = -7$, invertible counterpoint at the octave, with an additional shift of an octave separating the voices (Example 2.4.9).

With voice I shifted to the bottom, the texture produces a number of six-four chords, which feature dissonant fourths. In m. 41, the third quarter displays a dissonant fourth between voices III and I. Voice II, on top, completes the triad (B–E–G). The corresponding material in the original combination featured a perfect fifth on the third quarter between outer voices (C–G), with the lower pitch, C, flanked by passing tone Ds. It was proposed that, in inversion, the Ds could be considered consonant pitches and the C could be considered an accented neighbor note. In m. 41, the “consonant” Ds are transformed into Fs, which form diminished fifths, not perfect fifths, with the bass pitch B. Thus it is difficult to conceive the E as an accented neighbor to F.

A few possibilities may account for the B–E fourth. The first possibility is that, in the context that Shostakovich provides, we ought to consider the B–F diminished fifth as standing

[87] Recall that when three voices are present, voice II adopts two complementary v values. Here the designation $v = \mp 9$ indicates that voice II shifts up by interval 9, corresponding to $v = -9$ in the combination I+II and $v = +9$ in the combination II+III.

for a consonant interval. This context involves a literal interpretation of the diatonic modes, without the chromatic adjustments that Renaissance composers would have actually employed. As shown below, Shostakovich allows a prominent Locrian diminished fifth in his subject entry on B. While this interval may not be perceived aurally as stable, it does represent a stable interval from the standpoint of contrapuntal mathematics. As previously suggested, Shostakovich's willingness to use this interval may signify "modality" and hence "sixteenth-century polyphony," even if, ironically, the use of the interval contravenes actual sixteenth-century practice.

A second possibility is that the use of a complete six-four chord, as opposed to a bare, exposed fourth, ameliorates the effect of the fourth against the bass. In a twentieth-century harmonic context, this chord may not be heard as dissonant to the same extent that it would have been among earlier practices. Shostakovich introduces and moves away from six-four chords freely in this passage. This may be the principal difference between strict Taneyevan counterpoint and counterpoint in contemporary composition. Taneyev, for his part, acknowledges the use of unprepared six-four sonorities in cadences in sixteenth-century composition. He cites several examples from the works of Palestrina and Orlando di Lasso.[88] Perhaps in the "era of free counterpoint" restrictions on six-four chords can be relaxed even further.

A third possibility, similar to the second, is that the presence of a complete triad justifies the use of a six-four chord. In other words, although the counterpoint alone cannot justify the

[88] Taneyev refers only to "six-four chords" (*kvartsekstakkordi*). Brower translates the term as "triads in the second inversion," implicitly assigning a root to such sonorities where Taneyev does not do so (Taneyev 1909, 155–60; Taneiev 1962, 141–45).

free use of six-four chords, perhaps the freedom of twentieth-century tonality can account for interpreting six-four chords as consonant chords requiring neither preparation nor resolution.

As it turns out, with the exception of the six-four chords over B in mm. 41 and 44, the six-four chords in this passage can all be explained contrapuntally. The downbeat of m. 42 contains a six-four chord over B, but the fourth, an E in voice II, can be considered a passing tone, albeit an accented passing tone not available in Taneyev's method. The six-four chord on the third quarter of m. 45, also B–E–G, impels its suspended bass note B down by step to A (the pitch C is interpolated before the resolution).[89] By this interpretation the suspension, it should be noted, is metrically weaker than its resolution. The A in turn forces the suspended G, in voice II, down by step to F. This F is treated as a dissonant neighbor note (in accordance with Taneyev's symbol ×), as the six-four chord created here, A–D–F on the second quarter of m. 46, arises through an octave-displaced passing motion in voice III, E–D–C (compare with voice III in m. 25, where the passing motion is completed in a single register). The six-four chord on the third quarter of m. 47, like that in m. 45, pushes the bass voice down by step, and the six-four chord on the second quarter of m. 48, like that in m. 46, arises through the use of passing motions.

The entry on B (Locrian), beginning in m. 48, has voices I–III aligned bottom to top, as in the sixth diagram of Figure 2.8 (Example 2.4.10). With voice I at $v = -15$, voice II at $v = \pm 1$, and voice III at $v = -13$, the operative index values are $Jv' = -14$, $Jv'' = -14$, and $Jv\Sigma = -28$, indicating invertible counterpoint at the octave for all three pairs of voices.

Additionally, for the first four measures of the entry, the second countersubject in voice III is doubled at the third below ($v = -11$). This doubled voice produces additional index values

[89] The B–C motion in voice I could alternatively be understood as an upward-resolving suspended leading tone proceeding to its tonic. This explanation will not, however, prove satisfactory in m. 47, where the music is repeated down by step, as the upward motion is by whole tone (A–B), not semitone.

of $Jv'' = -12$ and $Jv\Sigma = -26$, which is a compound of $Jv\Sigma = -12$. The supplementary conditions imposed by this index value include the treatment of original thirds as dissonances. Thirds (interval 2) between voice I and voice III in the original combination produce fourths in the derivative at $Jv\Sigma = -12$, and consequently six-four chords at $Jv\Sigma = -12, -14$. These six-four chords occur on the downbeats of every measure in which voice III is doubled, that is, each of mm. 49–52.

At $Jv = -12$, interval 2 takes the suspension symbol $-\times$ below. With some imagination, we can view this condition as being satisfied in the original combination. Referring back to Example 2.4.8, we can notice the presence of interval 2 between voices I and III on each downbeat of mm. 20–23. In every case, voice III has the pitch E, while voice I has G. In m. 20, the E moves down by step to a passing D, thus satisfying the condition suggested by $\times$. In m. 21, the pitch E moves up to F, not down to D. However, this F can be understood as a neighbor note, as voice III returns immediately to E. In a sense, then, voice III sustains the pitch E throughout mm. 21–22, finally moving to a passing D in m. 23. Given that voice I essentially remains on G during the same span, one can hear the voices as prolonging the third E–G throughout these measures.

As a consequence of this treatment of interval 2 in the original combination, the derivative on B, with doubled voice III, resolves each six-four chord to a five-three sonority. Example 2.4.10 demonstrates this. On the downbeat of m. 49, the six-four leads immediately to five-three, with doubled voice III moving down by step over a stationary voice I bass. The six-four chord on the downbeat of m. 50 is prolonged through a neighbor motion in doubled voice III, sustained through m. 51, and eventually resolved to a five-three chord in m. 52. With the G articulated on the third quarter of m. 52, the doubling of voice III ends, thereby avoiding a chain of six-four chords between the upper voices, II and III, who from this point move largely in parallel sixths—corresponding to the parallel thirds of the original combination.[90]

The entries on A and D use further rearrangements of the three voices. At m. 58, the entry on A (Aeolian), voice I is on top ($v = 5$), voice III in the middle ($v = -5$), and voice II on the bottom ($v = \pm 9$), in an arrangement corresponding to the third diagram from Figure 2.8 (Example 2.4.11). Here, $Jv' = 14$—which, as Taneyev explains, corresponds to simple counterpoint shifted by two octaves and requires no additional restrictions[91]—$Jv'' = -14$, and $Jv\Sigma = 0$. Most dissonances are properly resolved. For instance, on the downbeat of m. 64, the D in voice I forms a dissonant fourth with voice III (A–D) and a dissonant ninth with voice II (C–D), forcing both lower voices down by step. On the third quarter of the same measure, the fourth between voices II and III, C–F, resolves with the lower voice moving down by step to B; an interpolated A delays the resolution.

Only the sustained bass G in mm. 66–67 creates voice-leading problems: dissonances seem to accumulate in a contrapuntally irregular fashion (see Examples 2.4.11 and 2.4.12). In m. 66, the soprano C resolves down by step to B, forming the intervals 7–6 over the alto D. But the chord of "resolution" is a dissonance, a first-inversion seventh chord: G–E–D–B. Of this dissonance, the sixth ascends (E–F in the tenor) and the fifth is leapt away from (D–A in the alto), precluding easy explanation with reference to the traditional rules of counterpoint.

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[90] The six-four chords in mm. 53–56 can be understood contrapuntally in the same way as the six-four chords in mm. 45–48 of Example 2.4.9. Notably, the suspended tones on the downbeats of mm. 54 and 56 proceed to dissonant passing and neighboring tones on the second quarters, in accordance with Taneyev's symbol ×. (Alternatively, the twentieth-century six-four chords could be assumed to be consonant, as suggested above.)

[91] Taneyev (1909, 33–34); Taneiev (1962, 41).

The sustained bass G foreshadows the retransitional pedal point on the same pitch in mm. 75–78 (not shown), which leads to the stretto return of C major. In mm. 66–67, any sense of retransition is quickly dispersed: the pedal G clashes heavily with the D entry and fades away in the middle of m. 67. If we assume that the G is used for its formal value (engendering a false retransition) and ignore it in our harmonic consideration, then we are nonetheless left with the dissonant seventh-over-seventh of the three upper voices in m. 66, E–D–C. A potential explanation of this sonority is non-traditional, and non-Taneyevan. If the tenor E is treated as a lower neighbor, unusually accented in both durational length and metrical placement, to F, then the underlying chord of the second half of m. 66 (still ignoring the pedal bass) can be heard to be F–D–B, which proceeds to F–D–A in m. 67.[92] Although most of the fugue's contrapuntal activity can be explained with recourse to Taneyev, this striking moment requires somewhat more finesse.

The entry on D (Dorian) at m. 66 begins over the false-retransitional G pedal, which quickly drops out of the texture (Example 2.4.12). Here, among the other three voices, voice II appears on top ($v = \mp 8$), voice I in the middle ($v = 1$), and voice III on the bottom ($v = -1$), producing the second arrangement of three-voice counterpoint from Figure 2.8. The index values here are $Jv' = -7$ (invertible counterpoint at the octave), $Jv'' = 7$ (simple counterpoint), and $Jv\Sigma = 0$ (simple counterpoint). In m. 68, the half-note B in voice II is dissonant against the F of voice III, which appears in the bass. The upper-voice B resolves down by step to A. On the downbeat of m. 72, the middle-voice G impels a seventh-to-sixth resolution above (F-to-E in voice II) and a fourth-to-fifth resolution below (D-to-C in voice III).

Shostakovich does introduce an entry on F (m. 87), but this occurs in stretto and without the two countersubjects. At no point in the fugue is the fourth arrangement of three-voice

[92] Note that if the neighbor E had sounded on the fourth quarter, the tenor's F–E would have produced parallel fifths with the soprano's C–B.

counterpoint employed. I would be remiss not to demonstrate that such an arrangement would have worked out contrapuntally. In the spirit of Taneyev's approach to analysis, which, as shown above, involves finding derivatives not actualized within the composition itself, I present a hypothetical derivative with voice III on top, voice I in the middle, and voice II on the bottom (Example 2.4.13).[93]

The fugue concludes with a pair of statements in stretto, first on C (Ionian), and then on F (Lydian). Although canonic imitation is not truly the focus of Taneyev's horizontal-shifting counterpoint, I here wish to briefly investigate the value in conceiving of the first stretto passage as a basic construction. Example 2.4.14 pursues this. The stretto entries in soprano and alto adopt the labels *proposta* and *risposta*, with the double shift given as $h = -½$, $v = -7$. The first countersubject, performed in octaves, appears as *Cp* in voice II.

One wonders to what extent Shostakovich actually worked out the stretto in advance—according to Taneyev's horizontal-shifting method or otherwise—since the countersubject, already quite simple in its stepwise wandering between $\hat{1}$ and $\hat{3}$, breaks off after five measures, leaving voice II to continue freely. The stretto entries on F (m. 87) are not accompanied by the countersubject at all.[94]

The *P* + *R* + *Cp* construction of Example 2.4.14 also suggests an alternative basic construction, in which the countersubject of voice II is imitated canonically instead of the subject. This is shown in Example 2.4.15. The example uses the same five measures of countersubject

[93] Taneyev, however, would not have approved of the outer-voice hidden octaves in the sixth and seventh full measures, where voice III leaps A–D as voice II ascends C–D.

[94] This recalls Shostakovich's fast working method for the op. 87 cycle, whereby he completed a prelude or fugue every few days. Laurel Fay writes that, according to pianist Tatyana Nikolayeva, for whom the cycle was written, "Shostakovich wrote out the pieces without correction and… only once, in the B-flat Minor prelude, he was dissatisfied with what he had begun and replaced it" (Fay 2000, 177–78).

that Shostakovich actually uses in mm. 79–84. The imitation between *P* and *R* is the same as in Example 2.4.14—one octave lower, one half note later—but because the imitation occurs now in voice II, the negative *h* and *v* values are made positive: $h = ½$, $v = 7$.[95] As it happens, the combination of *P* and *R* is contrapuntally correct. This is not guaranteed by horizontal shifting, although it may be guaranteed by the lack of scale degrees other than $\hat{1}$ and $\hat{3}$ on strong beats. Note that the two-voice *P* + *Cp* and *R* + *Cp* combinations that can be extracted from Example 2.4.15 match those that can be extracted from Example 2.4.14. Both basic constructions, in other words, involve one subject–countersubject statement where the subject enters one half note later than the countersubject, and both involve one statement where the subject enters one full measure later. Taneyev would regard the hypothetical basic construction of Example 2.4.15 as "on an equal footing" with the version actually used by Shostakovich, since it "could have served as material for the composition."[96]

2.5. Brower's Translation

In an excellent recent book, literary translator David Bellos offers a critical defense of his craft, examining and refuting a number of common-knowledge claims about the problems and impossibilities of translation. One chapter dissects the oft-repeated idea that a translation should retain some mark of the original language.[97] Bellos notes that, for instance, this attitude may have been popular among the educated classes of nineteenth-century England, who may have been delighted to recognize certain common French phrases left untranslated in a work. But he

[95] Taneyev (1909, 262); Taneiev (1962, 228).

[96] Brower's translation (Taneyev 1909, 289; Taneiev 1962, 249).

[97] Bellos (2011, 44–58).

points out that in order for such "Frenchness" to be recognizable, the readers would have to be able to understand those phrases as French. A translation from Hindi that retains the distinction among its three forms of the pronoun *you*, he writes, would not be recognizable as a mark of Hindi, at least not without a note from the translator. The distinction among the forms of *you* can be conveyed, but not as a feature that specifically captures the fact that the original text was written in Hindi.

Bellos cites an excerpt from an English translation of Derrida's *Of Grammatology* by Gayatri Chakravorti Spivak, asking, "What allows us to judge whether the following passage retains some authentic trace of the Frenchness of Jacques Derrida, or whether it is just terribly hard to understand?" He provides two paragraphs of the translation, one sentence from which is the following: "My intention, therefore, is not to weigh that prejudicial question, that dry, necessary and somewhat facile question of right, against the power and efficacy of the positive researches which we may witness today." Bellos comments:

> One detail that marks it as a translation from French is the anomalous use of the word *research* in the plural, matching a regular usage of a similar-looking word in French, *recherches*. Obviously, that can be seen only by a reader who knows French as well as English: the foreignness of "researches" is not self-evident to an English-only speaker, who may well construct quite other hypotheses to account for it, or else accept it as a special or technical term belonging to this particular author. But if the bilingual reader also has some additional knowledge of French philosophical terminologies, then the word *positive* preceding *researches* becomes transparent. A bilingual reader can easily see that "positive researches" stands for *recherches positives* in the source. What that French phrase means is another issue: it is the standard translation of "empirical investigation" into French.

Bellos's point is that one would only recognize "positive researches" as a marker of Frenchness if one knew the corresponding French term. Other readers might find the wording peculiar, but not specifically French. A corollary of this point, however, is that only readers who knew enough French to understand "positive researches" = *recherches positives* = "empirical investigation" would be able to properly decipher the meaning of the English translation. To a large extent, the purpose of translating the work into English has therefore been defeated. A reader would, obviously, have to know French in order to read the French original. But in this case, a reader would have to know French in order to understand the English translation as well, even though the work would presumably have been translated in the first place in order to make it accessible to readers who could *not* have read the original French.

Such is the problem presented by G. Ackley Brower's translation of Taneyev's Russian treatise. Brower's word-for-word translation retains the sentence structure and unidiomatic terminology of the Russian original, making it difficult to parse the sentences or understand the terms without knowledge of how the equivalent sentence or term would look in Russian. Further problems only compound this difficulty. Typographical errors abound in the translation, particularly where numbers are involved. In many places, the English edition contains incorrect numerals or missing or superfluous minus signs. Given that Taneyev's methodology is based in mathematics and that equations are ubiquitous in the volume, this presents a significant problem. English readers who spend time trying to decode Brower's writing will not be rewarded when, upon encountering numerical values that seemingly contradict the text or the examples to which they refer, they will only assume that they have poorly understood the text.[98]

The musical examples and diagrams help very little here. For each example and diagram, the English editors have either produced a photocopy from the Russian edition or transcribed the examples themselves. (Readers will notice the use of two different typefaces and two different

[98] For instance, Taneyev's very first example of horizontal-shifting counterpoint, reproduced above as Example 2.2.1, shows a two-voice combination in which voices I and II shift relative to one another. The shift can be construed as *voice I shifting two measures to the right, or voice II shifting two measures to the left*, as Taneyev (1909, 234) explains. Brower's translation, however, omits half of the crucial sentence: "The derivative results from shifting I two measures to the left" (Taneiev 1962, 207). Readers attempting to learn this concept—introduced here for the first time in the book—may assume that *they* have misunderstood the explanation and feel discouraged from attempting to read the rest of the treatise.

graphic layouts among the notated examples.) Problems are introduced in both cases. The photocopies from the Russian edition are poorly produced, with numerous lines and markings not retained. This is particularly noticeable in the case of suspension symbols: many instances of – above and below interval numbers are not present where they ought to be. The transcriptions of examples, and especially diagrams, introduce copious errors not found in the Russian. Once again, these sorts of errors discourage even patient, dedicated readers of the English translation, since these readers cannot verify that the examples and diagrams contain errors. Again, these readers may therefore conclude that they have misunderstood the text.

Brower does not insert his own translator's voice into the text too frequently. When he does, however, he is unsympathetic toward Taneyev. In his brief, three-page Translator's Preface, he claims to have corrected the many alleged errors found among the musical examples in the Russian edition: "The musical quotations have been verified—a necessary measure as the original edition contains many misprints."[99] Brower gives the impression that there were a number of errors in the Russian edition, and that he has fixed these errors. Additionally, his use of the word "verified" implies that Taneyev had miscopied a number of examples, and that Brower has double-checked the examples against the source scores and amended them accordingly.

In fact, there are as many errors in Brower's statement as such a short sentence could possibly contain. First of all, I have not spotted any instances where the musical content of a particular example differs between the Russian and English editions. Either Brower has not "verified" the examples, or they in fact contained no errors. Second, Brower does a disservice to his English-language readers by removing the citations for each example that Taneyev provides.

[99] Taneiev (1962, 11).

To take one example, Example 64 in the English edition (on which more in a moment) is identified, as is every other example, only by its composer, Palestrina.[100] In the Russian edition, one finds the corresponding example identified as “P. XXV, 33.”[101] The introduction to the volume clarifies that “P.” stands for Palestrina and “XXV, 33” refers to the complete works edition published by Breitkopf und Härtel: volume 25, page 33.[102] Brower provides no such references.

Third, while Brower does correct some of the misprints in the original Russian edition, nearly all of the misprints he “catches” are those listed in an errata list published with the original Russian text. Fourth, as mentioned above, he introduces a large number of new errors. And fifth, in many cases where the Russian edition contains an error not accounted for by the errata, Brower preserves the error, even where the examples are redone, not photocopied. The unnumbered example immediately preceding Example 64 in the English edition demonstrates, among other things, bad ninth-to-octave suspensions incorrectly prepared by octaves. In the final measure of the example, the numeral 7 mistakenly appears below the ninth, not the octave to which it refers. This error appears in both Russian and English editions, even though the English editors have set the example themselves instead of photocopying it.[103] Example 64 itself is similarly redone in the English edition, not photocopied. In redoing the example, the editors have preserved an asterisk that appears in the second measure, below the fourth of a six-four chord. However, the editors have not preserved the footnote to which this asterisk refers, which says,

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[100] Taneiev (1962, 65).

[101] Taneyev (1909, 60).

[102] Taneyev (1909, 10).

[103] Taneyev (1909, 60); Taneiev (1962, 65).

"On the fourth between this note and the bass, see § 215."[104] This is to say that, in many cases, the editors have uncritically reproduced Taneyev's examples, without necessarily understanding them.

A full list of the various typos and mistranslations that impede understanding would be immense. This list would have to include instances where the wrong value appears in the English (e.g., 5 instead of 3, or –6 instead of 6), instances where the wrong word appears in the text ("dissonance" instead of "consonance," as occurs in more than one place), and instances where sentences are incomplete. In what follows, I will point out three specific cases where the English translator misunderstands and consequently mistranslates the Russian.

In the first case, Taneyev discusses the use of passing tones and neighbor notes in simple counterpoint. He writes that these tones must occur on weak beats. He follows this with an exception: "In 4/4 time, a passing tone (but not a neighbor note) may occur on the third quarter."[105] His example shows a cut time signature, although this does not change the point (Example 2.5.1). Whether the example is understood in 4/4 time or 2/2 time, at a quarter-note rhythm, the third quarter is accented with respect to the fourth. Therefore the example illustrates an exception to the rule that passing tones always appear on weak beats.

Brower misunderstands that this example is meant to illustrate an *exception*. Noticing the cut time signature, he presumes that Taneyev permits quarter-note passing tones on the third quarter because the third quarter represents beat two of a two-beat time signature, and beat two is a weak beat. Brower thus translates the sentence as follows: "For instance, in 2/2 time a passing

[104] Taneyev (1909, 60). Somewhat confusingly, there is a footnote on this page of the English edition, although it refers to an asterisk in the text, within section 87 (Taneiev 1962, 65).

[105] In Russian: "Pri razmere v 4/4 prokhodyashchaya nota (no ne vspomogatelnaya) mozhet nakhoditsya na 3-y chetverti" (Taneyev 1909, 51).

tone (but not an auxiliary note) may occur on the third quarter, which is unaccented."[106] (Note that the added "for instance" implies a continuation of the previous idea, not an exception to it.) Yet the third quarter would only be considered unaccented if the rhythm were in half notes. At a quarter-note rhythm in either 2/2 time or 4/4 time, the third quarter is accented, not unaccented. In a lengthy Translator's Note at the end of the chapter, Brower chastises Taneyev for routinely failing to distinguish between 2/2 and 4/4 time, accusing him of using common time and cut time signatures "in an utterly indiscriminate manner."[107] This is a further symptom of Brower's unsympathetic approach to Taneyev, which here is founded on a misunderstanding.

In the second case, Taneyev offers a shortcut for determining the set of restrictions on index values using the direct shift. (In section 2.1, I reviewed Taneyev's shortcut regarding the inverse shift.) Taneyev notes that *JJv* with equal but negative values will have similar tables. He illustrates this with $Jv = 1$ and $Jv = –1$ (Figure 2.12).[108] For each index value, he aligns the series of original intervals (first row) with the series of derivative intervals (second row). The third row combines the restrictions of the first two rows, showing the resultant restrictions on the series of original intervals.

It turns out that the first row (original intervals) of $Jv = 1$ is the same as the second row (derivative intervals) of $Jv = –1$, and vice versa. This means that the restrictions listed in the third row are the same. The first interval in each third row has (–) above and –× below, although the actual interval number is different: 0 for $Jv = 1$, 1 for $Jv = –1$.

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[106] Taneiev (1962, 57).

[107] Taneiev (1962, 68–69).

[108] Recall that $Jv = –1$, despite the negative value, is considered a direct shift. It is unlikely that voice I will be placed lower than voice II at a shift of $Jv = –1$.

Taneyev remarks: “Therefore, the third row of one table can be found using the third row of the other, if, preserving [*sokhranit*] all tie-signs, the figures for each interval were replaced by figures corresponding to its derivative interval.”[109] This means that we can take the third row of $Jv = 1$, add 1 to each value (thereby generating that value’s corresponding derivative value) without amending the suspension symbols, and thus produce the restrictions for $Jv = -1$.

Brower mistranslates a crucial word, creating confusion: “Therefore, from the third row of one table can be formed the third row of the other, if, *reversing* all tie-signs, the figures for the derivative intervals (second row) of one table are used for the third row of the other.”[110] Taneyev’s intended point regarding the relationship between the two tables thus remains unclear.

In the third case, Taneyev discusses the conditions under which one voice of a two-voice combination may be doubled at the third or sixth. He uses the symbol *d* to indicate such duplication. $\mathrm{I} + \mathrm{II}^{d=-2}$ means $\mathrm{I} + \mathrm{II} + \mathrm{II}^{v=-2}$. When one voice is doubled, the derivative contains three voices instead of two.

Taneyev discusses the different ways this duplication might work out. In his “second group,” the upper and middle voices constitute the derivative combination $\mathrm{I} + \mathrm{II}^{d=-a}$, at whatever interval *a* the second voice is duplicated. The original voice II remains the lowest voice in the texture. Taneyev provides diagrams for the two cases of this second group (Figure 2.13). In these diagrams, I and II represent the original voices, and $\mathrm{II}^{v=-a}$ represents the voice added in the derivative when II is duplicated at the third or sixth (or tenth or thirteenth) above.

Brower makes a mess of these diagrams and the text that explains them. The “derivative combinations” are mislabeled as “original combinations.” Moreover, the superscript $v = -a$ is

[109] Taneyev (1909, 101).

[110] Taneiev (1962, 101; emphasis added).

missing from the II of both diagrams, even though the annotations below the diagram remain (“*a* = –2,” etc.).

Brower’s text says: “Here the upper and middle voices are those of a two-voice combination. This group includes both the direct and inverse shifts of voice II at a negative *Jv*. The duplications referring to this are: (a) with the direct shift, $II^{d=-2}$, $II^{d=-5<}$.”[111]

Taneyev’s text, first of all, identifies the upper and middle voices as those of a two-voice *derivative* combination. Second, the final sentence is cut short. Taneyev has, “(a) with the direct shift, $II^{d=-2}$ [and] $II^{d=-5<}$; (b) with the inverse shift, $II^{d=-9}$ and $II^{d=-12}$,” corresponding to the two diagrams.[112] The error in Brower is not immediately obvious, as the diagrams are themselves incorrect. Unfortunately, this kind of error pervades the translation.[113]

111 Taneiev (1962, 125). The symbol < indicates a limiting interval for the direct shift and is not discussed here (Taneyev 1909, 28–31; Taneiev 1962, 38–40).

112 Taneyev (1909, 136).

113 A diagram that illustrates positive and negative horizontal shifts between voices I and III is printed backward in the English-language edition, contradicting the accompanying text that says positive shifts for voice I are to the left (Taneiev 1962, 268). In this particular case, the English editors cannot be entirely to blame. The Russian edition prints the same example upside down, contradicting the explanation that positive *vertical* shifts for I are upward (Taneyev 1909, 309).

Chapter Three

The Common Third Relation in Russian Music Theory

Example 3.0.1 depicts a relation familiar to English-speaking theorists. Two triads of opposite mode, C major and C-sharp minor, have different roots and fifths but share a common third, the pitch E. This illustrates SLIDE, one of the canonical relations of neo-Riemannian theory.[1]

Less widely known among English-speaking theorists, the study of this relation in Soviet Russia has run parallel to its North American treatment, beginning several decades before its introduction into English-language scholarship. Russian theory has approached the topic of *odnotertsovoye sootnosheniye* (the "common third relation") from a different perspective than has neo-Riemannian theory, a perspective that privileges harmonic function in tonal contexts. The Russian tradition offers suggestive new possibilities for conceiving of the relation, presenting an alternative history of SLIDE.

The differing concerns of the two approaches stem from their differing orientations. Neo-Riemannian theory focuses primarily on common-tone retention, viewing SLIDE as one of a number of similar relations (P, L, and R being the most central). Russian theory emphasizes the tonal contexts in which the common third relation may implicate itself, as well as the expressive effects engendered by the relation. These differing orientations do not preclude a degree of overlap between the two traditions. Neo-Riemannian theory has interacted in various ways with

[1] Straus (2005a, 161) attests to SLIDE's canonical status by including it—along with L, P, and R—in a discussion of common-tone triadic transformations.

tonal context, and some neo-Riemannian writings have focused heavily on expressive effect.[2] Nonetheless, Russian theory presents insights into passages of music from perspectives that neo-Riemannian theory does not offer.

3.1 Neo-Riemannian Theory

David Lewin named and first identified SLIDE in the late 1980s, in a passage of *Generalized Musical Intervals and Transformations* formative for subsequent neo-Riemannian theory.[3] SLIDE entered neo-Riemannian theory through the writings of Richard Cohn.[4] Robert Morris has referred to SLIDE as P′, because of its transformational affinity to the neo-Riemannian P relation.[5] The transformational basis of neo-Riemannian theory is evident in its conception of SLIDE, P, and other relations as transformations—or, more specifically, operations—that act on one triad in order to turn it into another. I conceive of SLIDE as a relation, a property held by a pair of triads. This conceptual orientation underlies my work in this chapter, but does not affect my comments on neo-Riemannian theory.

Neo-Riemannian analysis labels the common-tone relations (or combinations of relations) that connect adjacent triads. This generally takes the form of a transformational network, with triads occupying nodes and relations labeling forward-pointing arrows. Although this is the

[2] For examples of the interaction between neo-Riemannian theory and tonal function, see Cohn (1999); Cohn (2011); Cohn (2012). On the expressive effect of the neo-Riemannian hexatonic pole relation, see Cohn (2004).

[3] Lewin (1987, 178).

[4] Cohn (1998). See also Cohn (2012).

[5] Morris (1998). P and P′ are conceived as contextual inversions. P inverts a triad about its root–fifth axis, causing its third to move by semitone. P′ inverts a triad about its third, causing its root and fifth to move by semitone.

conventional method of presenting a neo-Riemannian analysis, such analyses need not be chronologically oriented.[6] Nevertheless, this remains the dominant way of organizing a neo-Riemannian analysis.

Cohn's analysis of a passage from Schubert's Fantasy in F Minor, D. 940, is typical in this regard (Example 3.1.1).[7] The passage uses the SLIDE relation, symbolized in the analysis as S. Two other common-tone relations, N and R, appear in the passage but do not concern my comments here. Two features characteristic of the neo-Riemannian approach are worth mentioning here. First, the analysis does not engage the functional hierarchy of tonic, dominant, and subdominant. Second, all harmonies are interpreted as major or minor triads.

To be sure, the function of each harmony is obvious from listening to the passage or looking at the score. F minor and A minor are local tonics, C major and E major are local dominants. Cohn's readers, presumably professional music theorists, do not require these facts to be pointed out. They are relevant to the music, but not to Cohn's analysis, which usefully highlights the persistent common-tone connections within the passage. The fact that Cohn is not concerned with harmonic function does not render his analysis deficient, nor does it reduce the impact of his having found this common-tone-saturated excerpt. My point here is that the methodology of neo-Riemannian analysis does not implicate harmonic function in its judgments. To see this, note that Cohn's analysis would not be changed if C major and E major were the

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[6] Rings (2011).

[7] Cohn (1998, 290). Steven Rings offers a similar analysis of an excerpt from Schubert's "Lebensstürme," D. 947; see Rings (2006, 201–12).

local tonics, with F minor and A minor their subdominants. The emphasis is on relations between adjacent triads—relations that exist independently of functional considerations.[8]

Cohn interprets every harmony as a major or minor triad. Neo-Riemannian operations such as S, N, and R, are defined only on the set of major and minor triads. The theory's mathematical backdrop requires that its operations act on harmonies of a single set class.[9] As a consequence, other chord types must be either treated as major or minor triads or eliminated from the analysis. In Cohn's analysis, the harmony that follows D-flat minor, given as E major, is a second-inversion dominant seventh chord with a root of E. Cohn drops the seventh from the harmony—not a controversial move, since the chord can be understood fundamentally as an E major harmony, with the seventh an added dissonance.[10] The seventh does, however, participate in the smooth (or efficient) voice leading—D-flat (the root of D-flat minor) leads first to D-natural (seventh of E^7) and then down to C (third of A minor)—and as a dissonance requiring downward resolution, it impels the harmonic motion toward A minor.

At the end of the passage, a brief augmented triad sounds between E major and the final F minor, but it does not appear in the analysis. This augmented triad breaks up the parallel fifths between the SLIDE-related harmonies. As it arises through a passing motion in an upper voice, it would likely be denied status as an independent harmony by other analytical approaches, including both Schenkerian and North American–style Roman numeral analysis. Cohn's analysis

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[8] In his more recent work, Cohn has attempted to incorporate harmonic function into a neo-Riemannian approach, primarily by attending to the latent functionality in the Tonnetz: subdominant harmonies on the left, dominant harmonies on the right. See Cohn (2011); Cohn (2012). Steven Rings (2011) also combines transformational thinking with harmonic function.

[9] Tymoczko (2011b) offers a more flexible voice-leading model that can account for various chord types.

[10] In some analyses, Cohn drops the "under-seventh," or putative root, taking the triad formed by the third, fifth, and seventh as fundamental. See Cohn (2012).

is consonant with these other approaches, suggesting that the omission of the augmented triad may not be problematic to the experience of listening to the passage. Problematic or not, neo-Riemannian methodology elects to skip over the augmented triad, as its approach deals only with major and minor triads.[11]

3.2. Russian Theory

The Russian treatment of the common third relation dates back to the 1950s, when Lev Mazel first published on the topic.[12] Subsequent writings by Nikolai Tiftikidi, Serafim Orfeyev, and Yuri Kholopov developed the concept further.

Each author brings an individual perspective to the relation, but four general features unite the Russian approach. First, theorists in Russia interpret the relation within the context of tonal functional harmony. Second, their approach does not confine itself to major and minor triads. Rather, they extend the concept to deal with other chord types, scales, melodies and themes, and individual scale degrees. Third, common-third-related entities need not be adjacent in a passage of music. Neo-Riemannian theory privileges relations between consecutive harmonies. Because relations are in effect truisms (e.g., C major and C-sharp minor are SLIDE-related whether they occur adjacently or not), it makes sense for neo-Riemannian theory to draw attention only to those relations that are directly actuated in a given progression. Russian theory privileges adjacencies as well, but in its argument that common-third-related events can

[11] In his more recent work, Cohn incorporates augmented triads into neo-Riemannian thinking in a systematic way. See Cohn (2012).

[12] Mazel initially wrote on the common third relation in 1957, although he did not name it until 1962. Revisions of his original article appeared in 1972 and 1982; all references in this chapter will be to the article in its final form. See Mazel’ (1957); Mazel’ (1962); Mazel’ (1972, 371–88); Mazel’ (1982, 160–84).

substitute functionally for one another, it highlights those events located at formally analogous places within a composition. Fourth, Russian theory considers the expressive implications of the relation, frequently comparing its effect to that of the parallel relation.

Every theorist from Russia that is discussed here recognizes that common-third-related triads can substitute functionally for one another. When applied to the secondary triads on $\hat{3}$ and $\hat{6}$, this principle engages the concept of modal mixture promulgated in North American undergraduate curricula.[13] Either the minor iii triad or the major flat-III triad may be used as a mediant harmony in a major key. The two options fulfill the same function but offer different expressive characteristics. Similarly, the minor vi triad and the major flat-VI triad both function as submediants. As Russian-language writings point out, this common third relation of triads arises from a parallel relation of keys.[14] The mediant harmonies diatonic to C major and its parallel C minor (for instance) are themselves common-third-related, as are the submediant harmonies.

The Neapolitan harmony can substitute for the supertonic harmony. These chords in major—minor ii and major flat-II—are common-third-related.[15] Although the Neapolitan triad is not diatonic to the parallel minor, some North American theorists consider it to be a product of modal mixture nonetheless.[16]

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[13] On the functional equivalence of common-third-related secondary triads, see Mazel' (1982, 164–69); Tiftikidi (1970, 26); Orfeyev (1970, 54–72); Kholopov (2003, 436).

[14] Mazel' (1982, 165); Tiftikidi (1970, 23–24); Orfeyev (1970, 56).

[15] Orfeyev (1970, 64–65); Kholopov (2003, 436). See also Kopp (2002, 175–76).

[16] Aldwell and Schachter (2011, 591). Like other mixture harmonies, the Neapolitan contains lowered scale degrees, namely flat-$\hat{2}$ and flat-$\hat{6}$.

Composers can juxtapose diatonic and modally mixed versions of the same harmony to accentuate the common third relation between them. Example 3.2.1 shows a passage from Mahler's Symphony No. 3 in D Minor. The opening horn *soli* reaches a resting point in m. 11 on A-as-$\hat{5}$, which is sustained for several measures.[17] The low brass instruments harmonize this sustained pitch with two different mediant-to-dominant motions. In mm. 11–12, they play F major (III) and A minor (v), diatonic to D minor. In mm. 13–14, they play the mediant and dominant of D major, the parallel key: F-sharp minor (iii) and A major (V). Both motions begin with mediant harmony; the two mediants are linked by the sustained common third, A. The common third relation thereby arises as an incidental result of what is commonly called modal mixture.

Through modal mixture, North American harmonic theory endorses the idea that common-third-related secondary triads are functionally interchangeable. Russian theory extends this idea to primary triads as well, arguing that the triads related by common third to tonic, subdominant, and dominant share these respective functions.

3.2.1. Lev Mazel

Mazel initially proposed the common third relation as an extension of the parallel relation. The two relations share some important features, as shown in Example 3.2.2. The C major scale is aligned with the parallel C minor and common-third-related C-sharp minor scales. The uninflected natural minor scales are used. Mazel notes that C major and C minor share in common four pitches on the same scale degrees. They not only share the pitches C, D, F, and G,

[17] Throughout this chapter, I associate pitches with scalar function using the locution "pitch-as-scale-degree." Steven Rings represents the same concept using ordered pairs, for instance ($\hat{5}$, A). See Rings (2011).

but more specifically C-as-$\hat{1}$, D-as-$\hat{2}$, and so forth. The four common degrees—$\hat{1}$, $\hat{2}$, $\hat{4}$, and $\hat{5}$—are the roots and fifths of the primary harmonies (tonic, subdominant, dominant).

Mazel refers to the relationship between parallel keys as a *common-degree* relationship, as the common pitches are shared on the same scale degrees. By this definition, the only other common-degree relationship occurs between common-third-related keys.[18] C major and C-sharp minor share E-as-$\hat{3}$, A-as-$\hat{6}$, and B-as-$\hat{7}$. These three common degrees are the thirds of the primary triads, and as such they control these triads' harmonic color.[19]

This scalar relationship has important compositional and analytical implications. In many compositions, major-mode themes return in minor-mode variants (or vice versa). Most commonly, the parallel minor is used. However, certain melodies emphasize $\hat{3}$, $\hat{6}$, and $\hat{7}$. In these cases, composers can produce a similar effect through the use of the common-third-related minor instead.

For Mazel, the *locus classicus* is Liszt's *Valse oubliée* no. 1 in F-sharp Major. Its main theme, shown in Example 3.2.3, places significant emphasis on D-sharp-as-$\hat{6}$, accented in various ways: metrically on every downbeat, durationally as a dotted quarter, and tonally as a dissonant upper neighbor to C-sharp. Mazel stresses the pitch's importance, noting that "it clearly drives the melody; its instability and descending tendency… constitute one of the theme's most important expressive aspects."[20]

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[18] The relationships depicted in Example 3.2.2 can be modeled using Julian Hook's signature transformations, in which the underlying key signature changes but scale-degree assignations do not. See Hook (2008).

[19] Mazel' (1982, 163–65).

[20] Mazel' (1982, 162).

The importance of this pitch-as-scale-degree controls the theme's reappearance later in the work. Liszt preserves the emphasis on D-sharp-as-$\hat{6}$, now enharmonically reinterpreted as E-flat-as-$\hat{6}$, as the mode shifts to minor (Example 3.2.4). The theme's minor-mode variant uses the common-third-related key of G minor.[21] Here, the two versions of the theme do not directly follow one another in the score. Instead they appear at analogous moments in the form.

Mazel compares the expressive effect of the common third relation with that of the parallel relation. He notes that parallel keys are often juxtaposed to evoke binary oppositions, for instance light and darkness, or joy and grief. With the common third relation, he argues that one key frequently represents the unreal or the illusory. "Sometimes," he writes, "the non-tonic key is perceived as a mirage or hallucination, and the rapid move back to the tonic key as its disappearance, dispersal, or return to reality."[22]

An example from Liszt bears out this interpretation. The piano piece "Funérailles" is in F minor, with a subordinate theme in A-flat major. Toward the end of the piece, the subordinate theme returns, not in the tonic F minor, but in the common-third-related E major (Example 3.2.5). Beginning with an unaccompanied G-sharp-as-$\hat{3}$, enharmonically equivalent to A-flat-as-$\hat{3}$, the melody hints at a potential F minor statement for a brief moment before confirming E major

[21] Following the G minor statement of the theme, Liszt returns to F-sharp major by first lowering the root of a G minor triad by semitone, and then the fifth (Mazel' 1982, 163). This produces the same kind of passing augmented triad found in the Schubert Fantasy, discussed in section 3.1 above. Mazel points out an example from Musorgsky's *Boris Godunov* in which the common-third-related key areas of A-flat major and A minor are connected by a bare augmented fifth (A-flat–E)—that is, an augmented triad without a rearticulated third (Mazel' 1982, 177–78). An augmented triad also connects common-third-related keys in the passage preceding the final variation of Beethoven's *Diabelli* Variations (Orfeyev 1970, 60–61). Note also Orfeyev's observation that "common-third-related keys are more commonly introduced by means of the augmented triad" than are common-third-related triads (Orfeyev 1970, 58n1).

[22] Mazel' (1982, 172). See also Frank Lehman's discussion of SLIDE as a "shadow progression" (Lehman 2011).

harmonically. But this is a transfigured, unstable E major. In place of the root-position tonic chords used in the A-flat major statement, Liszt harmonizes the melody with second-inversion chords, imparting a subtle tension to the slowed-down, *dolcissimo* passage. The effect is that of a dream or happy memory, perhaps a mental escape from a harsh reality. The fantasy is untenable, and after only four measures the music returns to F minor for the work's conclusion.[23]

Mazel cites a further example from the prologue to Britten's *Peter Grimes* (Example 3.2.6). Ellen and Peter sing different versions of a single melody in common-third-related keys, Ellen in E major, Peter in F minor. The melody itself is bounded at both the upper and lower octave by G-sharp/A-flat-as-$\hat{3}$. Ellen sings calmly and hopefully of restoring Peter's reputation. But he cuts her down, interrupting "forcefully and caustically" (in Mazel's words), as if wanting her to snap out of her fantasy. His imitation of her melody may be heard as mockery of her hopefulness; the use of the common third relation in particular clarifies this hopefulness as an unsustainable illusion.[24]

In several ways, the common third relation behaves analogously to the parallel relation: both are common-degree relations, both are used to change the mode of a melody, and both express affective contrasts. Further emphasizing these similarities, Mazel's Russian name for the common third relation, *odnotertsovïy*, is morphologically related to that of the parallel relation, *odnoimyonnïy* (Table 3.1). If *odnotertsovïy* can be translated as "common third," then *odnoimyonnïy* can be translated as "common name," referring to the shared letter-name that identifies parallel keys (the "C" in C major and C minor).

[23] Mazel' (1982, 169–70, 173).

[24] Mazel' (1982, 182–83), who cites Deryck Cooke as the source of the example. On SLIDE in Britten's *Billy Budd*, see Rupprecht (2001, 90–96).

A final implication of Mazel's scalar orientation suggests itself. Mazel notes that common-third-related scales can share additional degrees through chromatic alteration. A natural minor scale with lowered $\hat{2}$, $\hat{4}$, and $\hat{5}$ will share six pitches-as-scale-degrees with the common-third-related major (Example 3.2.7). Mazel cites Aleksandr Dolzhansky as having noted the prominence of minor scales with lowered scale degrees in the music of Shostakovich.[25] Mazel clarifies that such chromatic inflection is not a precondition for the use of the common third relation, which tends to be found independent of scalar alteration.[26]

3.2.2. Nikolai Tiftikidi

Tiftikidi's functional approach to the common third relation resonates with those of Orfeyev and Kholopov, discussed below, and contrasts somewhat with Mazel's scalar approach. Tiftikidi argues that common-third-related harmonies can substitute functionally for one another. In his system, designed primarily for the music of Prokofiev and Shostakovich, not only harmonies but also individual scale degrees can bear the mark of the common third relation.

Tiftikidi constructs a common third system that contains harmonies, scales, and the kinetic tendencies of these scales. In the common third system, there are six primary triads instead of three (Example 3.2.8). Tonic, dominant, and subdominant are joined by their common-third-related associates. As the example shows, major triads receive uppercase functional designations, minor triads receive lowercase. Common-third-related triads are symbolized ot, od,

[25] Dolzhanskiy (1947); see also Haas (2008a). The scale shown in Example 3.2.7 is the "altered scale" of jazz theory; recently, David Haas has argued for the scale as a "Shostakovich mode" (Haas 2008b). Note in particular that the scale incorporates the pitches of Shostakovich's DSCH monogram into a seven-note scale (the monogram also comprises half of the eight-note octatonic scale).

[26] Mazel' (1982, 181–82).

os (in major keys), or oT, oD, oS (in minor keys).[27] Presumably, the "o" stands for *odnotertsovaya* ("common third").

The functional designations used to symbolize the newly added triads indicate not only that they are related by common third to the standard tonic, dominant, and subdominant, but also that they share these triads' respective functions. Tiftikidi conceives the oS harmony, for instance, as bearing subdominant function. In his analysis of the final measures of Prokofiev's Third Piano Sonata, he interprets the D-flat major harmony in just this way, understanding it to participate in a plagal progression that returns to tonic (Example 3.2.9). The chord adopts subdominant function by virtue of its relation by common third to the standard D minor subdominant.[28]

Common-third-related dominants and subdominants feature in Tiftikidi's analysis of the opening of Prokofiev's Gavotte, op. 32, no. 3 (Example 3.2.10). The F-sharp minor passage incorporates primary harmonies from common-third-related F major. Tiftikidi draws attention to the motion to the subdominant-functioning B-flat major harmony (oS) in mm. 3–4. The C major chords (oD) appearing over a tonic pedal (mm. 1 and 5) represent merely "signs of the dominant"; the dominant reveals itself more clearly on the downbeat of m. 7, where the pedal

[27] Tiftikidi (1970, 26).

[28] Tiftikidi (1970, 28). In the prose, Tiftikidi identifies the chord as D-flat–F–A-flat, but the A-flat is absent from the musical surface. This pitch is enharmonically equivalent to the leading tone G-sharp and would have bestowed a degree of dominant function on the sonority. For Daniel Harrison, $\hat{7}$ is the agent of dominant function; see Harrison (1994). Tiftikidi does not pursue the possibility of functional multivalence, unlike Orfeyev and Kholopov (see sections 3.2.3 and 3.2.4 below).

ceases.[29] Tiftikidi simply mentions the "unusual harmonic progressions," t–oS and t–oD, that the common third relation permits.[30]

Indeed, these progressions are unusual. The move from t to oS exemplifies the neo-Riemannian hexatonic pole relation.[31] But the progression oD–D, found in m. 7, is somewhat more unusual. Here the C major harmony (oD) is transposed up by semitone, forming another major triad (C-sharp major, symbolized D). These two harmonies, oD and D, are not themselves common-third-related. Rather, Tiftikidi understands them as different inflections of the diatonic minor dominant, d. The first, oD, is common-third-related to d; the second, D, contains a raised leading tone.[32] It is unusual, however, that Tiftikidi reads both harmonies as expressing dominant function. In this interpretation, dominant function arrives on the downbeat, but it is (in a sense) the wrong dominant, pointing toward the hinted-at F major instead of notated tonic F-sharp minor. With the harmonic shift from oD to D, the dominant corrects itself (or as Mazel would have it, snaps "back to reality"), cadencing in the proper key. Although the semitonally related harmonies appear in direct succession, Tiftikidi interprets both as expressing the same function. While the common third system offers a convenient explanation for this semitonal shift, the enharmonic equivalence of C-natural with B-sharp offers another: C major stands for a harmony on sharp-$\hat{4}$, arbiter of dominant-of-the-dominant function and a frequent classical intensifier of

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[29] Tiftikidi reads implied thirds in the C major harmonies of mm. 1 and 5.

[30] Tiftikidi (1970, 29).

[31] See the discussion of HEXPOLE in section 3.3.4 below.

[32] See also m. 61 of Example 3.2.18 below.

cadential bass motions to V. The context, in other words, overrides the spelling of the chord. Instead of course correction, I hear forward motion.[33]

Tiftikidi's common third system also involves scales. Example 3.2.11 shows the two varieties—major-minor and minor-major—which combine all pitches found among the six primary triads.[34] The C major-minor common third scale includes all the scale degrees of C major, as well as four raised scale degrees ($\hat{1}$, $\hat{2}$, $\hat{4}$, and $\hat{5}$), the roots and fifths of the common-third-related primary triads. As spelled, this scale contains a preponderance of augmented intervals and an absence of minor intervals above the tonic. Tiftikidi associates it with the expressive brightening he hears especially in Prokofiev: "The appearance of C major… after C-sharp minor… gives the impression of a 'flash,' an 'illumination,' a coloristic brightening."[35]

The B minor-major common third scale combines the scale degrees of B minor with four lowered degrees ($\hat{2}$, $\hat{4}$, $\hat{5}$, and $\hat{8}$), which correspond to the roots and fifths of the primary triads of common-third-related B-flat major. Tiftikidi notes that as many as fifteen different diminished intervals can be formed between degrees of the scale, lending it "an exceptionally dark, tense character." He associates this effect with the sense of anxiety in the music of Shostakovich.[36]

Tiftikidi argues that these two scales account for a profusion of raised scale degrees in Prokofiev and lowered scale degrees in Shostakovich. He attributes individual altered scale degrees to the common third relation, even where common-third-related harmonies and key areas are not directly expressed. Example 3.2.12 reproduces a melody from Prokofiev's *Cinderella*.

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[33] Heetderks (2011a) also reads the C major harmony in m. 7 as a predominant.

[34] Tiftikidi (1970, 25).

[35] Tiftikidi (1970, 34).

[36] Tiftikidi (1970, 35–36).

The melody is in C major and uses raised $\hat{1}$ and $\hat{4}$. All pitches belong to the C major-minor common third scale. Example 3.2.13 shows a melody from Shostakovich's String Quartet No. 5. The B minor melody involves the use of lowered $\hat{2}$, $\hat{4}$, and $\hat{5}$. All pitches here can be reckoned to the B minor-major common third scale.

The idea that the common third relation can influence individual scale degrees on their own indicates a broad conception of the relation, one that does not restrict itself to adjacent triads. Yet Tiftikidi's focus solely on melodies ends up ignoring harmony altogether. The second measure of the Shostakovich excerpt is harmonized by an F minor triad. The pitch A-flat in this harmony does not belong to the B minor-major common third scale. If one accounts for enharmonic equivalence, as Tiftikidi does in his examples, then it is the only pitch that does not reside in the scale.

In order to salvage the idea that individual scale degrees can fall under the sway of the common third relation, harmonic context must be taken into account. This involves a reversal of orientation. Tiftikidi attributes individual pitch alterations to the common third relation without considering the harmony. I prefer to turn this around. The presence of common-third-related harmonies may in turn influence individual scale degrees, even those not belonging to the harmonies in question, to undergo alterations of their own. The effects of the common third relation may extend beyond harmonies to influence single pitches as well.

3.2.3. Serafim Orfeyev

Orfeyev's approach is similar to Tiftikidi's. Both theorists construct systems that allow for parallel and common-third-related triads to substitute functionally for one another. Orfeyev does not represent his system with scales, as Tiftikidi does. Neither does Orfeyev restrict himself to the primary triads. In his system, parallel and common-third-related harmonies to any triad can be used as functional substitutes. Orfeyev explains that, in a major key, the chord with Roman numeral VI can be replaced by the common-third-related flat-VI or the parallel VI-sharp. This is consonant with the concept of modal mixture.[37]

Example 3.2.14 presents three cadential progressions. Orfeyev uses these progressions to demonstrate the functional interchangeability of the three VI triads. The expressive effect of each progression is completely different. He notes that the second progression is darker in color, whereas the third is brighter.[38]

Changing the progression's second chord engenders an additional alteration to the third chord, a major IV harmony. In the second progression, the IV harmony is replaced with its parallel, the minor IV chord. Here the pitch A-flat, once introduced in the flat-VI harmony, is maintained until it resolves down by semitone to G.

In the third progression, an F-sharp minor chord, common-third-related to the diatonic F major chord, appears following A major. The resultant progression—which continues directly to an applied diminished seventh—is strikingly sharp, and I struggle to think of an example of such a progression in the classical repertoire. In a musical excerpt, Orfeyev shows VI-sharp leading to the cadential six-four, but he adduces no example of VI-sharp leading to the minor triad on sharp-$\hat{4}$.[39] A more normative usage of VI-sharp leading to a subdominant would involve the diatonic subdominant, not a chromatically altered one. An example can be found in Schumann's

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[37] Aldwell and Schachter (2011, 436–41, 590–94) conceive of flat-VI as arising through simple mixture and VI-sharp through secondary mixture. For a critique of the concept of modal mixture, see Tymoczko (2011b, 217–20, 268–306).

[38] Orfeyev (1970, 68–69).

[39] Orfeyev (1970, 70). The excerpt is from the Act III Polonaise from *Boris Godunov*.

Fantasy in C Major, op. 17, whose third movement begins with the progression C major (I)–A major (VI-sharp)–F major (IV).[40]

Orfeyev is highly concerned with context. He acknowledges the functional multivalence of common-third-related harmonies, especially where enharmonic equivalence is concerned. For instance, he notes that the common-third-related tonic in minor, the major triad on lowered $\hat{1}$, is enharmonically equivalent to the major triad on the leading tone, a dominant-functioning harmony. The common-third-related tonic, therefore, can express tonic or dominant harmony, depending on the context.[41]

Orfeyev cites several examples in which either tonic or dominant function is pronounced. But although he acknowledges the various potential functions the harmony can express, he does not explain the criteria by which he adjudicates its function. Example 3.2.15 reproduces his analysis of a Musorgsky excerpt in D minor. He reads the initial harmony as a common-third-related tonic, symbolized Iot, the "ot" standing for *odnotertsovïy* ("common third").[42] This presumably means that the harmony is understood to express tonic function, as dominant-indicating Roman numeral VII is not used. The progression continues through IIIoi—parallel to the diatonic III harmony, the "oi" standing for *odnoimyonnïy* ("parallel")—V, first-inversion VI, and finally to diatonic I.[43]

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[40] Aldwell and Schachter (2011, 593).

[41] Orfeyev (1970, 77).

[42] Note that Orfeyev's analyses use Roman numerals to symbolize harmonies, as opposed to the function symbols seen above in Tiftikidi's and below in Kholopov's analyses.

[43] Orfeyev's literal VI^6 Roman numeral does not preclude him from understanding the chord to have a tonic function. More directly reflecting this function, an alternative Roman numeral analysis could symbolize the excerpt's final measure as I^{6-5}, the pitch B-flat understood as an upper neighbor to A, which it delays.

On this excerpt, Orfeyev remarks only that the common-third-related harmonies do not follow one another directly, but rather are placed at opposite ends of the phrase.[44] But he does not explain why he reads the D-flat major harmony as expressing tonic function instead of dominant. Perhaps he understands this to be self-evident, as the succession of Roman numerals, I–III–V–(VI)–I, constitutes a complete cadential progression beginning and ending with tonic. The melody also contributes to the sense that initiating and concluding harmonies are joined. Common tone F rings out across the whole progression, sounding above the flanking tonic harmonies at each end.

An excerpt from Bruckner uses a similar progression (Example 3.2.16). The initial first-inversion D-flat major triad is introduced as a Neapolitan sixth in C major. Orfeyev writes, "Sometimes the common-third-related tonic in minor is used as a pivot chord in a modulation."[45] The overall progression reinforces the tonic function of this harmony: I^6–V^7–I, with the initial I^6 replaced by its common-third-related associate. This is a complete cadential progression, with the first-inversion tonic harmony signifying its initiation. Again, the melody plays an important role in tying together D-flat major and D minor. Above the D-flat major harmony, the melody ascends through $\hat{1}$–$\hat{2}$–$\hat{3}$ of D-flat major, sustaining the common tone F-as-$\hat{3}$. The melody then descends through the degrees of a D minor scale for a cadence, whereupon the melody leaps back up to F-as-$\hat{3}$ and descends again.[46]

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[44] Orfeyev (1970, 78).

[45] Orfeyev (1970, 78).

[46] The same example appears in Karg-Elert (1931, 287).

Orfeyev cites an example from Ukrainian composer Levko Revutsky in which the common-third-related tonic functions as a leading-tone triad on raised $\hat{7}$ (Example 3.2.17).[47] In this case, the harmony clearly functions as a neighbor to Roman numeral I, in an analogous manner to embellishing dominant-function harmonies such as V^6 or vii^{o7}. The neighboring voice leading gives the chord its dominant function in this case.

As Orfeyev works through each common-third-related primary triad in turn, he comes upon the common-third-related dominant in minor, the major triad on lowered $\hat{5}$, which he dubs the "tritone harmony."[48] Since it is enharmonically equivalent to the triad on raised $\hat{4}$, it can adopt subdominant function in addition to the dominant function implied by the common third relation. In a way, the subdominant interpretation is more intuitive than the dominant. How can a triad a tritone away from tonic and lacking the leading tone express dominant function?

Orfeyev presents a convincing example from one of Prokofiev's Ten Pieces from *Romeo and Juliet*, augmented with a lengthy prose discussion. Example 3.2.18 displays the score, with my own analysis that incorporates Orfeyev's comments.[49] These sixteen measures are in the form of a period, with both antecedent and consequent structured as sentences.[50] Orfeyev provides the first half of the excerpt only (up to the downbeat of m. 55) and focuses attention on the direct juxtaposition of common-third-related dominants in m. 54, where a B-flat major triad

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[47] Orfeyev (1970, 78). The absence of the annotation "Iot" in the example may in itself imply the chord's lack of tonic function, and hence its dominant function.

[48] The Russian term is *tritonovaya garmoniya* (Orfeyev 1970, 81).

[49] My analysis uses Tiftikidi's function symbols. The interpretation of the third chord in m. 61 comes from Kholopov (2003). Function symbols in parentheses refer to harmonies that North American theorists would consider prolongational and hence subservient to the surrounding harmonies; I adopt this notation from Caplin's (1998) Roman numeral practice.

[50] Formal terminology follows William E. Caplin (1998).

leads to B minor. He questions what he understands to be the conventional interpretation of B-flat major as the dominant-of-the-dominant of A-flat major, pointing out a number of problems this raises: "Why is the B-flat major triad able to complete the first progression [i.e., antecedent] as a cadential chord? Why would it be borrowed from such a distant key? What is its function in the primary key?" He writes that the entire passage can be better understood as involving an interaction of common-third-related keys E minor and E-flat major. "In the sixth measure [m. 52]," he argues, "there is a modulation to the subdominant of E-flat major, affording an opportunity to attain the dominant of this key—the triad B-flat–D–F. This chord participates in a half cadence as the common-third-related dominant of E minor, while the second progression [i.e., consequent] begins on the upbeat with the diatonic minor dominant of the same key."[51]

Orfeyev reads Prokofiev's slurring as blurring the boundary between antecedent and consequent. In his analysis, the antecedent ends on the downbeat of m. 54, with the arrival of the B-flat major harmony.[52] In context, the shift from A minor to A-flat minor in mm. 51–52 abruptly sends us into E-flat minor, where the subsequent iv^6–V motion sounds like a half cadence in that key. The dominant function of B-flat major is expressed cadentially. Following the cadence, the B minor harmony initiates the consequent phrase as a pickup, bridging the

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[51] Orfeyev (1970, 81–82). Note that the subdominant of E-flat major, which Orfeyev identifies in m. 52, is the *minor* subdominant, an A-flat minor harmony. It does not share a common third with the A minor subdominant (of E minor) that precedes it. My function symbol clarifies its derivation via the common third relation. The symbol oS indicates A-flat major, common-third-related to A minor. The symbol > indicates that the third of the triad has been lowered, turning A-flat major into A-flat minor.

[52] Alternatively, one could analyze the phrase structure as congruent with Prokofiev's slurs. The minor dominant on beat 3 of m. 54 could be heard as the final chord of the antecedent, with the common-third-related B-flat major triad enharmonically representing a chord on sharp-$\hat{4}$ and functioning as a dominant-of-the-dominant instead of a cadential goal. In this analysis, beat 3 of m. 54 would not be heard as a pickup into the consequent. The fact that the antecedent begins without pickup supports this interpretation.

tritone gap between B-flat major and E minor. Since this harmony follows the cadence and initiates a new phrase, it cannot also participate in a cadence.[53] This v–i motion is construed as a pickup to m. 55, following the half cadence of m. 54.

In the consequent phrase, the B-flat major triad appears in first inversion in m. 61, between the predominant supertonic half-diminished seventh and the dominant seventh (with added sixth or raised fifth)[54] of the concluding perfect authentic cadence. It is subsidiary to the surrounding harmonies, a fact reinforced by the bass line: the relatively high placement of the D on beat two allows the F-sharp–B connection to be heard more strongly. Does the B-flat major chord embellish the predominant or the dominant harmony—that is, does it express subdominant or dominant function? Either interpretation is possible. If dominant, the chord is simply the common-third-related dominant, as at the half cadence of m. 54. In this case, it anticipates the stronger statement of the diatonic dominant on the third beat.[55] If on the other hand the B-flat triad expresses subdominant function, dominant function is delayed until the third beat. The B-flat triad can be heard as expanding the downbeat supertonic seventh chord, perhaps representing an A-sharp triad in enharmonic guise. This triad on raised $\hat{4}$ intensifies the motion into the dominant, even though the actual $\hat{4}$–sharp-$\hat{4}$–$\hat{5}$ voice-leading strand is dispersed: $\hat{4}$ is not present in the incomplete supertonic seventh chord, and sharp-$\hat{4}$ and $\hat{5}$ appear in different registers.

[53] Caplin (1998); Caplin (2004). By Caplin's definition, cadences always end formal units. They cannot bridge the end of one unit with the beginning of the next, unless the units are elided.

[54] In Example 3.2.18 I read the harmony as a dominant seventh with added sixth, the pitch G corresponding to the numeral 6 next to the function symbol. Alternatively, one could hear the pitch as a raised fifth—that is, as an enharmonic F-double-sharp—in the manner of an altered Scriabin dominant (on which see section 5.1).

[55] In this interpretation, the oD harmony on beat 2 is common-third-related to the *minor* dominant, but it is the *major* dominant (D) that follows on beat 3. The two harmonies do not share any common tones.

A further factor helps me hear the B-flat major chord as extending the predominant. Both predominant and dominant harmonies are modified—the predominant missing its third, the dominant substituting a sixth for its fifth (or raising the fifth)—so that they are whole-tone sonorities. The predominant F-sharp–C–E belongs to the “even” whole-tone collection, whereas the dominant B–D-sharp–G–A belongs to the “odd” collection. The prominent use of pitches B-flat and D in the B-flat major triad, pitches that belond to the even collection, suggest a link to the preceding predominant harmony. When the music moves to dominant, the pitches realign themselves.[56]

3.2.4. Yuri Kholopov

Kholopov offers a more intricate functional interpretation of the common-third-related harmonies than Tiftikidi and Orfeyev. Instead of using newly created function symbols (such as Tiftikidi’s od or Orfeyev’s Vot), Kholopov derives common-third-related harmonies from the primary functions. Like Orfeyev, he acknowledges the functional multivalence of such harmonies.

Example 3.2.19 shows Kholopov’s interpretation of the minor triad common-third-related to a major dominant in a minor key, here an A-flat minor triad in C minor. The chord can adopt three different functions (shown in the right half of the example). Reflecting its root of $\hat{6}$, the triad can be understood as expressing submediant function, symbolized by an upside-down M. The same harmony can be derived as the relative (Kholopov: parallel) of the minor subdominant

[56] The pitch F, a member of the odd whole-tone collection, points to the chord’s potential functional multivalence in this case.

(^{o}S) with lowered third (>), allowing it to express subdominant function.[57] Kholopov's final interpretation involves enharmonic reinterpretation. Kholopov understands the leading-tone diminished seventh chord (B–D–F–A-flat, not shown) as an incomplete dominant ninth, symbolized D^9 with a slash through the D, indicating that the $\hat{5}$ "root" is not present. Within this chord, if one substitutes the pitch E-flat for D, one creates a $\text{vii}^{o7(sus4)}$ harmony—a leading-tone diminished seventh chord with suspended fourth (the second chord in the example). To the D^9 with slash is added Arabic numeral 6, representing the pitch E-flat, which lies the interval of a sixth above absent root G. Lop off the F, and the result is enharmonically equivalent to the A-flat minor harmony (the fourth chord in the example). Kholopov's parenthetical spelling of the chord as A-flat–B-natural–E-flat clarifies the role played by the leading tone in establishing the harmony's potential dominant function.[58]

In any given example, the context determines which function stands out most predominantly, although Kholopov's analyses suggest that multiple functions can be experienced simultaneously. Kholopov writes that when the harmony resolves directly to tonic, it assumes submediant function (Example 3.2.20a). Note that the bass line articulates the submediant and tonic scale degrees: $\hat{6}$–$\hat{1}$. Kholopov shows the harmony assuming dominant function when it embellishes tonic (Example 3.2.20b).[59] Here the bass moves through a neighbor motion, $\hat{1}$–$\hat{7}$–$\hat{1}$.

In an example from Rachmaninov's *Rhapsody on a Theme of Paganini*, Kholopov demonstrates that both functions are present (Example 3.2.21). The excerpt is in F major and

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[57] Following Riemann, Kholopov uses the symbol > to indicate a lowered pitch and the symbol < to indicate a raised pitch.

[58] Kholopov (2003, 436–37). This derivation of the common-third-related dominant from the leading-tone seventh chord resonates with Hugo Riemann's. See Cohn (2004, 308–11).

[59] Kholopov (2003, 437).

contains a C-sharp minor triad toward its end. If we attend to the bass line, we hear C-sharp leading directly to F, suggesting the submediant function symbolized in Kholopov's annotation. Kholopov provides an alternative understanding of the harmony that stems from the resolution of C-sharp to C-natural in the melody. The functional analysis displays this voice leading, showing C-sharp (a lowered ninth above the absent bass C) moving to C-natural (an octave above C) with the annotation 9>–8. This melodic motion to $\hat{5}$ illuminates the harmony's dominant potential. Kholopov refers to the voice leading as an "intrafunctional resolution" (*vnutrifunktsionalnoye razresheniye*) by which "the fundamental dominant quality is asserted quite clearly."[60]

In an example from Shostakovich, Kholopov examines a four-chord tonic prolongation that begins and ends with common-third-related harmonies (Example 3.2.22). He renotates the music using "functionally precise orthography" to clearly explain his analytical judgments. Tonic is prolonged through "accumulating functional modifications." The progression begins with an unadulterated tonic chord. Beat two contains Roman numeral III, understood as a tonic seventh lacking its root. This arises through an 8–7 voice leading in the melody. Beat three arises through further passing motions: 7–6 in the melody and 5–5> in the lowest voice. In the prose description, Kholopov refers to the chord as an applied tritone substitute—a chord on flat-$\hat{2}$ of the subdominant F major. Beat four, which contains the common-third-related tonic, is understood to contain a tonic with raised fifth and lowered ninth. A second row of function symbols shows how the tonic gradually transforms into an applied dominant (to the subdominant).[61] In an analysis that complements Kholopov's without the same level of voice-leading detail, Orfeyev

[60] Kholopov (2003, 437–38).

[61] Kholopov (2003, 439–40).

reads the C-sharp minor triad on beat four as Iot, placing the harmony in the context of the complete harmonic progression (T–S–D–T) that concludes the piece (Example 3.2.23).[62]

Kholopov accounts for the common third relation's striking effect through the use of the tuning ratios of just intonation. With reference to specific passages from the musical literature, he demonstrates mathematically that the common third relation produces a logical inconsistency, where a single semitone would have to be simultaneously tuned in different ways. An example from Prokofiev moves directly from tonic E minor to E-flat major; the latter harmony is reinterpreted as the subdominant of B-flat major, itself the Neapolitan of subdominant A minor (Example 3.2.24). Kholopov shows that the semitone E–E-flat is tuned in two different ways.[63] Proceeding directly from E minor to E-flat major, Kholopov derives the mathematics as follows (in the example, beginning with the E of the first chord, follow the counterclockwise arrows): the minor third E–G within E minor corresponds to the ratio 6/5; common tone G between E minor and E-flat major is understood as a unison; the major third E-flat–G within E-flat major corresponds to the ratio 5/4. The E–E-flat semitone can be calculated as "6/5 up" multiplied by "5/4 down," or $\frac{6}{5} \times \left(\frac{5}{4}\right)^{-1} = \frac{24}{25}$, the ratio of the small chromatic semitone.

Equating the initial E (of the E minor harmony) with the final E (of the A minor harmony), Kholopov derives the semitone in a different manner (follow the clockwise arrows): the fifth A–E within A minor corresponds to 3/2 (down); the fourth A–D between A minor and B-flat major corresponds to 4/3 (up); the major third B-flat–D within B-flat major corresponds to 5/4 (down); the fourth B-flat–E-flat between B-flat major and E-flat major corresponds to 4/3

[62] Orfeyev (1970, 72–73).

[63] Kholopov (2003, 440–41).

(up). Now the E–E-flat semitone can be calculated as $\left(\frac{3}{2}\right)^{-1} \times \frac{4}{3} \times \left(\frac{5}{4}\right)^{-1} \times \frac{4}{3} = \frac{128}{135}$, the ratio of the large chromatic semitone. Kholopov states that these different sizes necessitate an instantaneous aural "microchromatic retuning" of the semitone E–E-flat. Equal temperament acts as a sleight of hand masking the "aural illusion" of enharmonicism, and the "steady stream of chromatic-enharmonic corrections" thereby produced contributes to the expressive effect of the common third relation.[64]

Whereas Mazel conceived of the common third relation as an extension of the parallel relation, Kholopov firmly disagrees with this, in part because the "common third" is merely an enharmonic illusion. Kholopov takes issue with the idea that the tonic scale degree can be split into two. This semitonal disjunction defines two different keys, not one single key. He claims that it is therefore not analogous to the parallel relation.

3.3 Analyses

In spite of the harmonic focus of neo-Riemannian theory, when Lewin first introduces SLIDE, he cites a melodic example similar to Mazel's *Valse oubliée* analysis. Lewin notes that in the Finale of Beethoven's Eighth Symphony, "the F-major theme that begins on the note A, the third of the triad, is transformed at measures 379–91 into F-sharp minor, where it begins on the same A."[65] As Mazel notes, melodies that emphasize $\hat{3}$ are likely candidates for common third, instead of parallel, transformation. Subsequent neo-Riemannian work has, however, emphasized SLIDE as a triadic relation.

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64 Kholopov (2003, 441).

65 Lewin (1987, 178).

The Russian approach to the common third relation is itself varied and contrasts in significant ways with the neo-Riemannian approach. Neo-Riemannian theory relates adjacent harmonies to one another through a methodology that does not implicate the larger tonal functional context. Its operations act on major and minor triads, requiring that all harmonies be interpreted as these chord types. For these reasons, the methodology of neo-Riemannian theory is best suited to passages of music that articulate discrete major and minor triads without generating an overall sense of tonality.[66] With other passages, Russian theory may offer a more intricate and nuanced analytical interpretation.

3.3.1. Shostakovich, Prelude in D-flat Major, op. 34, no. 15

Example 3.3.1 shows the final measures of Shostakovich's Prelude in D-flat Major. Two common-third-related triads appear in direct succession: in mm. 52–54, a G minor triad leads to a G-flat major triad. As shown above the staff, neo-Riemannian theory can assert that the two triads are SLIDE-related, but it cannot connect them to the rest of the passage in a straightforward manner.[67] By contrast, Tiftikidi's function symbols forge a clear path through the harmonic thicket. The G minor harmony expresses subdominant function by virtue of its common third with the diatonic subdominant that follows. Together the two triads constitute the subdominant phase of a complete cadential progression (T–S–D–T). Note further the use of raised scale degrees above the common-third-related subdominant: sharp-$\hat{1}$, sharp-$\hat{4}$, and sharp-$\hat{5}$. Tiftikidi would argue that these pitches, which belong to the D-flat major-minor common third

[66] Chapter 4 explores such a context in the music of Schnittke.

[67] "Straightforward" here implies "through the use of single canonical common-tone relations." D-flat major can connect to G minor via the transformational concatenation RPR, its ternary construction a product of the lack of common tones in the relation.

scale, function in themselves as markers of the common third system. In this case, the harmonic common third instantiation reinforces the perception.

3.3.2. Schnittke, *Requiem*

Schnittke's *Requiem* contains numerous passages that use the common third relation. Some of these passages respond well to neo-Riemannian analytical techniques. The Benedictus movement, for instance, opens with a triadic parallel/common third alternation, creating a SLIDE–P chain (see Example 4.1.1). Other passages engage entities other than major and minor triads, inviting the approach of Russian theory.

Example 3.3.2 shows a brief passage from the Credo movement. Two added ninth chords appear in succession: a B-flat minor added ninth chord followed by an A major added ninth chord. The enharmonic common tone, D-flat/C-sharp, bounds the basses' melody at both upper and lower limits, thus connecting the "heaven and earth" ("coeli et terrae") depicted in the text.

A neo-Riemannian interpretation of this passage would discount the added ninths, turning both harmonies into simple triads, B-flat minor followed by SLIDE-related A major. But the added ninths participate in the same voice-leading motion as the roots and fifths. All three chordal members shift by semitone under the common third relation. Mazel's scale-based approach highlights this. The harmonic pitches can be represented as $\hat{1}$, $\hat{3}$, $\hat{5}$, and $\hat{2}$ in B-flat minor and A major. In the common third relation, $\hat{3}$ is retained as a common tone, whereas $\hat{1}$, $\hat{5}$, and $\hat{2}$ are transformed. This approach illustrates how one can interpret the common third relation acting on harmonies that are not simple triads.

The same approach can account for modifications on melodies and themes. The first movement of the *Requiem* features a melody comprised of the pitches of an E natural minor scale

(Example 3.3.3). A few pitches-as-scale-degrees are emphasized in various ways. In the second measure, C-as-$\hat{6}$ forms the melody's high point, halting an upward stepwise motion from the tonic scale degree. This climactic pitch is held for a quarter-note beat before the melody leaps back down to tonic. In the third measure, G-as-$\hat{3}$ receives metrical emphasis through placement on the downbeat; it is also the melody's longest-held pitch. These scale degrees, thirds of primary triads, control the minor color of the theme.

Further annotations highlight the pitches that begin and end the melody. The initiating upward motion begins with E-as-$\hat{1}$ and F-sharp-as-$\hat{2}$. The concluding motion—also upward and stepwise—returns to E-as-$\hat{1}$ via the pitches C-as-$\hat{6}$ and D-as-$\hat{7}$. These opening and concluding pitches-as-scale-degrees allow Schnittke to smoothly transition between different versions of the melody.

Four E minor statements open the movement, with the fourth beginning at m. 16 (Example 3.3.4). At m. 20, E minor gradually transforms into parallel E major for the fifth statement. Under the parallel relation, the melody's initiating E-as-$\hat{1}$ and F-sharp-as-$\hat{2}$ remain the same, so that the shift to E major is not immediately apparent. Schnittke delays this shift until the emphasized $\hat{6}$ of the second measure, retaining G, A, and B as $\hat{3}$, $\hat{4}$, and $\hat{5}$ in the initial ascent. The climax of this ascent, $\hat{6}$, is chromatically raised to C-sharp, producing a brighter tone color. Similarly in m. 22, emphasized $\hat{3}$ is brightened to G-sharp.

At m. 24, the common third relation transforms E major into F minor. The concluding pitches of the E major statement allow the music to transition smoothly. Pitches C-sharp-as-$\hat{6}$ and D-sharp-as-$\hat{7}$ in m. 23 are enharmonically equivalent to the D-flat-as-$\hat{6}$ and E-flat-as-$\hat{7}$ of F minor. By the time we arrive in F minor, we learn that we were already there. Measure 23 ends not with E-natural, but rather E-sharp, enharmonically equivalent to the new $\hat{1}$.

The F minor statement enharmonically reinterprets C-sharp-as-$\hat{6}$ and G-sharp-as-$\hat{3}$, emphasizing them while altering the coloristic effect. In mm. 25 and 26, climactic D-flat-as-$\hat{6}$ and sustained A-flat-as-$\hat{3}$ now adopt a darker, minor color.

The lower voices participate in these scalar modifications as well. Beneath the E minor statement of mm. 16–19, alto and tenor move in stepwise motion through the pitches of an E natural minor scale. In mm. 20–23, their stepwise motion continues through an E major scale, the pitch G-sharp arriving in m. 21. From this point on, the accompanying voices continue to change scale as necessary, but they do so out of alignment with each other. The alto introduces A-sharp-as-raised-$\hat{4}$ as early as m. 22, two measures before F minor necessitates its equivalent B-flat-as-$\hat{4}$. Similarly in mm. 24–27, the uppermost lower voice—now sung by tenor instead of alto—returns to E minor pitches early. After three measures of stepwise motion through the F minor scale, the tenor sings A-natural and B-natural at m. 27, instead of the A-flat and B-flat diatonic to F minor. As the relation between F minor and the E minor that follows is not a common-degree relation, this change of scale also involves a change of scale degree. That is, instead of singing $\hat{3}$ and $\hat{4}$ of F minor, the tenor performs $\hat{4}$ and $\hat{5}$ of E minor. The semitonal clash between tenor and bass on the downbeat of m. 27, then, does not merely reflect a difference in pitch, but also a difference in perceived scale degree.

3.3.3. Prokofiev, Piano Sonata No. 6

The second movement of Prokofiev's Sixth Sonata contains a C major progression that, at the moment of reaching the dominant part of the phrase, seemingly slips into C-sharp minor for a few beats (Example 3.3.5). Prokofiev's use of semitonally adjusted cadential harmonies is pervasive enough that Soviet theorists identified “Prokofiev dominants” on $\hat{7}$ and sharp-$\hat{4}$.[68] Common third systems like Tiftikidi’s and Orfeyev’s can be conceived as accounting for such harmonies by design. The harmonies of m. 35 do not all belong to common-third-related C-sharp minor. The cadential six-four of C-sharp minor sounds on the downbeat, but the harmony on beat four combines scale degrees from both C major and C-sharp minor. This combining of scale degrees points to the use of Tiftikidi’s common third scales, which do not require our analysis to label each individual harmony as being drawn from either C major or C-sharp minor. Rather aspects of the two keys intermix.

If Prokofiev’s accidentals were all removed from m. 35, leaving only pitches of the C major scale, then the dominant function of the measure would be clearly displayed. A downbeat cadential six-four resolves to the dominant seventh on beat four, with the intervening harmonies participating in a dominant prolongation.[69] My functional analysis argues that the same functions inhere in the common-third-related chords, as if the music slides in and out of C-sharp minor. The harmonies on beats two and three arise through neighboring motions in the voice leading. All pitches can be attributed to the interaction of C major and C-sharp minor.[70]

One pitch, however, cannot be reckoned to Tiftikidi’s major-minor common third scale: A-sharp. This is the single pitch not found among the diatonic scales of C major and C-sharp

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[68] See for instance Orfeyev (1970, 83–84).

[69] David Heetderks provides such a diatonic interpretation of the passage as he explores Richard Bass’s technique of chromatic displacement. Heetderks considers m. 35 as prolonging dominant, with the harmonies on beats two and three arising through neighboring and passing motions. Ultimately, he takes the flat-$\hat{2}$–$\hat{5}$–$\hat{1}$ bass motion, which the prolongational approach effaces, as primary. See Heetderks (2011c, 72–75). I thank David for suggesting that I consider this passage.

[70] The technique of removing accidentals to consider potential functional interpretations of pitches resonates with Kyle Adams’s theory of chromaticism for sixteenth- and seventeenth-century music. See Adams (2009).

minor. Rather, it is the raised sixth scale degree of C-sharp minor, used especially in rising voice-leading motions to the leading tone, raised $\hat{7}$. To where does this A-sharp rise? At the dominant seventh, the music snaps back into C major (mostly, as F-sharp remains). Perhaps the A-sharp rises to the dissonant B of the final tonic harmony.

C-sharp minor intrudes into C major at the opening of the third movement as well (Example 3.3.6). In a short progression in which tonic is prolonged by a single root-position dominant sonority, this dominant sonority is replaced by its common third associate. Once again, scale degrees from C-sharp minor spill over into the following harmony; on the second downbeat, D-sharp, F-sharp, and B (forming a "Prokofiev dominant") are suspended over a C-natural bass before resolving upward.[71] Once again, pitches from outside the C major-minor common third scale appear: A-sharp and E-sharp.[72] Both pitches appear on the last eighth note of the first measure, acting as passing tones that resolve upward by semitone, intensifying the melodic motion into the B and F-sharp sounded on the second downbeat.[73]

[71] The suspended pitches are prepared in a lower register; melodic eighth notes lead from F-sharp, B, and D-sharp (m. 1, beat 3) to D-sharp, F-sharp, and B (m. 2, beat 1).

[72] As spelled, E-sharp is foreign to the scale. Its enharmonic equivalent F-natural appears in the scale.

[73] Tiftikidi (1970, 27–28) notes the infiltration of arpeggiated common-third-related harmonies od and os within the C major theme of the sonata's fourth movement (mm. 29–44). A direct juxtaposition of common-third-related harmonies can be found in the same movement's G-sharp minor theme (later recapitulated in A minor). G-sharp minor tonic leads to dominant-functioning common-third-related G major and back to G-sharp minor, in a manner similar to that of Example 3.2.17, except that both harmonies occur in first inversion (mm. 127ff.).

3.3.4. The Hexatonic Pole Relation

The neo-Riemannian hexatonic pole relation (HEXPOLE, or H) relates two triads whose pitches combine to form a hexatonic collection, such as C major and A-flat minor. In a motion from one to the other triad in this relation, all voices move by semitone.[74] Richard Cohn points out that each triad contains the other's dualistic leading tones, sharp-$\hat{7}$ and flat-$\hat{6}$. Example 3.3.7 depicts this "double leading-tone reciprocity," as Cohn calls it. Borrowing a Freudian term, Cohn describes the expressive effect of HEXPOLE as "uncanny." The psychological metaphor is appropriate, as Cohn argues that each triad represses its HEXPOLE-related partner, a distant harmony strongly but subtly suggested by the leading tones enharmonically contained within.[75]

Cohn's discussion of dualistic leading tones and distant key relations implies that each triad is conceived as a potential tonic. The two triads are therefore thought of as hierarchically equivalent. However, we often find HEXPOLE-related triads within functional progressions, where one triad is perceived as tonic and the other is understood in relation to that tonic.[76]

Example 3.3.8 presents a passage of Schubert's song "Fülle der Liebe." David Damschroder has pointed out the hexatonic pole relation that opens the passage, between the triads A-flat major and E minor.[77] His prolongational analysis interprets the E minor harmony as

[74] Cook (2005) refers to this type of voice leading as "extravagant."

[75] Cohn (2004, 307–8).

[76] See for instance the discussion of t–oS progressions in Examples 3.2.8 and 3.2.9 above.

[77] Damschroder (2010b) alludes to the presence of HEXPOLE by referring to the progression as "uncanny."

an enharmonic F-flat minor chord, derived from a 5–6 voice-leading motion above the A-flat bass, which occurs concomitantly with two other neighbor motions.[78]

Russian theory suggests a function for this harmony. E minor is common-third-related to the dominant E-flat major, suggesting an interpretation using Tiftikidi's od designation. To hear how this chord expresses dominant function, compare with the hypothetical diatonic recomposition of Example 3.3.9. Here the E-flat major dominant embellishes the A-flat major tonic. In Schubert's actual setting, the common-third-related dominant terrifyingly (and with a *fortissisimo* dynamic) substitutes for the diatonic chord, as if the musical fabric were suddenly rent open ("zerspalten"). The common tone between these dominants, the pitch G, serves as the agent of dominant function.[79] The presence of this pitch in the bass serves to bestow this function on the harmony as a whole.

Note that the functional analysis agrees with Damschroder on the role played by this common-third-related dominant. The chord appears in first inversion, and inverted dominant function is tonic prolongational. This differs from the cadential dominant function expressed in m. 92. By treating the E minor harmony as a neighboring chord, Damschroder also considers it to be tonic prolongational, just as he would the first-inversion E-flat major harmony of the hypothetical recomposition. In both analyses, the second chord embellishes the first.[80]

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[78] Damschroder (2010a, 58).

[79] Harrison (1994).

[80] In an alternative analysis, the first chord could be heard to embellish the second. A-flat major can be heard as tonicizing E minor. The melodic E-flat in the first chord is an enharmonic D-sharp, or $\hat{7}$ in E minor, the agent of dominant function. Its motion to E-natural ($\hat{1}$) constitutes a dominant discharge, to use Daniel Harrison's terminology. The concomitant C ($\hat{6}$) to B ($\hat{5}$) motion constitutes a subdominant discharge. The A-flat major harmony is functionally mixed in the manner of a diminished seventh chord. If the bass note were A-natural instead of A-flat, the harmony could be interpreted using Roman numeral $\text{vii}^{o4/3}$, and the bass line ($\hat{4}$–$\hat{3}$) would suggest a plagal motion. If the bass A-flat were heard as an altered $\hat{4}$, then the A-flat major harmony

3.3.5. Shostakovich, String Quartet No. 6, I

The first movement of Shostakovich's String Quartet in G Major is in sonata form (Table 3.2).[81] A main theme in small ternary form leads to a subordinate theme in the key of the major dominant.[82] The development section begins, as do many classical-era sonata-form movements, with a modified statement of the main theme's melody. The development ends with a lengthy standing on the dominant, which bleeds through to the melodic return of the main theme, understood to constitute the beginning of the recapitulation only in retrospect, once we hear the music of the main theme's contrasting middle (or B section). This leads directly into the subordinate theme, recapitulated not in the tonic, but rather in E-flat minor.

Patrick McCreless identifies E-flat minor as the hexatonic pole of tonic G major, stating that its use in the recapitulation is "somewhat incongruous" following the normative subordinate key D major of the exposition.[83] The purported "uncanny" effect of this HEXPOLE relation is mollified, however, by the absence of a direct juxtaposition of E-flat minor and G major triads. An alternative understanding of the choice of E-flat minor comes from comparing the two appearances of the subordinate theme—in D major in the exposition, and in E-flat minor in the recapitulation. The two keys are common-third-related (Example 3.3.10).

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could be analyzed using Kevin Swinden's plural function $S^D(\flat\hat{4})$. See Harrison (1994, esp. 64–72); Swinden (2005).

[81] My formal analysis follows the method of William E. Caplin (1998). For analyses of this movement indebted to James Hepokoski and William Darcy's sonata theory, see Reichardt (2008, 17–42); Kuhn (2010, 224–31).

[82] The symbol ⇒ in the diagram indicates the process of one formal function becoming another. Aspects of both functions are present.

[83] McCreless (2009, 15). He accounts for the key by noting an earlier use of E-flat minor in the movement, in what I identify as the B section of the main theme. Reichardt (2008, 28) also associates the use of E-flat minor with its appearance within the main theme.

The D major statement of the theme places considerable emphasis on F-sharp-as-$\hat{3}$. The melody seems to collapse upon it in frequent I–IV^7 harmonic motions (m. 63). This descent by third to F-sharp-as-$\hat{3}$ is balanced by a stepwise ascent to the F-sharp-as-$\hat{3}$ one octave higher (m. 65), which forms the peak of an unaccompanied figure that quickly returns back down for the I–IV^7 motion (m. 66). When recapitulated in E-flat minor, the theme retains its emphasis on the enharmonically equivalent G-flat-as-$\hat{3}$, both in the violin's melodic figure (mm. 259–60) and in the two-chord harmonic motions (mm. 258 and 261). These motions no longer use I–IV^7 (or i–iv^7) successions. In place of the subdominant seventh used in D major, the recapitulation uses the pitches A-natural, C-flat, D-natural, and G-flat—a non-triadic harmony as spelled, although enharmonically equivalent to a third-inversion B minor seventh. Note however that the three upper voices play the same pitches—C-flat, D-natural, and G-flat—as in the IV^7 harmony of D major—B, D, and F-sharp—under enharmonic equivalence. As if to drive home the common third equivalence of F-sharp-as-$\hat{3}$ with G-flat-as-$\hat{3}$, Shostakovich changes the harmony so that the second violin and viola play the same pitches as well.

Using E-flat minor in the recapitulation allows Shostakovich to enter the coda using the same process by which he entered the development. At the end of the exposition, the subordinate key's D tonic rings out incessantly in the first violin, mirroring the way the quartet began with a repeated D dominant (Example 3.3.11a). The D continues to sound in quarter notes as the development begins with an altered statement of the main theme's melody, its B and D lowered to B-flat and D-flat. Against the dissonant clash of these lowered pitches, the first violin eventually capitulates, dropping its D to C-sharp at m. 116. Quarter-note C-sharp persists until the developmental core begins at m. 147.

At the end of the recapitulation, quarter-note E-flat rings out in the viola as the main theme's melody returns to begin the coda (Example 3.3.11b). The melody returns in its unaltered G major form, but the E-flat drone persists nonetheless. Finally, after several measures of obstinate dissonance, the viola drops its pitch by semitone to D, reinstating the quarter-note D-as-$\hat{5}$ pattern heard in the exposition. As this pattern was absent from the beginning of the recapitulation, where the standing on the dominant bleed-through altered the main theme's texture, its presence now constitutes an act of compensation, restoring what had been lost.[84] The use of E-flat minor allows the coda to reattain the D drone by the same semitonal shift used in the development. Although incongruous from a classical-era perspective, this key both highlights the importance of $\hat{3}$ to the subordinate theme and allows the music to lead surreptitiously into the coda.

3.4. Origins

Why did the common third relation capture the interest of Soviet theorists, inciting them to study its history, use, and expressive effect? The simplest explanation is that Mazel noticed the common-third-related themes in Liszt's *Valse oubliée* and discovered further examples as he spun out his theory. But there are other potential sources that may have brought the relation to these theorists' attention. Here I offer three possibilities, not mutually exclusive, that may have motivated the Russian interest in common thirds.

First, German harmonic theory offers a strong precedent for the study of harmonic relations, and its influence on Russian theory is betrayed by the functional orientation of the latter. Hugo Riemann identified two relations equivalent to the common third: *Gegenterzwechsel*,

[84] On the compensatory functions of codas, see Caplin (1998, 186–91).

which relates C major to D-flat minor, and *Doppelterzwechsel*, which relates C major to C-sharp minor.[85] In a 1930 work, Sigfrid Karg-Elert interprets the triads common-third-related to the primary harmonies as *Mediantparallele*, relatives (Karg-Elert: parallels) of the mediant triads a major third higher (in major keys) or lower (in minor keys) than the primary triads. As both *Mediante* and *Parallele* share their function with the primary triads from which they derive, the *Mediantparallele* express the same function as the harmonies related by common third. Karg-Elert refers to these harmonies as *Terzgleicher der Prinzipale*.[86] In a work published the following year, Karg-Elert expands on his treatment of *Terzgleicher*, adducing examples from sources both nineteenth-century (Schubert, Bruckner, Wolf) and seventeenth (Monteverdi and Frescobaldi). Acknowledging the *Mediantparallele* relationship as a possible interpretation for common-third-related harmonies, Karg-Elert also explores contexts in which *Terzgleicher* harmonies express different functions from one another.[87]

Kholopov names Karg-Elert as having originated the term "common third" (*Terzgleicher*) and further suggests that the concept entered Russian theory through Karg-Elert's East German colleague Fritz Reuter, who wrote a textbook based on Karg-Elert's theories.[88] However, Mazel writes that he was not familiar with Karg-Elert's work when he first formulated his ideas. Moreover, Mazel claims, Karg-Elert merely names the relation, alongside every other possible

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85 These terms come from Riemann's 1880 *Skizze einer neuen Methode der Harmonielehre*. See Engebretsen (2011).

86 Karg-Elert (1930, 42).

87 Karg-Elert (1931, 228–29, 244–48, 287).

88 Kholopov (2003, 436). Reuter's textbook was published in 1952, nearly 20 years after Karg-Elert's death. It transmits the idea that *Terzgleicher* harmonies can substitute functionally for one another. See Reuter (1952, 119–20). Reuter's relationship with Karg-Elert and his ideas is documented in Eisenhardt (1999).

harmonic relation, but does not adduce examples from the musical literature or discuss its expressive effect.[89] Clearly Mazel had consulted only Karg-Elert's 1930 treatise.

Second, there were political incentives for composers and theorists to concern themselves with the common third relation. Soviet composers wishing to write music that was at once modern-sounding and, as was required, triadic and tonal could turn to novel harmonic progressions such as the common third. Among the theoretical writings cited in this chapter, there are a profusion of examples from the works of Prokofiev, Shostakovich, Kabalevsky, and others, illustrating the degree to which the common third relation pervaded Soviet compositional practice.

Theorists in turn would have had a vested interest in discussing the music from tonal perspectives. By analyzing this repertoire for harmonic function, these theorists were implicitly arguing that the music was indeed tonal, in effect justifying contemporary compositional practice for the authorities. In a society where the consequences for musical transgressions could be utterly severe, theorists performed the social service of ensuring that composers' music be understood as tonal, and therefore sanctionable on harmonic grounds.[90]

Third, we need look no further than the music of Chaikovsky to find numerous conspicuous examples of the common third relation. Consider the Fourth Symphony, central to the Russian orchestral canon, which opens with a direct common third juxtaposition of the F minor tonic with an E major harmony (Example 3.4.1). Mazel writes that the "persistent repetition" of A-flat-as-$\hat{3}$ conveys "a mood of inexorable fate," following Chaikovsky's own

[89] Mazel' (1982, 183–84).

[90] I thank Joanna Biermann for this suggestion.

well-known program as offered to his patron, Nadezhda von Meck.[91] As the fatalistic A-flat cannot budge—it remains in the melodic line for the entire introduction—the common-tone E major triad must reckon itself to this pitch. Thus one of the best-known Russian symphonies opens with common-third-related triads.[92]

Tatyana's famous letter scene from *Eugene Onegin* also features the common third relation in a conspicuous way. The scene begins and ends in D-flat major, with an interior section in common-third-related D minor. Tatyana's vocal line brings out the common third connection. Throughout the aria, her music is characterized by *sekstovost*, the prominent use of the interval of a sixth, understood in Russian theory to signify the genre of the domestic romance.[93] Tatyana sings descending sixths from a high F_5-as-$\hat{3}$ both in D minor and in D-flat major. At first she arpeggiates the descent (Example 3.4.2a); later she descends by step (Examples 3.4.2b, c). The combined use of F_5 as pitch ceiling and descending $\hat{3}$–$\hat{5}$ sixths ties together the D minor and D-flat major sections, rendering the common third relation aurally clear.[94]

The *Andante* second movement of Chaikovsky's *Grand Sonate* in G Major contains a further example of the common third relation. The E minor movement is in large ternary form, with a main theme itself in small ternary form. When the main theme returns toward the movement's end, its recapitulation (the A′ of small ternary) is altered harmonically and form-

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[91] Mazel' (1982, 174). See Taruskin (2009, 136–38) for a translation of Chaikovsky's program.

[92] Kholopov (2003, 441) also mentions this example.

[93] Taruskin (1997, 55–60) discusses *sekstovost* in *Eugene Onegin*, including the examples from Tatyana's letter scene shown in Example 3.4.2.

[94] This example is mentioned by Kholopov and Mazel, the latter of whom also draws attention to the melodic use of F_5. Mazel' (1982, 175–76); Kholopov (2003, 441). See also the analysis in Rings (2011, 50–52).

functionally. This is sketched in Example 3.4.3. Instead of the period structure found at the movement's opening, the A′ melody now appears over a dominant pedal, producing a standing on the dominant beginning at m. 122. After several measures of dominant prolongation, resolution finally occurs at m. 131—but to a second-inversion E-flat major chord (*fortissisimo*), as if the dominant seventh on B had been an enharmonic augmented sixth chord. Following a fermata, the music picks up, *pianissimo*, from the E-flat major sonority, now with an added, destabilizing C-sharp. Chaikovsky moves through an omnibus progression, producing a chromatically descending bass and a persistent *marcato* common tone G, sounding unwaveringly in the melody. The omnibus progression leads to a cadential iv–V–i progression in E minor, but melodic G continues to ring out. The structural melodic descent ($\hat{3}$–$\hat{2}$–$\hat{1}$) is only implied, as G holds on stubbornly in the melodic line, even through the cadential dominant, with which it is dissonant. The melodic retention of G-as-$\hat{3}$ from the dramatic E-flat major outburst to the resigned E minor cadence emphasizes the common third relation in which it participates.

3.5. Conclusion

Neo-Riemannian theory highlights both the importance of common-tone connections to triadic progressions and the way in which minimal voice-leading motions enable such connections. Among the canonical neo-Riemannian operations, SLIDE has emerged as perhaps the most distinctive, theoretically accounted for within the system (as P′) but rarely heard between successive triads in pre-twentieth-century music. The great tonal distance traversed between SLIDE-related triads seems at odds with the slight expenditure of the semitonal voice leading involved—voice leading that necessarily proceeds with parallel fifths when the triads are in root position. Striking harmonic and voice leading features collude to earn SLIDE pride of place in the neo-Riemannian pantheon, where it outshines its L′ and R′ analogues.[96]

Russian theory explodes our understanding of SLIDE. Whereas neo-Riemannian theory largely treats SLIDE as a peculiar chromatic progression between adjacent triads, the work of Mazel and his followers approaches the relation from a more flexible perspective, hearing it manifest in key, scalar, and melodic relationships, and claiming its influence in thematical and functional transformations and substitutions. The varied Russian writings on the common third relation share a concern for functional equivalence. They explore the ways that themes and harmonies can emphasize a common third and the expressive effects of retaining this third while shifting the triadic or modal quality around it. Russian theory exposes the fact that SLIDE need not appear between adjacent triads in order to influence a passage of music, nor does its use necessarily point to the suspension of harmonic function. This in turn reveals a weakness behind neo-Riemannian theory's focus on major and minor triads, refining our concept of how relations act on musical progressions. Ultimately SLIDE is more complex than English-speaking scholars have previously thought.

Mazel's study of the common third relation seems to have influenced the history of composition. One of Mazel's colleagues at the Moscow Conservatory was the composer Alfred Schnittke, whose music from the mid-1970s on is permeated with the SLIDE relation.[97] Schnittke was familiar with Mazel's concept of common thirds. In an interview with Alexander Ivashkin, Schnittke implies that the idea may have been "in the air," so to speak, Mazel and he

[96] See, however, Cohn's elevation of the N (= R′) relation to canonical status in Cohn (2012).

[97] Schnittke refers to Mazel as his colleague in Schnittke and Hansberger (1982, 44).

having come up with the idea independently.[98] Yet in the sketches for the Piano Quintet, Schnittke's first composition to use the SLIDE relation, Schnittke writes Mazel's term for "common third," *odnotertsovïye*.[99] Regardless of how Schnittke first identified the common third relation, by the time he began to use it compositionally, he was already familiar with Mazel's study of it.

The following chapter explores how Schnittke composes with SLIDE and two other triadic relations, establishing a twentieth-century triadic practice that privileges relations between successive triads while forgoing tonal and functional relationships.

[98] Shnitke and Ivashkin (1994, 142); in English translation, Schnittke and Ivashkin (2002, 16).

[99] Juilliard Manuscript Collection, Schnittke Collection, file no. 559. I thank Jane Gottlieb for allowing me to access the collection. The catalogue prepared by Ivana Medić, published in Medich (2011), proved an invaluable resource.

Chapter Four

Alfred Schnittke's Triadic Practice

4.1 Introduction

In a 1980 interview, Alfred Schnittke acknowledges that he does not experiment with configurations of pitch material as much as with the relations among groups of pitches. His interest lies in exploring a "whole network" of relations that connect familiar pitch constructions in unfamiliar ways.[1] He speaks of forging a bridge between tonality and atonality by using triads in ways that avoid the patterns of tonal technique.[2] This description summarizes the goals of a triadic practice found in his atonal works of approximately 1974–85. Schnittke deploys successions of major and minor triads that defy tonal-functional explanation.[3] Far from constituting a haphazard exploration of the triadic universe, Schnittke's practice largely limits itself to three triadic relations, which combine voice-leading flexibility with a minimization of tonal reference.

Three works written nearly simultaneously initiate this practice: *Hymn II* (1974), the *Requiem* (1975), and the Piano Quintet (1972–76). Examples 4.1.1 and 4.1.2 illustrate Schnittke's consistent focus on three triadic relations in particular. The Benedictus of the *Requiem* begins over an E pedal; men's voices sing a phrase that begins on E and ends with

[1] Schnittke and Hansberger (1982, 49).

[2] Schnittke and Hansberger (1982, 45–46).

[3] This resonates with Edward Lowinsky's concept of "triadic atonality," which refers to a feature of sixteenth- and seventeenth-century works that avoid clear or stable harmonic centers but maintain a focus on triadic sonorities. See Lowinsky (1961).

dominant and tonic harmonies of E major (Example 4.1.1).[4] E acts as a tonal center in this passage, which nevertheless uses the same triadic relations Schnittke employs in more definitively atonal contexts. Beginning with the D minor triad of m. 3, the men's voices sing a series of triads that descends chromatically.[5] Individual harmonies are here less important than the relations that connect adjacent harmonies. The P ("parallel") relation connects adjacent harmonies that share a root but differ in mode. The S ("SLIDE") relation connects common-third-related harmonies, which share a third and whose roots lie a semitone apart.[6] The M ("minor third") relation associates a major triad with the minor triad whose root lies three semitones higher, as between B major and D minor (mm. 5–6).[7]

Hymn II for cello and double bass opens with a series of triads that does not suggest any tonal center (Example 4.1.2). Neither the pitches comprising the triads nor their roots alone belong to a single diatonic collection. As with the Benedictus, the work begins with a sustained E in the bass. The melodic figure G-sharp–G-natural is harmonized twice over a bass E, first with P-related triads (E major and E minor, mm. 1–7) and then with S-related triads (C-sharp minor and C major, mm. 9–10). The M relation leads both C major to D-sharp minor (mm. 10–11) and A major to C minor (mm. 12–13).

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[4] Example 4.1.1 has been modified slightly. The final E major sonority (m. 10) appears in the score as an open fifth chord (E–B–E), which only on subsequent repetitions includes the third that clarifies its major quality.

[5] Some triads in the passage are spelled enharmonically. In m. 3, the first basses sing the pitch E-sharp for both the D minor and the C-sharp major triads, so that they do not have to switch enharmonically between F-natural and E-sharp. This highlights the common third between the two harmonies.

[6] On the common third relation, called SLIDE in North American theory, see chap. 3.

[7] The M relation is equivalent to Julian Hook's (2002) uniform triadic transformation ⟨–,3,9⟩ and differs from another chromatic third relation called M by David Kopp (2002).

Neo-Riemannian theory offers a methodology for studying harmonic successions where relations between triadic adjacencies are privileged over the large-scale coherence offered by a key or tonal hierarchy. Traditionally neo-Riemannian theory has been used in the analysis of tonal music. Although it does not itself deal with harmonic function, it has interacted with function theories to account for both triad-to-triad relations and the large-scale organization of tonal passages.[8] Atonal triadic passages, such as those offered by Schnittke's music, do not require functional interpretation and can therefore be addressed by neo-Riemannian theory alone. The triads of *Hymn II* do not cohere into functional patterns, but rather their organization derives from the use of a limited number of triad-to-triad relations. These relations form the object of neo-Riemannian study.

P and S are familiar from previous neo-Riemannian scholarship. Along with M, these relations form the basis of Schnittke's triadic practice. All three relations are reciprocal. M, for instance, connects C major to E-flat minor, but also E-flat minor to C major. Schnittke privileges P, S, and M as a means of avoiding the triadic patterns of functional tonality; he furthermore employs these relations to form polychords, alternating harmonic chains, and melodic reharmonizations.

Schnittke's use of the SLIDE or common third relation has been noted in the past, with previous scholars identifying isolated instances among his works.[10] The broader triadic framework that also incorporates P and M, however, has not previously been recognized. Some further scholars have associated Schnittke's use of triads with his well-known concept of

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[8] For interactions between neo-Riemannian theory and function theories, see Lewin (1987); Hyer (1989); Cohn (1999); Harrison (2002); Bribitzer-Stull (2006); Cohn (2011); Cohn (2012).

[10] Mazel' (1982, 182); Kholopova and Chigaryova (1990, 105–6); Kalashnikova (1999); Schick (2002, 254–55); Kholopov (2003, 439); Hughes (2009).

polystylism.[11] This is problematic inasmuch as Schnittke frequently uses triads in contexts that do not otherwise invoke historical styles.

Neo-Riemannian theory provides a mechanism for relating any two triads. In Examples 4.1.1 and 4.1.2, however, only P, S, and M are labeled. The unlabeled relations could be identified using further familiar neo-Riemannian designations or combinations thereof.[12] But it is not my goal in this chapter to contrive strings of mathematically correct operations, or to make Schnittke's music appear indistinguishable from the other repertoires that neo-Riemannian theorists have analyzed. Rather, I focus on P, S, and M in an attempt to understand the compositional reasons that Schnittke has chosen to use these three relations in particular.

Schnittke uses P, S, and M extensively, but he does not use them exclusively. Some other relations recur with some frequency throughout his music (and can be found among the unlabeled arrows in this chapter's analyses), most notably between tritone-related triads of opposite mode (T_6P, transformationally) and between major triads related by minor third (PR or RP). Despite the seeming preponderance of T_6P, PR, and RP, there are two reasons that I do not focus on them. First, these three relations do not appear nearly as frequently as P, S, and M in Schnittke's music. Second, Schnittke does not use these three relations in the same ways that he uses P, S, and M. Crucially, he uses only P, S, and M to construct alternating harmonic chains—never T_6P, PR, RP, or any other relation. In order to understand Schnittke's triadic practice, I focus only on the relations that best define it.

[11] Kalashnikova (1999); Peterson (2000); Tamar (2000); Tremblay (2007). On polystylism, see section 5.1.2 below.

[12] To take an example, in Example 4.1.1 the dotted arrow connecting D minor to A major (mm. 6–8) could be labeled N (the *Nebenverwandt* relation of neo-Riemannian theory), RLP (according to the relation's path on the *Tonnetz*), or MSM (to restrict inquiry to Schnittke's privileged P, S, and M). On N, see Cohn (1998); Cohn (2012). On combinations of neo-Riemannian operations and paths through the *Tonnetz*, see Cohn (1996); Cohn (1997).

The PSM framework affords maximum voice-leading flexibility while minimizing tonal reference. This chapter explores the theoretical ramifications of this framework, observing how neo-Riemannian theory can illuminate the practice, how Schnittke uses the framework in his music, and the importance of the practice to his compositional style as a whole.

4.2 The P, S, and M Relations

With his bridge between tonality and atonality, Schnittke solves a problem peculiar to twentieth-century triadic composers. How can triads be deployed so as not to sound tonal?[13] Schnittke's commitment to his three relations ensures that motions between adjacent triads traverse the greatest possible tonal distance.

Example 4.2.1 provides the twenty-four major and minor triads, arranged vertically according to the number of common tones each shares with C major. Each of the P, S, and M relations involves a different number of retained common tones. Each relation, furthermore, joins C major to the most distantly related triad in its common tone category. Distance is calculated along the circle of fifths from zero to six. The farther to the right a triad appears in the example, the more distant from C major it is. The most distantly related triads in each row are shaded, with the P-, S-, and M-related triads shaded more darkly.[14]

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[13] Other late twentieth-century composers have also worked with triads in non-tonal ways. On Ligeti, see Callender (2007) and Shaffer (2011). On Bryars, see Roeder and Cook (2006) and Cook (2009). On Pärt, see Roeder (2011) and Brauneiss (2012).

[14] With enharmonically equivalent triads, only the spelling closest to C major on the circle of fifths appears in Example 4.2.1. Thus for instance D-flat major (distance: 5) appears instead of C-sharp major (distance: 7).

There are three triads that share two common tones with C major. They relate to C major by the P, L, and R relations familiar from neo-Riemannian theory.[15] Of the three relations, P traverses the greatest tonal distance, three notches on the circle of fifths. Uniquely among these relations, P also relates two triads that cannot be contained in a single diatonic collection. From this standpoint P is the least tonal-sounding relation that preserves two common tones.

The nine triads that share one common tone with C major relate to the triad via the three prime neo-Riemannian operations—P′, L′, and R′—and the six binary operations—PR, LR, and so forth.[16] Four relations associate triads that lie four notches apart on the circle of fifths, joining C major to C-sharp minor, E major, F minor, and A-flat major. Three of these triads arise in C major contexts through what Aldwell and Schachter refer to as simple or secondary modal mixture: E major as Roman numeral III-sharp, F minor as minor IV, and A-flat major as flat-VI.[17] C-sharp minor is least likely to arise in functional C major contexts.[18] Because it traverses the greatest tonal distance and links harmonies that are unlikely to appear together in tonal contexts, S produces the least-tonal-sounding triadic successions among relations that maintain one common tone.

The eleven triads that do not share any common tones with C major include those that are co-diatonic with it—such as D minor (C diatonic collection) or D major (G diatonic collection)—as well as more distant triads—such as G-sharp minor, related to C major via neo-

[15] See Cohn (1997).

[16] On the prime operations, see Morris (1998). On the binary operations, see Cohn (1997).

[17] Aldwell and Schachter (2011, 590–94). D-flat minor, enharmonically equivalent to the C-sharp minor given in Example 4.2.1, arises through the process of "double mixture," but not simple or secondary mixture (Aldwell and Schachter 2011, 594–95). E major can also function as an applied dominant to VI, in which case it is not considered to arise through mixture.

[18] On functional interpretations of S-related harmonies, see chap. 3.

Riemannian H (hexatonic pole).[19] The two triads that lie a full six notches away from C major on the circle of fifths are E-flat minor (related to C major by M) and F-sharp major (the tritone transposition of C major). Both are equally distant from C major, but the selection of M offers two advantages for Schnittke's triadic style. First, as Dmitri Tymoczko has shown, there is no efficient three-voice voice leading from C major to F-sharp major, in which each voice moves a maximum of two semitones; a fourth voice and attendant pitch doublings are required.[20] Schnittke uses triads without doublings and privileges efficient voice leading, precluding the consistent use of the tritone relation. Second, the M relation, like P and S, associates a major triad with a minor triad. Passages that use P, S, and M exclusively alternate major and minor triads.

Schnittke uses these three relations to institute a flexible triadic practice that locally sounds minimally tonal. This group of relations has certain theoretical properties that a neo-Riemannian methodology can reveal. Traditional neo-Riemannian theory has focused on the P, L, and R relations, each of which preserves two common tones. These relations have been mapped on the *Tonnetz*, named for its precedents in German harmonic theory.[21] Theorists have navigated the *Tonnetz* to demonstrate that any two triads can be related by some combination of P, L, and R, thus expanding the inquiry beyond the single application of each relation. Moves on the *Tonnetz* have various voice-leading implications.[22] The complete set of twenty-four major and minor

[19] On the hexatonic pole relation, see Cohn (1996); Cohn (2004); Cohn (2012).

[20] Tymoczko (2008, 27–28).

[21] See Cohn (1997); Gollin (2006).

[22] This has been addressed in part by Morris (1998). Cohn (1997) argues that the *Tonnetz* furnishes a model of triadic voice leading. Tymoczko (2009) disputes the argument that the *Tonnetz* accurately depicts voice-leading distance.

triads can be generated by the L and R relations alone.[23] The P relation offers alternative voice-leading paths through the network.

Schnittke's three relations can be studied from a similar perspective, bringing to light voice-leading properties of the group that, while not the focus of Schnittke's music, are implicated in it. The spatial map the relations suggest is shown in Example 4.2.2. An alternation of P and S generates the entire cycle of major and minor triads. Efficient voice leading ascends with clockwise moves through the space and descends with counterclockwise moves (Example 4.2.3a).[24] The M relation connects the same triads as the combination SPSPS, but the most efficient voice leading occurs in the opposite direction (Example 4.2.3b).[25]

The Benedictus passage above, shown in Example 4.1.1, demonstrates this voice-leading relationship between SPSPS and M. The passage begins with an alternation of S and P that leads from D minor to B major (mm. 3–5); this is followed by an instantiation of the M relation, leading back to D minor (mm. 5–6). Example 4.2.4 maps this progression in PSM space.[26] Both SPSPS and M connect B major and D minor, but the musical effect is different in both cases. With the initial SPSPS, the voice leading descends chromatically, exclusively using triads in root position. With M, the most efficient voice leading is again descending, now to a triad in second

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[23] Cohn (1997).

[24] The terms *efficient* and *parsimonious* have been used in various ways to refer to minimal voice leadings, most often restricting voice-leading distance to one or two semitones, sometimes restricting the motion to a single voice (or strand of the voice leading). See Cohn (1996); Lewin (1996); Cohn (1997); Douthett and Steinbach (1998); Cook (2005); Tymoczko (2008); Tymoczko (2011b). Here, following Tymoczko, efficient voice leading is that with the least total distance among all voices.

[25] I thank Jason Yust for describing to me, in a personal communication, the properties of the PSM set of relations and its relation to the PLR set.

[26] In the PSM maps shown in this chapter, starting points are indicated by triads with a double-line border, as with the D minor node of Example 4.2.4.

inversion. An alternation of SPSPS and M, therefore, cycles through the triads located in a small section of the space, but with the voice leading moving consistently in a single direction.

4.3 Uses

Schnittke systematically explores the PSM framework in his triadic passages. Although he incorporates triads into his music in a number of ways, there are three ways in particular that he frequently uses his network of relations. First, he creates polychords by superimposing triads related by P, S, or M. Second, he creates chains that alternate between two specific relations. Third, he uses P, S, and M to create distinctive transformed versions of thematic melodies.[27]

4.3.1 Polychords

Schnittke describes two genera of "double triad" that appear in his Piano Quintet. Double triads with split thirds combine the pitches of P-related triads. Double triads with split roots and fifths combine the pitches of S-related triads. Schnittke considers such double triads an ideal bridge between tonality and atonality, as they combine the triads of tonal practice with the semitonal dissonances of atonal practice.[28] Interviewer Joachim Hansberger asks him how he constructed the chords shown in Example 4.3.1. Schnittke explains that each chord combines pitches from two or more triads with split thirds (P) or split roots and fifths (S). The first chord (m. 263) combines S-related triads C major and C-sharp minor. The second (m. 265) combines

[27] On Liszt's and Britten's use of the S relation to transform thematic melodies, see section 3.2.1.

[28] Schnittke and Hansberger (1982, 45).

S-related triads B major and C minor.[29] The third (m. 266) Schnittke describes as “three or four triads at once” using the P and S relations in alternation: “A minor, A major: split third; A major, B-flat minor: split root and fifth; B-flat minor, B-flat major: split third.”[30] Each double (or quadruple) triad can be represented in PSM space as a contiguous segment of the perimeter. Example 4.3.2 plots the three chords from the Piano Quintet on the space.

The map’s continual alternation of P and S suggests that larger P/S polychords could be constructed, a possibility that Schnittke acknowledges: “One can also build up an endless chord by this principle. I also make this sometimes.”[31] In the Kyrie of the *Requiem*, Schnittke constructs such a chord in layers, beginning with C major and adding new triads one at a time on top (Example 4.3.3). S and P relations alternate until the conglomeration reaches E-flat major (Example 4.3.4). The passage continues with double S-related triads.

Schnittke’s standard polychordal practice is to deploy two strands of triads at once, with simultaneously sounding triads related by S, or occasionally P or M. The Tuba mirum of the *Requiem* provides an illustration (Example 4.3.5). For six measures of an otherwise non-triadic movement, the celesta and piano simultaneously play successions of major and minor triads. On every quarter-note beat, the celesta’s triad is S-related to the piano’s triad, producing an S-related double triad. Schnittke structures the passage using the P, S, and M relations to move between adjacent double triads.[32] When the S relation is used in a motion from one double triad to another,

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[29] S-related polychords have been found in other repertoires. The “Golaud” chord from Debussy’s *Pelléas et Mélisande*, identified by Olivier Messiaen, consists of superimposed A major and B-flat minor triads; see Benitez (2000, 120–27). On S-related polychords in a passage from Puccini’s *Turandot*, see Orfeyev (1970, 62).

[30] Schnittke and Hansberger (1982, 46).

[31] Schnittke and Hansberger (1982, 46).

[32] As in earlier examples, dotted arrows indicate successions not governed by P, S, or M.

the two strands swap individual triads. This first occurs at the beginning of the passage, where both celesta and piano perform S, thereby trading A major and B-flat minor triads. I refer to this technique as "S-chiasmus," and it appears frequently among Schnittke's triadic passages.

"Reflection," the third of the *Three Madrigals* (1980), features two layers of S-related polychords, one in the harpsichord and the other in the strings (Example 4.3.6). M largely controls the harpsichord's motions between double triads. The same relation links the strings' near-canon to the harpsichord, as the violin's initial G minor triad relates by M to the F-flat major triad sounding simultaneously in the harpsichord. The vocal line also falls under the sway of Schnittke's double triads, with the words "outer space" (m. 12) sung to the pitches of an E-flat major/E-flat minor split-third polychord.

4.3.2 Chains

Neo-Riemannian theory has studied alternating chains of two relations, having focused in particular on the P/L, P/R, and L/R chains suggested by the PLR framework.[33] Schnittke's PSM framework gives rise to other combinations of relational alternations. As previously mentioned, P and S in alternation generate the complete set of twenty-four major and minor triads. There are two different S/M chains, each of which involves twelve triads (Example 4.3.7). There are three P/M chains each involving the eight triads of a single octatonic collection (Example 4.3.8). Examples of each chain can be found in Schnittke's music.

The Hostias movement of the *Requiem* concludes with a harmonic progression that, with its melodic stasis on E and its stepwise descent of A–G–F–E in the organ's left hand, resembles a Phrygian cadence to E (Example 4.3.9). In this passage both the choral voices and the organ

[33] Cohn (1997); Cohn (2012).

perform the same succession of triads, suggesting that each chord can be understood as a harmony instead of an object articulated by a single strand of the texture, as in the other examples. The P/M chain that opens the excerpt, therefore, can be characterized as a harmonic sequence. It cycles through six triads of the octatonic collection that includes C and C-sharp (Example 4.3.10). The chain ends in measure 21, whereafter the organ articulates the pitches F (in the pedal) and B (in the left hand), foreign to the C/C-sharp octatonic collection.

An S/P chain at the opening of the Piano Quintet is obscured somewhat by the different ways each triad is presented (Example 4.3.11). In this solo piano passage, the context is resolutely atonal. The chain leads from D minor to B-flat major, with some triads articulated as block chords (D minor, D-flat major, B-flat major), some arpeggiated (C-sharp minor, C minor, B minor), and others with their pitches broken up across rests and overlapping with adjacent triads (C major, B major). Schnittke uses S and P to structure the pitch-class content of the passage, but the constant changes in texture and manner of presentation mask its triadic basis (Example 4.3.12).[34]

An S/M chain in the String Trio (1985) moves through all twelve of its triads (Example 4.3.13). The Trio ushers in Schnittke's austere, melancholy late style. Both of its movements are slow, quiet, dissonant, and sparsely textured, a fact that makes the passage shown here, with its intense rhythmic momentum and triadic clarity, all the more striking when heard in context. The chain begins with B-flat minor and alternates S and M while maintaining a minimalistic rhythmic pattern. The texture changes at m. 82, where the G-sharp minor triad predicted by the chain is sustained as part of a double S-related triad. The G major triad played simultaneously with it is itself M-related to the initiating B-flat minor triad, indicating that the chain would have cycled

[34] On an S/P chain in Prokofiev's *War and Peace*, see Gollin (2000, 306–7). On an S/P chain in Liszt's "Il Penseroso," see Cohn (2012, 95).

back to its beginning had it continued one further link (Example 4.3.14). Instead Schnittke uses double triads to harmonize a tonal-sounding melody, using the primary harmonies of C-sharp minor—tonic C-sharp minor, dominant G-sharp minor, and subdominant F-sharp minor—together with their S-related associates, the primary harmonies of C major.

4.3.3 Thematic Transformation

As P, S, and M are Schnittke's signature triadic moves, he often uses them to transform, or "Schnittkefy," familiar themes borrowed from other musical contexts. The String Quartet No. 3 (1983) opens with three quotations labeled in the score. The first is ostensibly from Orlando di Lasso's *Stabat mater*, and although it does appear in the first movement of Lasso's work, it merely sounds like a conventional sixteenth-century cadence (Example 4.3.15a). The first violin embellishes a 4–3 suspension over a putative D major triad before the instruments resolve contrapuntally to C major. When the formula first reappears a few measures later, Schnittke provides a reharmonization (Example 4.3.15b). Four triads appear, the first two related by M, the last two related by S. The cello line reinforces the latter relation, arpeggiating the pitches of B major below the first three triads before moving to S-related C minor. By using P, S, and M, Schnittke creates a distinctive, transformed version of Lasso's cadential formula.

The second movement of the Piano Quintet is a waltz whose main melody prominently uses the BACH monogram. Other well-known motives appear in the movement, including Shostakovich's DSCH monogram and the *Dies irae* plainchant.[35] The passage shown in Example 4.3.16 incorporates both BACH and *Dies irae* into a texture governed by P, S, and M. In each measure the piano plays double triads with split root and fifth. A complete triad appears in the

[35] On the use of BACH, DSCH, and other monograms in Schnittke's works, see Segall (2013).

right hand; the left hand plays the split root and fifth, which together with the right hand's common third produces an S-related triad. The left hand controls the succession of triads, advancing always by P, S, or M. At the opening of the passage, Schnittke chooses the specific relations—S, S, M—that allow the left hand to state the *Dies irae* incipit (mm. 203–6). Starting with the initial F minor triad, the succession S, S, M leads to D major (m. 206). Because the relations act in opposite directions on major as on minor triads, when the same S, S, M succession begins with a D major triad (m. 206), the left hand returns to F minor (m. 209). By following this pattern with a further S, Schnittke is able to sound out a complete statement of the BACH monogram—B-flat, A, C, B-natural—with the left hand's triadic fifths (mm. 207–10). S and M are thus used to Schnittkefy two of the work's main motives, *Dies irae* and BACH.

In the excerpt's first six measures—where the S, S, M succession of relations is presented twice—the piano plays only four different triads: S-related E major and F minor, and S-related D major and E-flat minor. Each S is an S-chiasmus that exchanges the two hands' triads while maintaining a common third, enharmonically spelled as necessary, in the right hand. The M relation toggles back and forth between the two S-related pairs. This stakes out only a small section of the PSM space, the music bouncing between two double nodes (Example 4.3.17a). In mm. 209–15, the S, S, M pattern is abandoned in favor of an S/P chain that, tracing a counterclockwise motion through the space, uses descending voice leading (Example 4.3.17b). The left hand slinks down, through the E minor and E-flat major triads bounced over in the previous measures and continuing through the bounced-to E-flat minor and D major triads. The S/P chain concludes on the downbeat of m. 215, where the piano arrives on the double triad of D minor and C-sharp major, three semitones lower than the beginning of the passage and in a new section of PSM space. At this point the S, S, M music of mm. 203–8 is repeated at the new pitch level, engaging B major and C minor.

In “Reflection” Schnittke also harmonizes the BACH monogram using S and M relations (Example 4.3.18). As in the Piano Quintet, Schnittke uses ascending parallel voice leading for M, presenting each triad in root position, instead of the descending efficient voice leading that produces various triadic inversions. The alteration of S and M continues past the pitches of BACH, continuing the intervallic pattern in the melody that the monogram initiates: down one semitone and up three. S and M alternate until the music reaches G-flat major, harmonizing the pitch D-flat. The following E is not harmonized by the A minor triad M-related to G-flat major; rather, the triad that sounds is C major, related by tritone transposition to G-flat major and equally tonally distant as A minor. At the same time that the harpsichord’s left hand plays this C major triad, its right hand plays the M-related E-flat minor triad that begins the entire succession once again. In all, half of the complete M/S chain presents itself, moving through seven triads (Example 4.3.19). The BACH monogram accounts for this chain.

A Schnittkefied version of Shostakovich’s DSCH monogram appears in the Two Little Pieces for Organ (1980). The monogram is transposed up by semitone so that its pitches are E-flat, E-natural, C-sharp, C-natural (Example 4.3.20). Each pitch is harmonized with a double S-related triad. The right hand plays two pairs of successive M-related triads: C minor and A major, followed by F-sharp major and A minor. As the first instance of M leads from a minor triad to a major triad whereas the second leads from a major triad to a minor triad, the voice leading is equal but opposite, ascending in the first instance, descending in the second. This produces a symmetrical design on the PSM map (Example 4.3.21).

The Concerto for Piano and Strings (1979) opens with a succession of six triads that makes conspicuous use of S and M (Example 4.3.22). This succession is used thematically throughout the concerto, at times Schnittkefying other themes. Example 4.3.23 shows a passage in which Maria Cizmic has identified an allusion to Beethoven's "Moonlight" Sonata.[36] Here Schnittke transforms Beethoven's music, retaining the triadic figuration but replacing a functional harmonic progression with the concerto's signature six-triad succession. The right hand starts with the first triad of the succession, C minor, but the left hand starts with the second, C-flat major, thereby opening the passage with a double S-related triad.

4.4 Concerto Grosso No. 2 (1981–82)

The Concerto Grosso No. 2 was written for husband-and-wife soloists Oleg Kagan (violin) and Natalya Gutman (cello), both lifelong collaborators of Schnittke's who were honored in other compositions.[37] In this work Schnittke uses all of his techniques for systematically exploring the P, S, and M relations. From a certain perspective, the work can be seen as devoting itself to working out all of the different things that P, S, and M can do. All three of the work's main themes are transformed using the three relations.

The first main theme has been referred to as the "Silent Night" theme, because of its apparent resemblance to the Christmas carol (Example 4.4.1).[38] Schnittke relates that Jürgen

[36] Cizmic (2012, 55). Joachim Hansberger also notes allusions to the "Moonlight" Sonata in Schnittke's Piano Quintet (Schnittke and Hansberger 1982).

[37] Schnittke dedicated the Violin Concerto No. 3 (1978) to Kagan and the Cello Sonata No. 1 (1978) and Cello Concerto No. 1 (1986) to Gutman. Following Kagan's death in 1990, Schnittke wrote the *Madrigal in memoriam Oleg Kagan* in his memory. See also Schnittke's own essay on his relationship with Kagan and Gutman (Shnitke 2004).

[38] Weitzman (1992, 6–7).

Köchel, publisher and director of Sikorski, first pointed out the similarity to him. Schnittke had made a setting of "Silent Night" for violin and piano a few years prior—*Stille Nacht* (1978), a Christmas gift for Gidon Kremer—cementing his association with the tune. Schnittke explains that the tune may have been swimming around in his subconscious during the composition of the concerto, but the connection was not intentional.[39] The theme's first two beats—with their dotted rhythm, upper neighbor, and falling third—do resemble the opening measure of "Silent Night," albeit starting on $\hat{3}$ instead of $\hat{5}$, but the remainder of the theme is different enough—fixated on the initial motive and lacking the carol's gradual rise in register—not to suggest direct quotation. For those commentators who nevertheless hear "Silent Night" in the theme, it is a Schnittkefied "Silent Night." Adjacent arpeggiated triads relate to one another by S or M; the final E-flat minor triad contains a brief split third (F-sharp, for enharmonic G-flat, and G-natural) suggesting P-related E-flat major.

The concerto's second main theme is an acknowledged quotation from J. S. Bach (Example 4.4.2).[40] Schnittke appropriates the first half-measure of the *Brandenburg* Concerto No. 5, beheading it from the functional progression that follows and replacing it with a wash of overlapping violin lines that seem stuck on the initial D major harmony. The *Brandenburg* theme returns several times throughout the concerto in Schnittkefied triadic guises. In the passage shown in Example 4.4.3, Schnittke borrows Bach's *moto perpetuo* texture but uses P, S, and M to move between triads. The harpsichord begins with D major in both hands. The right and left hands then change triads at different times, the right hand using S and M, the left hand P and S. After several measures, the two hands converge on an S-chiasmus, reaching S-related C major

[39] Schnittke (1994, 101).

[40] Schnittke (1994, 101).

and C-sharp minor simultaneously and then using the S relation to swap triads. Incidentally the passage provides another illustration of the fact that the M relation engages the same two triads as the succession SPSPS—the music demonstrates two different pathways between D-sharp minor and C major (Example 4.4.4).

A third theme, which eventually forms the basis of a passacaglia in the second movement, is introduced in the first movement (Example 4.4.5). The melody is presented responsorially, solo cello and solo violin trading three-note fragments. These fragments are harmonized by double triads in the harpsichord, which at first suggests a quasi-tonal interpretation of the theme. The first three triads played in the right hand correspond to a i–iv–V progression in G-sharp minor: G-sharp minor, C-sharp minor, and E-flat major (enharmonically equivalent to D-sharp major). Such vestiges of functional tonality are quickly subsumed into a morass of P, S, and M relations. This passage contains some of Schnittke's rare P-related double triads. When the Passacaglia theme returns slightly later, an equally rare M-related double triad appears (Example 4.4.6).

The most extensive P/S chain in all of Schnittke's music appears in the first movement. In Example 4.4.7, the two solo instruments arpeggiate the successive triads found in the chain. Adjacent triads frequently overlap, as the example's brackets indicate. During the time that the violin arpeggiates successive triads in sixteenth notes (beginning in m. 206), the cello plays the split roots and fifths of S-related triads without rearticulating the common third played by the violin. When the sixteenth-note arpeggios move into a lower register and the cello takes them over, the violin plays S-related triads, complete or fragments thereof. Ultimately the chain connects the initial D minor triad to M-related B major, engaging twenty of the twenty-four possible links. Had the chain continued only a few notches further (SPSPS), it would have completed the cycle and returned to D minor. Schnittke does return to D minor from a distance of four triads on the P/S chain, but from the opposite side. Starting with E minor, the violin alternates S and P to quickly regain the initial D minor triad.

P, S, and M continue to control appearances of the Passacaglia, *Brandenburg*, and so-called "Silent Night" themes throughout the rest of the concerto. In the second movement the Passacaglia theme sounds at every pitch level, rising chromatically through the movement from F to E. The complete theme, which becomes more distorted with each repetition, is punctuated by an S progression whose second triad acts as a preparatory dominant for the following thematic statement (Example 4.4.8). The third movement reinstates the *Brandenburg* theme, taking it triadically through a complete S/M cycle (Example 4.4.9). Double triads in the second and fourth movements harmonize various statements of the "Silent Night" theme.

The concerto's final event is an S/M chain, in which the solo violin arpeggiates the constituent triads upward, dissolving indeterminately into the registral ether (Example 4.4.10). At the same time the solo cello detunes its lowest string, sliding lower and lower. This ending recalls Schnittke's own *Stille Nacht*, the work that may or may not have been lurking in his subconscious while writing the concerto. *Stille Nacht* also ends with its violin soloist detuning the lowest string, wavering without articulating any discrete pitches (Example 4.4.11). The piano accompaniment arpeggiates a triad with split root (G-natural/G-sharp), suggesting the S relation. As much as *Stille Nacht* was not an intended influence on the Concerto Grosso No. 2, each work ends with a confluence of specific processes—registral extremes, detuned strings, pitch wavering, triadic arpeggiation, use of the S relation—that calls the other to mind.

4.5 Early and Late Works

Schnittke's triadic practice governs his music of approximately 1974–85. Within this period he is entirely committed to the network of P, S, and M relations. Outside this period he does not concern himself with this network. There are nonetheless appearances of S in both the late and early works.

The late style (1985–97) involves a turn toward textural sparseness. In his late orchestral music—including the Sixth through Ninth Symphonies, scored for giant expanded orchestras—rarely do more than a few instruments play at a time. Triads are used with far less frequency than in the music of the preceding decade. Triads do appear, however, as does the S relation.

As mentioned above, the String Trio (1985) exhibits several hallmarks of Schnittke's late style, and can be considered as initiating this style.[41] The work shows a more flexible approach to S, previously found largely between adjacent or simultaneous triads. In the Trio S manifests itself more generally in a conflict between G minor, the putative key of the work's main theme, and G-flat major. The main theme itself begins melodically with $\hat{3}$ of G minor, outlining the tonic triad in its first three quarter-note beats (Example 4.5.1). The sharply dissonant chord of mm. 2–3, while formed from pitches of the G harmonic minor scale, disrupts the sense that the piece might turn out to be tonal. G minor is used more for its motivic value—the theme returns constantly in G minor—than for any functional properties with which it may have endowed the work. By the time the passage in Example 4.5.2 arrives, the main theme has already been heard several times. At this point, however, the melody has been transformed into S-related G-flat major, still beginning with the same $\hat{3}$, the pitch B-flat. In Example 4.5.3, a passage from the second movement, remnants of the two melodic variants are heard simultaneously—G minor in

[41] Gidon Kremer makes the same claim of the Trio. See Kremer (2002).

the viola, G-flat major in the violin. No succession of triads appears; rather, S relates two simultaneously suggested tonal centers.

Later, sparser works still find ways to incorporate the S relation. As an illustration, consider the passage shown in Example 4.5.4, from the first of the *Five Fragments Based on Paintings of Hieronymus Bosch* (1994), scored for solo trombone, harpsichord, and string orchestra. Throughout this movement the trombone carries a dissonant melodic line, while the harpsichord and strings create "imprints" of the trombone's pitches, sustaining in the background certain notes articulated by the trombone. At the beginning of the excerpt, the harpsichord and strings extract a D major triad from the trombone's line (m. 54). A few measures later, with the D major pitches still sounding in the viola and cello, the strings superimpose the S-related D-sharp minor triad above it (m. 60). This passage typifies Schnittke's approach to S in the late style. Triads are used sparingly, but S is often incorporated.

In the early music, Schnittke does not use P, S, or M with any regularity, but there is one prominent use of the S relation in the Violin Sonata No. 1 (1963). The sonata's third movement is a passacaglia modeled after the third-movement passacaglia in Shostakovich's Piano Trio No. 2, as Schnittke has acknowledged.[42] Both movements use a repeated eight-measure chord progression. Schnittke's progression suggests the key of C major, whereas Shostakovich's progression is in B-flat minor (Example 4.5.5). A particular voice-leading technique unites the two progressions. Shostakovich arrives on a B diminished triad in his eighth measure (see Example 4.5.5b). Root and third sound on the downbeat, with the triadic fifth entering the texture on the measure's second beat. To lead back to the initiating B-flat minor triad, Shostakovich

[42] Schnittke (1994, 118).

maintains F, the fifth of both triads, as a common tone. The root and third, B and D, both slide down by semitone to B-flat and D-flat, producing B-flat minor.

Schnittke uses the same voice-leading technique (see Example 4.5.5a). His progression leads to a C-sharp minor triad (m. 7). In order to return to his initiating C major triad, the pitch E is maintained as a common third whereas the root and fifth, C-sharp and G-sharp, slide down by semitone to C and G, yielding C major.[43] From Shostakovich to Schnittke, the voice-leading technique is the same, even if the specific common tone is different. With Shostakovich the common tone is the triadic fifth. The progression from B diminished to B-flat minor does not have a neo-Riemannian designation, as only relations involving major and minor triads are described by that theory. With Schnittke the common tone is the triadic third, and the progression produced corresponds to the S relation. It is not clear whether this voice-leading technique is one of the features Schnittke borrowed from Shostakovich in composing the passage. Several other features clearly derive from Shostakovich. Both movements begin with the piano alone, playing the full eight-measure chord progression. Both begin with tonic-to-dominant motions in their respective keys, before moving outside the key for the third and all subsequent chords. Schnittke may have obtained the idea for a common-tone link between the progression's end and its beginning from Shostakovich's Trio, or this may be an incidental shared feature. The

[43] This voice leading is realized abstractly in mm. 7–9, as the piano returns to the original register and inversion of the C major triad (E_3–G_3–C_4), instead of playing the triad efficiently linked to the given C-sharp minor triad (C_4–E_4–G_4). This is necessary for the piano to begin the passacaglia progression again. In m. 17, at the beginning of the passacaglia's third statement, the violin plays C_4–E_4–G_4, finally realizing the semitonal voice leading from C-sharp minor only suggested in m. 9.

possibility remains that Schnittke's earliest instance of S came about from an attempt to imitate certain features of Shostakovich's progression.[44]

4.6 Other Chord Types

Some neo-Riemannian theorists have applied the canonical P, L, and R operations to chord types other than major and minor triads.[45] From the perspective of pitch-class set theory, major triads and minor triads are inversionally related members of the same set class. The relations can be defined for other set classes.[46] The S relation can be similarly applied to non-triadic chord types.[47] S can be understood to act on a root-position chord of a particular trichordal set class when it holds its common middle note in place while shifting its outer notes in a single direction by semitone, producing an inversionally related member of the same set class. Three-note chords that are nearly but not perfectly even can undergo this transformation. These chords are located near the symmetrical mirrored boundary of trichordal pitch-class space (Example 4.6.1).[48] Members of set classes 001, 013, 025, and 037 can be affected by the S relation, all with shifts by semitone of the outer notes (Example 4.6.2).

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[44] Note that Schnittke's high C_6 of m. 7, which anticipates the return to C major in m. 9, is the split root of the simultaneously sounding C-sharp minor triad, perhaps giving rise to a latent S-related polychord.

[45] Morris (1998); Clough (2002); Brown (2003); Scott (2005); Heetderks (2011b); Straus (2011).

[46] For symmetrical set classes such as 024, the three relations will not all be unique. See Straus (2011, 53–56).

[47] See Straus (2011). Note also Frank Lehman's (2011) SLIKE transformation.

[48] On trichordal pitch-class space, see Straus (2003); Callender (2004); Straus (2005b); Callender, Quinn, and Tymoczko (2008); Tymoczko (2009); Tymoczko (2011b).

There are no passages in Schnittke's music made up of members of a single non-037 set class, mostly precluding the appearance of non-triadic S. There is nonetheless one passage in the Piano Quintet in which S acts conspicuously on 025 and 013 (Example 4.6.3). In this passage the piano begins with an S-chiasmus, moving back and forth from D major over E-flat minor to E-flat minor over D major (mm. 11–12). The pitch F-sharp is maintained as a common tone in the right hand; enharmonically equivalent G-flat is maintained in the left. On the downbeat of m. 13, all outer pitches wedge inward by semitone toward these common tones. The right hand's D and A wedge inward to D-sharp and G-sharp; the left hand's E-flat and B-flat wedge inward to E and A. F-sharp and G-flat are maintained as the middle notes. As a result, the piano now plays double S-related members of set class 025. The right hand and left hand play chords inversionally related to one another, with enharmonically equivalent middle notes.

Schnittke repeats the entire process, applying S to 025. An S-chiasmus swaps the two hands' members of 025 twice (mm. 13–14). Outer notes wedge inward and middle notes are maintained (m. 15). The piano plays inversionally related members of 013 with enharmonically equivalent middle notes—double S-related members of 013. In this brief passage Schnittke demonstrates the S relation with major and minor triads, and then he shows how the relation can be applied to other chord types. The passage offers a "tutorial" for generalizing SLIDE.

Set classes 025 and 013 can be represented with concentric rings on the PSM spatial map (Example 4.6.4). The chords of Schnittke's excerpt travel inward through this space, passing through the segments defined by F-sharp/G-flat common tones.

4.7 Conclusion

Richard Cohn has argued persuasively that the hexatonic pole relation depicts the uncanny, or the eerily familiar, in tonal contexts.[49] Minimal voice leading contributes to this effect, as the relation links harmonies that are tonally distant but through motions that traverse only semitones. The near/far dichotomy lies at the heart of the unsettling effect. Schnittke's triadic passages employ the same sleights of hand, stringing together successions of distantly related triads through the use of efficient voice leading. Do similarly unsettling affects exist among Schnittke's relations?

Previous writers have commented on the affective power of the P and S relations. The contrast between P-related harmonies has long been associated with binary oppositions, for instance between light and dark, or joy and grief. Soviet theorists have argued that S-related harmonies can also represent direct contrasts, for instance between the real and the illusory.[50] These affective qualities hold in tonal contexts, where the P and S relations stand out for their non-diatonic natures, and where they are often marked by appearing across formal or textural boundaries. But do these qualities transfer to atonal contexts? Are they maintained in passages where P, S, and M appear frequently or even exclusively? Clearly Schnittke's triadic successions are not heard to be constantly toggling back and forth, every beat, between binary opposites.

In spite of this caveat, there do exist passages in which P, S, and M are starkly and expressively exposed. The opening of the *Hymn II* features triadic harmonies played solemnly and quietly (Example 4.1.2). Both the initial P and the S that follows take place over a pedal E, perhaps heard as tonic. With P, E major slips to E minor, the change in quality pronounced by

[49] Cohn (2004).

[50] See chap. 3.

the late introduction of the triadic thirds. With S, the ground gives way beneath C-sharp minor, revealing C major. M is then used to unmoor tonal function, establishing that the hymn harmonization is to be non-tonal. The Benedictus of the *Requiem* uses an S/P chain to slip through tonal cracks, descending from tonic E to subdominant, dominant, and finally back to tonic (Example 4.1.1). The passage is otherworldly, losing and regaining its sense of tonal footing. Both are works of mourning; to them may be added the Piano Quintet, written in memory of Schnittke's mother. Why does Schnittke turn to triads in order to express grief?[51] As a relic of an irrecoverable tonal past, triads may engage a memorializing impulse in Schnittke. This impulse can be witnessed in the other elements of his music that enshrine the past and present, for instance his incorporation of past historical styles, and his encoding into monograms of performers' names.[52] A memorializing impulse may be a feature of late Soviet music more generally.[53]

Schnittke's ultimate challenge is to use triads in ways that do not replicate the patterns of functional tonality. Such patterns he saves for his quotations (or more commonly, pseudo-quotations), leaving them recognizable as markers of a historical past. Schnittke's twentieth-century practice involves reconfiguring the triadic landscape, and for him this means composing with relations. By using the P, S, and M relations, all of which ensure that a maximum tonal distance is traversed, Schnittke need not worry about suggesting or establishing a key, for instance accidentally. This allows Schnittke, on the one hand, to write atonal triadic music, and on the other hand, to separate his atonal practice from his tonally allusive polystylistic practice.

[51] I thank Richard Porterfield for suggesting this question.

[52] On Schnittke's incorporation of past historical styles, see section 5. 2 of this dissertation. On monograms, see Segall (2013).

[53] Cizmic (2012).

In atonal contexts, the tonal affects of P, S, and M are lost. A diminished seventh chord in Mozart is striking, but in Berg it is not even necessarily noticeable. The constant interplay of P, S, and M in Schnittke drains the relations of their individual meanings, while at the same time staking out a space for themselves as representing triadic atonality. There may be some irony in the fact that Schnittke obtained the idea for the S relation from Lev Mazel, since Mazel’s work details the very kinds of binary oppositions that Schnittke’s use of S rejects.

Chapter Five

Two Additional Triadic Practices: Scriabin's Harmonies and Schnittke's Polystylism

As the previous chapters have shown, twentieth-century Russian music displays variegated approaches to composing with triads, in turn inviting a range of analytical approaches to make sense of them. Tonal counterpoint, functional harmony, and triadic atonality all treat triads in different ways, necessitating different theoretical perspectives.

This chapter resumes brief discussion of two additional practices mentioned in the Introduction: Scriabin's altered triadic structures and Schnittke's polystylism. Recent English-language scholarship has analyzed Scriabin's music from prolongational and set-theoretical standpoints. Russian theory, specifically the writings of Varvara Dernova, has considered each verticality as an altered, extended triadic harmony and has drawn attention to the roles that tritones play in this repertoire. By exploring the implications of Scriabin's harmony on the whole-tone content of his music, I argue that semitonal voice leading acts as a central determinant for Scriabin's harmonic choices. This in turn relates to the semitonal voice leading found in other triadic works, such as Shostakovich's op. 5.

In Schnittke's polystylism, excerpts of triadic music are used to represent past musical styles. The harmonic roles that the triads might have fulfilled are minimized in favor of an associational impact, calling to mind the tonality of earlier centuries within a larger atonal framework. Schnittke's concept of polystylism, I argue, has been poorly understood by English-speaking scholars. By closely reading Schnittke's original Russian-language writings on the topic, I assert that we can better understand the processes of quotation and allusion in Schnittke's music.

5.1. Semitonal Voice Leading in Scriabin and Early Shostakovich

Scriabin's *Feuillet d'album*, op. 58, is one of the earliest works to use the so-called Mystic chord, a six-note harmonic collection that can be understood as a dominant seventh chord with lowered fifth and added ninth and thirteenth (refer to Example 1.2).[1] A reduction of the entire piece is shown in Example 5.1, which demonstrates how transpositions of the Mystic chord structure the work. The root–seventh–third pitches are indicated with open noteheads, whereas the other notes of the chord, represented with solid noteheads, are interpreted as extensions and alterations.[2] In this analysis the initial harmony is rooted on F-sharp.[3]

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[1] See also Taruskin (1997, 308–59); Ewell (2006).

[2] Roots are only indicated with open noteheads when they appear in the bass. Bass tones that lie a fifth below the root, such as the F of m. 11 or the B of m. 18, are considered pedal tones and are indicated with solid noteheads. These pitches anticipate potential (unrealized) authentic resolutions of the harmonies they support, as discussed below.

[3] In the first measure (and at equivalent moments throughout the piece) the left hand enharmonically articulates the root–seventh–third of a dominant seventh on C, yielding an alternative interpretation of the chord as containing a raised fifth with added sharp-ninth and flat-thirteenth. By this interpretation, when the pitches are redistributed in m. 3 to suggest a root of F-sharp, the seventh and third of the C chord are reinterpreted as the third and seventh respectively of the F-sharp chord. The C chord and F-sharp chord have roots differing by tritone, and they share a common third–seventh tritone. The procedure of moving between chords with roots a tritone apart and thereby preserving the internal tritone between third and seventh is common enough in Scriabin's music to have been named in Russian theory by Varvara Dernova as Scriabin's "tritone link," on which see Dernova (1968) and Guenther (1983). In the case of mm. 1–4 of the *Feuillet d'album*, although I acknowledge the differing possible interpretations, I prefer to hear the entire passage as unfolding a single harmony with a root of F-sharp, for two reasons. First, the enharmonic spelling of the third–seventh tritone corresponds to a root of F-sharp. Second, all harmonies in the piece can be analyzed as dominant sevenths with lowered fifths and added ninths and thirteenths. By privileging the F-sharp harmony over the C harmony, my analysis considers there to be a single chord type, transposed to different pitch levels, in this work.

The Mystic chord is a minimal perturbation of the whole-tone scale.[4] Five of the six pitches of the F-sharp Mystic chord belong to the F-sharp whole-tone scale (or WT_0).[5] The chord's remaining pitch, D-sharp, lies one semitone away from the scale's remaining pitch, D-natural. In the *Feuillet d'album*, the Mystic chord appears at four different transposition levels, with roots of F-sharp, A-flat, E, and C. All four roots belong to the F-sharp whole-tone scale, and each of the four Mystic chords contains five pitches from that particular scale.

In Scriabin's piano works immediately preceding the *Feuillet d'album*, there remains an emphasis on whole-tone sonorities. Example 5.2 analyzes the opening eight measures of the Etude, op. 56, no. 4. Each harmony in the passage, except the last, is an altered dominant seventh; the root–seventh–third is consistently played in the left hand. Root motion by tritone is pervasive. Tritone links are indicated with brackets in the example. The whole-tone scale is prominently featured. In the first measure, dominant seventh chords on F and B are presented. Their fifths are altered by semitone so that all harmonic pitches in both chords belong to the WT_1 collection. Every pitch in the measure belongs to this collection, except for the right hand's D, which can be heard as a passing tone connecting E-flat to C-sharp; its weak metrical placement, on the third triplet sixteenth of the first beat, reinforces this perception. The second measure, a transposition up by three semitones of the first, uses the WT_0 collection. In the third measure WT_1 is reinstated.

With whole-tone scales featuring prominently in the pitch content, and tritone links governing the harmonic motion, the Etude does not strongly articulate a sense of either key or harmonic function. At moments of cadence, therefore, Scriabin breaks the pattern of movement among altered dominants. Beginning in m. 5, a G dominant seventh chord with raised fifth (D-

[4] Callender (1998); Cohn (2012, 166–68).

[5] The locution "F-sharp whole-tone scale" refers to the whole-tone scale containing F-sharp, that is, WT_0. Any other of the scale's pitches could serve equally well as a reference point.

sharp, spelled enharmonically as E-flat) and added ninth (A) rings out for four eighth-note beats, the right hand fixated on the tritone between E-flat and A.[6] In m. 7, the entire chord is suspended over the pitch C in the bass. This C is a perfect fifth below the previous bass note G and does not belong to the WT_1 collection. The suspension resolves on the downbeat of m. 8 to a first-inversion C major triad, with the A in the uppermost voice descending to G via chromatic passing tone A-flat.[7] Example 5.3 provides a reduction of mm. 7–8. An altered G dominant seventh chord is prepared, suspended over the note C, and resolved.[8] At the moment of resolution, no new note is heard in the bass register, suggesting that the C on the previous beat is still active. The entire progression functions as an authentic cadence, with the penultimate dominant chord suspended over a tonic pedal before resolving. This is a typical procedure for Scriabin. In order to draw attention to a cadential goal, a dominant harmony is suspended over a tonic pedal at points of cadence.[9] (A potential model is shown in Example 5.4.)

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[6] The D-flat in m. 6 could be considered the chord's lowered fifth, a pitch also belonging to the WT_1 collection.

[7] Three notes sound on the downbeat of m. 8: chord tones E and C in the left hand, and non-chord tone A-flat in the right hand. All three notes belong to a single whole-tone collection, WT_0. Thus even at points of resolution, there are nods to the Etude's preoccupation with the whole-tone scale.

[8] The suspension scheme is syncopated, with the suspension falling on a weaker beat than its resolution. Because of this, one may prefer to hear the bass C as an anticipation of the following downbeat harmony.

[9] Of the many examples that could be cited, consider the two works between op. 56, no. 4 and op. 58. In op. 57, no. 1, a D dominant seventh is suspended over G at a half cadence (mm. 3–5) and a G dominant seventh is suspended over C at an aborted authentic cadence (mm. 8–10). The work ends with a G dominant seventh with raised fifth suspended over C (m. 14), without resolving to the C major cadential goal. In op. 57, no. 2, a G dominant seventh with raised fifth and suspended fourth of its own is suspended over a C pedal and resolved for an authentic cadence (mm. 29–32).

In the *Feuillet d'album*, there are two brief sections in which a dominant Mystic chord is suspended over a tonic pedal. The middle section of the piece features a C Mystic chord over a bass note of F (Example 5.1, mm. 10–13) and the final section features the F-sharp Mystic chord from the work's beginning suspended over the note B (mm. 17–23). This suggests that the work ends with an authentic cadence in B major that is missing the final resolution to tonic, and consequently that B major is the main key of the work.

The shift from the whole-tone sonorities of op. 56 to the whole-tone perturbations of op. 58 happens to solve a particular voice-leading problem for Scriabin. The whole-tone scale divides the octave evenly, and the Mystic chord, being a minimal deviation from such an even division, can move to certain of its own transpositions through semitonal voice leading.[10] Example 5.5a shows the parsimonious voice leading from the C Mystic chord to the F-sharp Mystic chord, as heard in mm. 13–14 of the *Feuillet d'album*.[11] Four pitches are held in common, some under enharmonic reinterpretation. The two pitches that move, D and A, move by semitone, to D-sharp and G-sharp respectively. The possibility for semitonal voice leading would be lost if six-note whole-tone chords were used instead. Example 5.5b shows the connection between such chords on C and F-sharp; they contain flat thirteenths in contrast to the Mystic chord's natural thirteenth. In Example 5.5b, all six pitches are held in common. There is no voice leading, only reinterpretation (enharmonically or otherwise) of the role of each pitch within the chord. The Mystic chord therefore offers Scriabin a solution to a compositional problem, allowing him to maximize whole-tone content while at the same time allowing for semitonal voice leading.

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[10] Callender (1998).

[11] In this context, the voice leading is considered *parsimonious* because each moving voice moves by semitone. See Cohn (1996); Cohn (1997); Childs (1998); Douthett and Steinbach (1998). This contrasts with the definition of parsimony espoused by Cook (2005), who uses the term to refer to a voice-leading motion (of any distance) in one voice only.

Although some scholars have perceived Scriabin's late music to be atonal, the foregoing discussion suggests that we can hear tonal function in works such as the *Feuillet d'album* by understanding the work in relation to Scriabin's previous works. The *Feuillet d'album* continues to develop several of Scriabin's compositional interests, including the use of altered dominant sevenths (with the root–seventh–third in the left hand), the tritone link, whole-tone sonorities, and cadential suspensions. Scriabin's music can be heard to fall on the tonal side of the tonal–atonal spectrum for triadic composition.

By structuring the harmony around transpositions of the Mystic chord, Scriabin's *Feuillet d'album* allowed adjacent chords to be linked by semitonal voice leading. In general in the nineteenth and twentieth centuries, as triadic harmonies became more chromatic, semitonal voice leading was used increasingly to connect these harmonies.[12] Certain early twentieth-century Russian compositions pick up from where Scriabin left off in this sense, constructing triadic progressions in which voice leading by semitone is the primary determinant. Examples of such compositions include Prokofiev's March, op. 3, no. 3, and the *Overture on Hebrew Themes*, and Shostakovich's Prelude in G Minor.[13] The second of Shostakovich's early *Three Fantastic Dances* (1920–22) can also be cited in this regard.

The second dance, a waltz, is in small ternary form.[14] The exposition, or A section, consists of a repeated eight-measure sentence structure, of which the initial A dominant seventh and final dominant-functioning G augmented triad do little to establish the G major tonality

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[12] This is a persistent theme in the work of Dmitri Tymoczko, and it is articulated explicitly in Tymoczko (2011a).

[13] On Prokofiev's March, see Heetderks (2011a). On the *Overture on Hebrew Themes* and Shostakovich's Prelude in G Minor, see Tymoczko (2011b, 320–22).

[14] My formal terminology follows that of William Caplin (1998).

suggested by the key signature. The contrasting middle, or B section, begins with a C major triad that resolves the G augmented dominant. Another eight-measure sentence returns to C major via its dominant seventh, but on repetition it veers into E-flat major. A failed retransition ends on an E-flat dominant seventh harmony, which connects to the A dominant seventh that initiates the recapitulation via Scriabin's (or Dernova's) tritone link: constituent tritone D-flat–G (of E-flat dominant seventh) is reinterpreted as tritone C-sharp–G (of A dominant seventh). The piece concludes with a perfect authentic cadence in G major.

Example 5.6 sketches the harmonies of the A and B sections. Shostakovich's voice leading is clear. Throughout the A section (mm. 1–16) and first part of the B section (mm. 17–21, repeated as 25–29), the left hand plays four-note chords in a middle register, and in the second part of the B section (mm. 21–24 and 29–33), the two hands, moving in contrary motion with one another, divide each four-note chord into pairs of two. Every pitch in Example 5.6 sounds in its notated octave in the score.[15]

The example divides the music into three harmonic progressions, each determined by voice leading and delineated by double bars. Across these double bars (shown in mm. 17 and 21), a single C major harmony is revoiced. The third progression (mm. 21–24 and 29–33) contains two different endings, one for each phrase of the B section.

All voice leading in Example 5.6 is by semitone, save three exceptions indicated by single and double asterisks. At the two places marked by single asterisks (mm. 8 and 23/31), the three upper voices maintain their pitches while the bass voice descends by whole step (m. 8) or by leap (mm. 23/31). At the double asterisk (mm. 32–33), the unexpected swerve into E-flat

[15] One sleight of hand in Example 5.6: the two four-note C major chords of m. 17, one shown ending the A section and the other shown beginning the B section, sound simultaneously as a single five-note chord. Although it resolves the altered G dominant seventh that ends the A section, the chord actually appears in the B section.

major is instantiated by a V^7–I motion in that key, involving a leaping bass and whole-step-descending alto. Nowhere else in Example 5.6 does any individual voice move by more than a semitone from one chord to the next.

The first progression begins with two motions between half-diminished seventh and dominant seventh chords.[16] In the first motion, from A dominant seventh to C half-diminished seventh, all four voices move by exactly one semitone each.[17] In the second, from C half-diminished seventh to D dominant seventh, bass and alto each descend by one semitone. The remainder of the progression includes two augmented-sixth chords. The "French" augmented-sixth chord of m. 7 contains the pitches A-flat and F-sharp in the outer voices; these resolve outward by semitone to G, as the arrows in Example 5.6 show. In the motion into the G augmented triad of m. 8, all four voices move by semitone.[18] The altered G dominant seventh of m. 16 is similarly treated as an augmented-sixth chord, its defining interval found between the bass's F-natural and the alto's D-sharp. The resolution to a C major triad in m. 17 underscores the augmented-sixth chord's identity as an altered *dominant*.[19] Notice that if a G dominant seventh were used in m. 16, with D-natural in place of D-sharp, the resolution to C major would

[16] Dmitri Tymoczko has shown that of the possible voice leadings between half-diminished seventh and dominant seventh chords, six involve two voices moving by one semitone each, one involves one voice moving by two semitones, and one involves all four voices moving by one semitone each. Tymoczko has further demonstrated how both Wagner's *Tristan und Isolde* and Debussy's *Prélude à "L'Après-midi d'un faune"* use several of these various voice-leading options. See Tymoczko (2008, 21–27).

[17] Cook (2005) refers to this as an extravagant voice leading.

[18] This provides a further instance of extravagant voice leading. Further examples appear throughout the third progression; consider, for instance, the progression's first two voice leadings (mm. 21–22).

[19] Compare the augmented-sixth chord in Brahms's "Im Herbst," op. 104, no. 5, m. 30, as analyzed by Daniel Harrison (1995, 189–95, esp. Example 19). See also Tymoczko (2011b, 272–76, esp. Figure 8.2.5c).

involve a voice leading of two semitones in the alto. The chord's raised fifth permits the semitonal voice leading used almost exclusively elsewhere in the piece.

The second progression generates an F minor-major seventh through semitonal neighbor motions in tenor and bass (mm. 17–21). The third progression involves contrary motion: soprano, alto, and tenor descend by semitone at the same time that the bass ascends by semitone. Example 5.6 marks two voice exchanges (mm. 22/30 and 32) as well as one further augmented sixth chord, the "German" augmented sixth of mm. 22/30, labeled enharmonically as a D-flat dominant seventh and inverted so that the outer voices form a diminished third, B-natural to D-flat. What is remarkable about this passage is that under the dual constraints of semitonal voice leading and contrary motion between the upper voices and bass, Shostakovich is able to construct a progression consisting of recognizable triadic chord types.[20]

5.2. Schnittke and Polystylism

The term "polystylism" is inextricably linked with Alfred Schnittke, who coined the term to refer to the incorporation of historical musical styles into contemporary composition, and who has been perceived as one of its primary practitioners. Writing of this perception, Harmut Schick has characterized Schnittke as having "helped himself seemingly indiscriminately from the oft-quoted 'general store' offering up music history" and as writing music that "plunders from the history of music with that postmodern 'whateverism' [*Beliebigkeit*] that has crept into everyday usage."[21] In polystylistic music, triads appear in contexts that imitate the orchestration, phrase

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[20] The single exception is the C major triad over an F-sharp bass in mm. 23 and 31. This chord initiates the second leg of the progression.

[21] Schick (2002, 246).

structure, and harmonic patterns of eighteenth- and nineteenth-century tonality. Such triadic music evokes the sound world of a historical era without playing a structural harmonic role in the musical texture, and it can consequently be interpreted as having an associational or referential function. Schnittke's concept of polystylism has not been fully understood, however, as scholars have too readily assigned aspects of Schnittke's style to the umbrella category of polystylistic effects. Here I examine Schnittke's *Suite in the Old Style* (1971) for piano and violin, a work said to be polystylistic and to involve self-quotation, in order to arrive at an understanding of polystylism that more deeply reflects Schnittke's written intentions.

The *Suite in the Old Style* is a five-movement work that sounds like Schnittke's version of a Baroque dance suite. Strikingly, the *Suite* lacks irony. Unlike only slightly later works such as *Stille Nacht* or *Moz-Art*, in which Schnittke introduces familiar-sounding themes only to distort and deconstruct them, the *Suite in the Old Style* stays true to its stylization throughout, sounding like a legitimate attempt to write Baroque-style music. Also striking is the fact that Schnittke reuses the music of Example 5.7, which shows the opening of the second movement (Ballet), as a ritornello in the otherwise cacophonous second movement of the Symphony No. 1 (1971–72). The Ballet music fades in and out over the course of the movement as it is supplanted by other, frequently more dissonant layers.[22] To invoke Schnittke's own term for the appropriation of historical musical styles, is the *Suite in the Old Style* a polystylistic work?[23]

In the short essay "Polystylistic Tendencies in Contemporary Music" (1971, revised 1988), Schnittke sketches the various ways that contemporary composers use or refer to elements of earlier styles in their works.[24] He does not refer to any of his own works in the essay; rather, the works he identifies are largely those of the post-war Soviet, Eastern European, and Central European avant-garde. Schnittke refers to two broad types of stylistic appropriation, the *principle of quotation* and the *principle of allusion*. The term *quotation* is used in an idiosyncratic way, as it does not refer to the direct borrowing of an excerpt from a specific musical work. Schnittke points to the third-movement passacaglia of Shostakovich's Piano Trio No. 2 as a work involving direct quotation (refer to Example 4.5.5b), identifying its "neoclassical passacaglia theme, which quotes the style of eighteenth-century music with its succession of tonic–dominant motion and diminished seventh chords."[25] Although Shostakovich's use of the passacaglia itself refers to eighteenth-century practice, the succession of harmonies places the music firmly in the

[22] A parallel to the third movement of Berio's *Sinfonia* (1968–69), which layers quotations and other musical fragments over the scaffolding of the third-movement Scherzo of Mahler's Symphony No. 2, is unmistakable. Schnittke's familiarity with Berio's *Sinfonia* is affirmed by his unpublished analytical essay on the third movement, written in the 1970s; see Schnittke (2002b). In spite of this, Schnittke claimed that the *Sinfonia* exerted little influence on his First Symphony. Even though he first heard Berio's work in 1969, he says that he already had the concept for the symphony in mind by that point. Peter Schmelz finds this downplaying of Berio's influence "rather implausibl[e]." See Shnitke and Shul'gin (1993, 26); Schmelz (2009b, 308).

[23] According to Peter Schmelz, Schnittke's term *polystylism*, introduced in the early 1970s, identified and named an already existent trend among compositions of his and the previous generation; see Schmelz (2009a).

[24] The 1971 lecture is published as Shnitke (1990); the 1988 revision is published as Shnitke (1994). An English translation appears as Schnittke (2002a).

[25] Schnittke (2002a, 87).

twentieth century. The Trio invokes the eighteenth century in form, not in content. When Schnittke refers to the movement as involving direct quotation, he is demonstrating a conception of quotation in terms of styles, not specific works. The Trio directly quotes from an earlier style, even if it does not excerpt an earlier work. Quotation for Schnittke is thus a stylistic phenomenon.

The *Suite in the Old Style* is a work that clearly invokes earlier styles. In an interview, Schnittke explains that the music of the *Suite* derives from the film scores for *Adventures of a Dentist* (1965) and *Sport, Sport, Sport* (1971), both directed by Elem Klimov.[26] Both films take place in modern times, and Schnittke had the idea to use old-style music ironically to portray the heroes and events of the films. He acknowledges that this became a commonplace device in film scoring but claims that he came up with the idea first.[27]

Violinist Mark Lubotsky, a friend of Schnittke's who participated in the recording sessions for the films, thought the music was too good to languish in film scores, and he asked Schnittke to arrange some of the cues into a concert suite.[28] Whereas Lubotsky appears to believe in the high quality of Schnittke's music and emphasizes his own role in "rescuing" the music and elevating it to the concert repertoire, Schnittke appears to blame Lubotsky for having made popular a work that bears little of Schnittke's own stylistic imprint. Schnittke reports that Lubotsky was looking for a "pedagogical" work to take on tour. He hastily assembled the *Suite*, which Lubotsky "stole away" before Schnittke was able to add his own "shades and strokes." By

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[26] The Russian titles are *Pokhozhdeniya zubnogo vracha* and *Sport, sport, sport*.

[27] Shnitke and Shul'gin (1993, 60). In interviews, Schnittke routinely takes credit for ideas that were "in the air" at a particular time and that were used by many composers simultaneously. For instance, he claims to have come up with the idea for the common third relation independently of Mazel (Schnittke and Ivashkin 2002, 16). He even claims that a student composition that he wrote in the mid 1950s, performed at the Moscow Conservatory by a student orchestra, inspired the slow movement of Shostakovich's Eleventh Symphony (Schnittke and Ivashkin 2002, 17).

[28] Lubotsky (2002, 250).

the time Lubotsky had returned from his concert tour, he and pianist Luba Edlina had already learned the work and, Schnittke says, it was therefore too late to change it.[29] In emphasizing the work's "pedagogical" nature, Schnittke characterizes the *Suite* as a compositional exercise, something akin to a project for a conservatory counterpoint class. Schnittke refused to associate himself with the work.[30] For Schnittke, the *Suite* is a "frank stylization" that is not truly by him.[31]

Schnittke's old-style writing sounds variously Baroque, Classical, and Romantic, but the *Suite* nevertheless provides a sense of what the tonal practice of prior centuries sounds like to Schnittke: square phrases of four and eight measures—Schnittke plays with phrase rhythm very little—frequent melodic ornamentation, and the use of harmonic sequences, particularly diatonic descending fifth sequences.[32] Example 5.8, the opening of the Pastorale movement, exemplifies these characteristics. A four-measure presentation is followed by a four-measure continuation (with a conspicuous descending fifths sequence), the latter of which is repeated down an octave.[33]

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[29] Shnitke and Shul'gin (1993, 61).

[30] Shnitke and Shul'gin (1993, 61); Lubotsky (2002, 250).

[31] Shnitke and Shul'gin (1993, 61).

[32] These features characterize Schnittke's other old-style compositions as well. In particular, the *Gratulationsrondo* (1973) has a punishingly square four-measure phrase structure. This recalls William Rothstein's Great Nineteenth-Century Rhythm Problem, "the danger, endemic in 19th-century music, of too unrelievedly duple a hypermetrical pattern, of too consistent and unvarying a phrase structure" (Rothstein 1989, 184–85). Schnittke, unlike the composers in Rothstein's study, does not find a solution.

[33] In hearing mm. 1–4 as a presentation phrase, I interpret the regular tonic–dominant alternation as not involving any cadential articulation. By contrast, one might be inclined to hear a half cadence in m. 4, where I^6 leads to downbeat V and the melody descends to $\hat{2}$. In such a hearing, mm. 1–4 would constitute an antecedent phrase.

The music of the Ballet movement (Example 5.7) reappears in the second movement of the Symphony No. 1. The symphony can be thought of as a polystylistic free-for-all. Schnittke runs the gamut from tonal to atonal, including elements of twelve-tone and extended serial technique, aleatory, and jazz improvisation, as well as excerpted quotations from hymns, popular themes, and canonical classical works.[34] A clear precursor within Schnittke's output is the *Serenade* (1968) for seven instruments, which also quotes from classical works and Schnittke's own film scores.[35] One of the musicians who participated in an early performance of the *Serenade* was the young pianist Boris Berman. In a recent interview, Berman has said that the quotations from canonical works would have been recognized by audiences, whereas the quotations from film music were intended as a "private joke" for Schnittke himself; even the musicians, Berman says, would not have recognized the film music quotations had they not been told.[36]

Jean-Benoît Tremblay considers the *Suite in the Old Style* a polystylistic work, because it quotes from Schnittke's own film music.[37] Yet the film music quotations do not function in the same way that the Beethoven and Chaikovsky quotations do. Audiences will not recognize them as quotations from other sources. When the Ballet movement excerpt appears in the First Symphony, its character, function, and orchestration—which includes continuo harpsichord—collude to suggest a Baroque (or perhaps Classical) ritornello. The excerpt signifies Baroque-

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[34] On the use of these techniques in the Symphony No. 1, see Shnitke and Shul'gin (1993, 62–68); Schmelz (2009b, 295–327).

[35] Schnittke insists that the *Serenade*, not Berio's *Sinfonia*, is the model for the First Symphony (Shnitke and Shul'gin 1993, 26).

[36] Schmelz (2009b, 251).

[37] Tremblay (2007, 202).

style music in general, not the *Suite in the Old Style* in particular. (Similarly, the *Suite in the Old Style* does not evoke *Adventures of a Dentist* in particular.) When Schnittke wishes to evoke the Baroque style, he uses (or reuses) newly composed music rather than lifting from the works of prior composers. To frame this in terms of Schnittke's essay on polystylism, the ritornello is a direct quotation of the Baroque style. The *Suite in the Old Style*, therefore, is a collection of "monostylistic" practice pieces in earlier styles. They document the compositional exercise of writing convincing old-style music that could later be incorporated into polystylistic compositions such as the First Symphony.[38]

Schnittke's concept of polystylism has been misunderstood by scholars who assume that any act of quotation or reappropriation is necessarily polystylistic. By reading Schnittke's writings critically, and by investigating carefully the different ways in which one piece of music may be excerpted in another, we can arrive at a better understanding of a practice crucial to Schnittke's compositional technique. Triadic music is used for its significatory value, referring diachronically to historical styles, not synchronically in an insular circle back to other of Schnittke's compositions. This use of triads lies outside the tonal–atonal spectrum. That it creates harmonies is beside the point: its meaning lies in the styles conjured by these harmonies.

[38] In Schnittke's oeuvre there are other monostylistic practice pieces that are reused (not: quoted) in later polystylistic compositions. The Classical-style *Gratulationsrondo* (1973) forms the scaffolding of the orchestral work *(K)ein Sommernachtstraum* (1985); the Menuet from the *Suite in the Old Style* is repurposed in *Musica nostalgica* (1992).

Chapter Six

Conclusion

Twentieth-century Russian music exhibits a variety of approaches to triadic composition, demonstrating the use of triads in contrapuntal, semitonal voice-leading, functional harmonic, atonal, and polystylistic contexts. This diversity reflects changing aesthetic priorities over the course of the century: the extreme chromaticism in turn-of-the-century Scriabin, the externally mandated tonality of the Stalin era, the permitted atonality of the 1970s and '80s. The political changes of twentieth-century Russia left their mark on musical style.

Each of the compositional practices profiled here invites its own analytical approach. These approaches reveal new perspectives on repertoires poorly understood by English-speaking scholars. My work in this dissertation is informed by sources from Russian-language theory not previously translated into English. This has a dual effect. First, it recovers ideas from a parallel theoretical tradition that intervene in current English-language debates about harmonic function, counterpoint, tonality and atonality, and intertextual borrowing. Second, it provides a window into hearing the music from a Russian perspective, yielding insights that a North American bias might efface. Russian theory offers new contexts in which to hear and understand Russian music.

In the English-language study of Russian music theory, the volume *Russian Theoretical Thought in Music* (1983) remains a touchstone.[1] It provides a historical survey of writings on Russian musical topics through the early twentieth century, with a particular focus on the influential harmonic, modal, and formal theories of Boleslav Yavorsky and Sergey Protopopov, Boris Asafyev, and Varvara Dernova. Yet the very fact that this volume remains a touchstone is

[1] Its constituent chapters are cited separately as Carpenter (1983a); Carpenter (1983b); Guenther (1983); McQuere (1983a); McQuere (1983b); Schidlovsky (1983).

a testament to the paucity of further research conducted over the past thirty years. Isolated articles and translations on Russian modal, harmonic, formal, and twelve-tone theory have appeared, including several recent publications.[2] Much further work remains to be done, including both writing about Russian theory for English-speaking audiences and translating primary sources to make them available and accessible.

A more in-depth recovery of the history of Russian music theory is needed to place the theorists discussed in this dissertation and elsewhere into a proper historical context. Further work would clarify which theorists were well known, respected, and widely read in Russia; which work was particularly influential, and which other work bears the mark of its influence; and which theorists were officially endorsed or maligned. Who controlled which theoretical ideas would be propagated in conservatory training, and which ideas were notable composers exposed to? What sorts of theoretical ideas, especially among those that were not incorporated into Russian theory's mainstream, were particularly original or would now be most suggestive for North American scholarship? To what extent can we trust the reports and opinions published during the Soviet era?[3]

My work in Chapter 3 engaged aspects of Russian function theory, developed from precedents in German function theory. Further work would illuminate the precise differences

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[2] Carpenter (1995) on modal theory; Kholopov (1995) on form and harmony; Haas (2008a) on modal approaches to Shostakovich's music; Khannanov (2009) on musical form; Cairns (2012) on twelve-tone theory; Ewell (2012) on mode and octatonicism.

[3] An implicit goal in my work on Soviet-era music theory is to efface the Cold War mentality that Russian writings ought to be treated with suspicion, and to embrace the ideas that these writings contain. There nonetheless remain pronouncements that must be read skeptically. Did Kholopov denigrate Mazel's understanding of the common third relation (see section 3.2.4) because he thought it musically or intellectually faulty, or were there political advantages to positioning himself more highly? A broader historical context would help elucidate attitudes toward various Soviet theorists and theories.

between the two traditions. Russian function theory has flourished for several decades as, among other things, a mechanism for analyzing twentieth-century tonal music. What further insights into this repertoire does it reveal? A detailed exploration of Yuri Kholopov's harmony textbook, of which discussion of the common third relation constitutes only one small section, would be instructive for understanding the Russian functional orientation and likely suggestive for North American theory.[4] What else can the Russian and North American theoretical traditions learn from one another?

My dissertation also suggests ways in which Russian-language insights can be incorporated into North American analyses. There has been much English-language work on Soviet composers such as Prokofiev and Shostakovich that has not invoked Russian music theory. To take one example of many, recent English-language approaches to form in Shostakovich's music have relied heavily on the Sonata Theory of James Hepokoski and Warren Darcy, on the assumption that Shostakovich's symphony and chamber movements are "in dialogue" with the Classical models furnished by Haydn and his contemporaries.[5] Further knowledge of both academic theory and conservatory training in Russia could answer the following questions: From what models did Shostakovich learn musical form? What ideas on musical form were circulating in Russia during Shostakovich's lifetime? How has form in Shostakovich's music been understood in Russian theory?[6] The last question may open up the analytical enquiry beyond the

[4] Kholopov (2003).

[5] These studies include McCreless (1995); Castro (2005); Reichardt (2008); Kuhn (2010); Lofthouse (2012). Many, but not all, of these cite the Sonata Theory of Hepokoski and Darcy (2006).

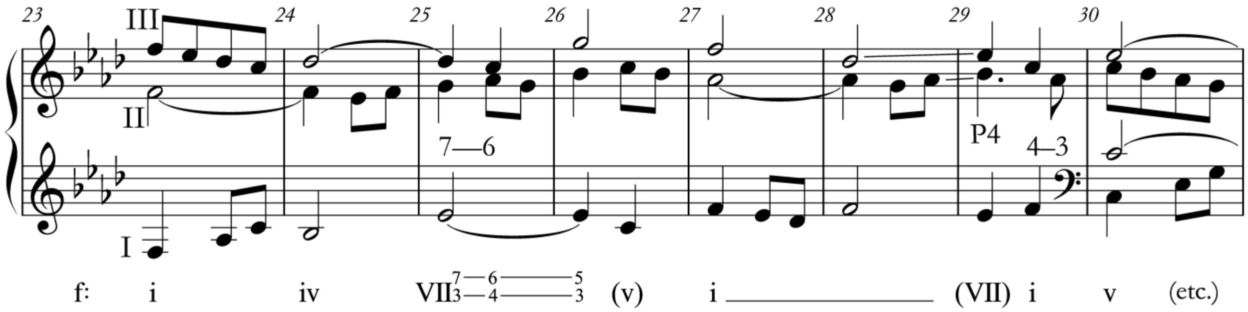
[6] A brief essay by Yuri Kholopov (1995), translated into English, offers one perspective.

strictures of Hepokoski and Darcy, and it may potentially reveal a contextually more appropriate concept of form than that suggested by a reliance on 18th-century models.

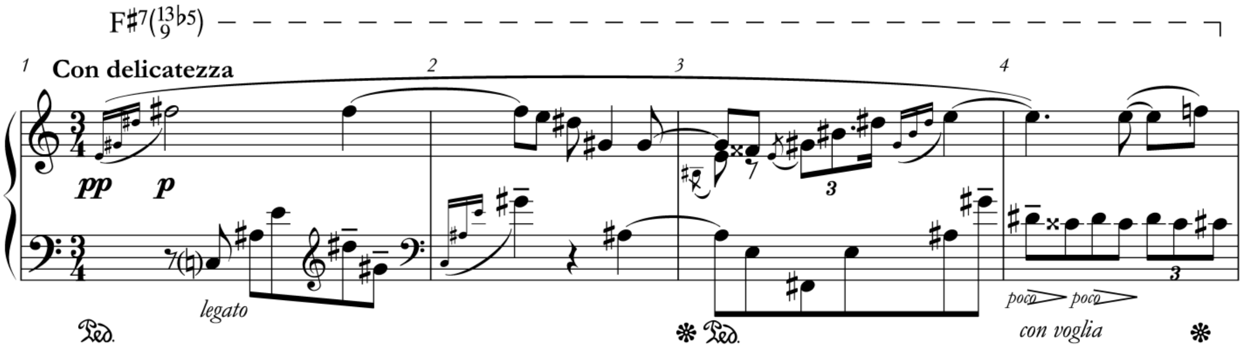
Finally, my work in Chapters 2 and 4 may be extended beyond its application here. Chapter 2 provides an exposition of Taneyev's system of vertical- and horizontal-shifting counterpoint, demonstrating its use in analyzing tonal contrapuntal music. Further work could explore the remaining fugues of Shostakovich's collection from a Taneyevan standpoint, extending the theory to more comprehensively account for twentieth-century practice. Chapter 4 considers Alfred Schnittke's triadic practice from the perspective of neo-Riemannian theory. Are there other late-Soviet composers who employ triads in non-traditional ways? To move past triads altogether, are there other composers whose styles have elements that can be modeled from transformational perspectives? There has been some recent analytical work on the music of Schnittke and his contemporaries, especially Edison Denisov and Sofia Gubaidulina, but much further work needs to be done in order to provide a full picture of the rich compositional practices of the late Soviet era.[7]

This dissertation lays some of the groundwork for a renewed interest in Russian music theory by offering examples of how concepts from Russian theory can be integrated into the analytical study of twentieth-century Russian music. Further work will help bridge the gap between the two traditions and establish a profitable and meaningful exchange of ideas.

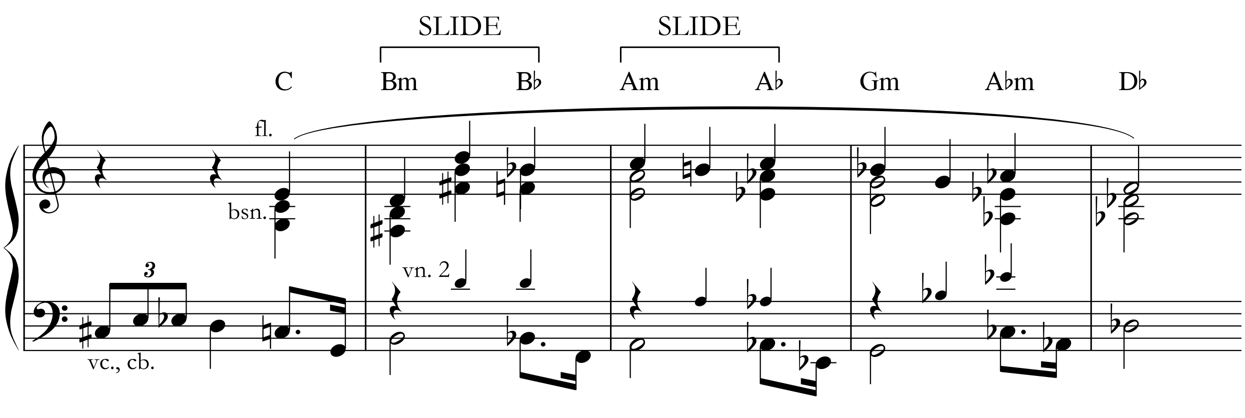
[7] Schmelz (2009b) deals comprehensively with the historical context of Soviet composition in the 1960s and includes analyses of early works of Schnittke, Denisov, and Gubaidulina. For further analytical work on Schnittke, see Kholopova and Chigaryova (1990); Kalashnikova (1999); Peterson (2000); Schick (2002); Smirnov (2002); Tremblay (2007); Sullivan (2010); Segall (2013). For Denisov, see Cairns (2010). For Gubaidulina, see Berry (2009).



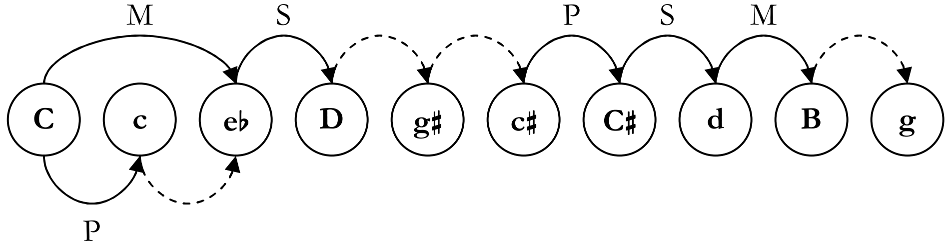
Example 1.1. Shostakovich, Fugue in F Minor, mm. 23–30.
F aeolian entry, with subject (I), first countersubject (II), and second countersubject (III).



Example 1.2. Scriabin, *Feuillet d'album*, op. 58, mm. 1–4.



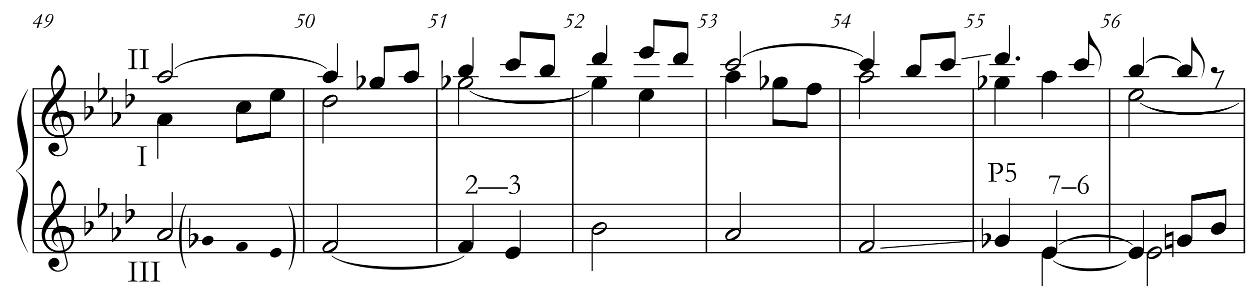
Example 1.3. Prokofiev, Symphony No. 4 (revised version), op. 112, I, mm. 14–18.



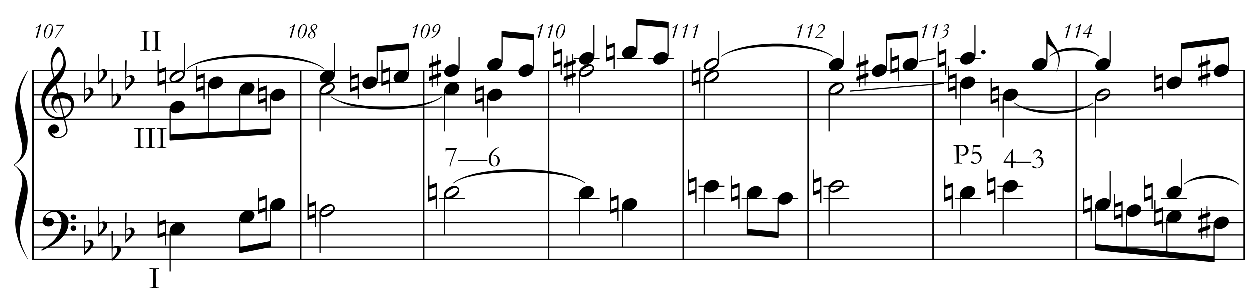
Example 1.4. Schnittke, *Requiem*, IX (Hostias), mm. 1–6 (choir only). Neo-Riemannian analysis demonstrating the P, S, and M relations.

Example 1.5. Schnittke, Violin Sonata No. 2 ("Quasi una Sonata"), mm. 257–63.
Stylistic quotation in the manner of Brahms.

(a)

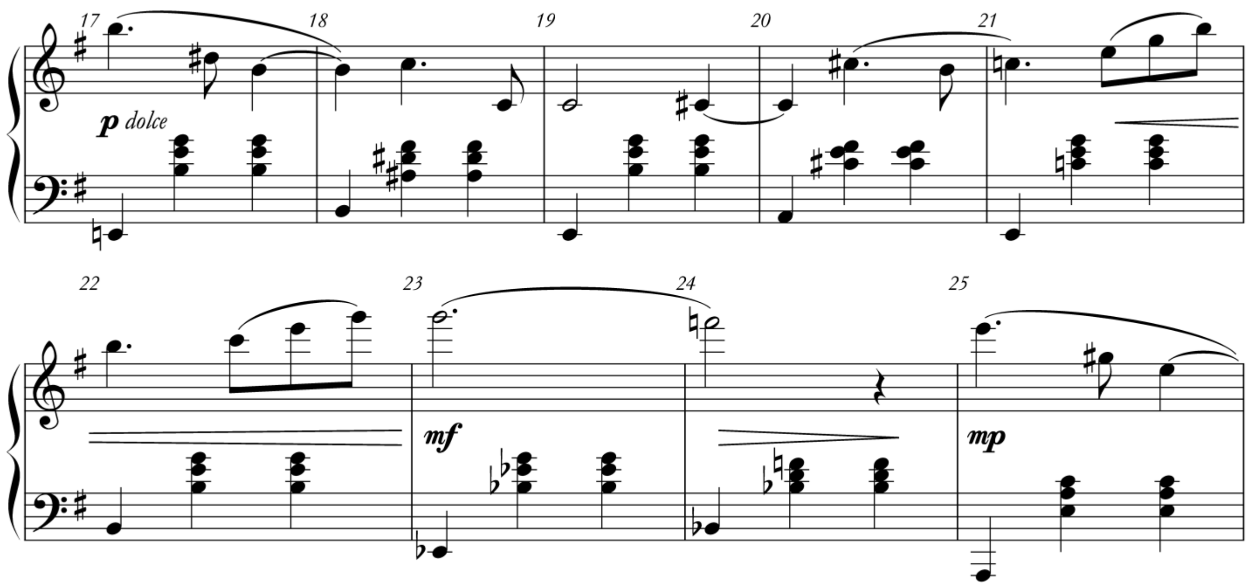


(b)

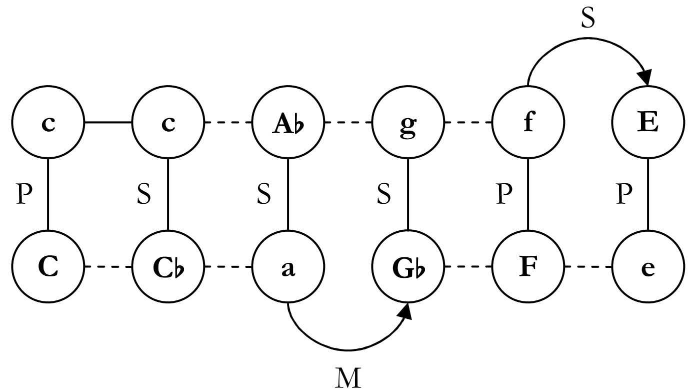


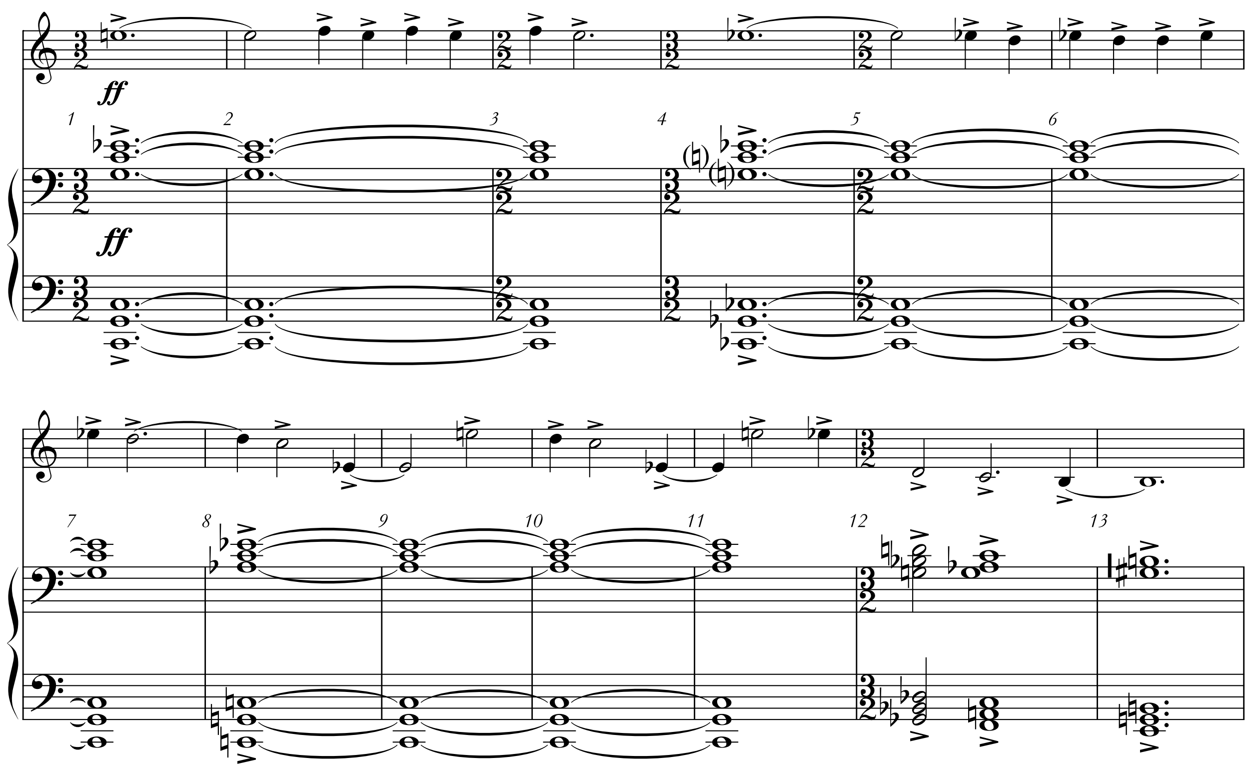
Example 1.6. Shostakovich, Fugue in F Minor: **(a)** mm. 49–56; **(b)** mm. 107–14.
A-flat mixolydian and E aeolian entries, with subject (I), first countersubject (II), and second countersubject (III).

Example 1.7. Liszt, Hungarian Rhapsody No. 6, mm. 121–24.
Common-third-related chords with Roman numerals vi and flat-VI appear in direct succession.

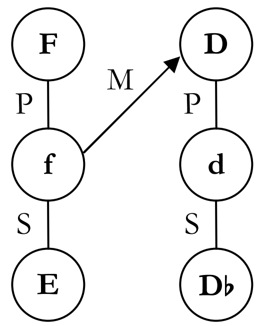


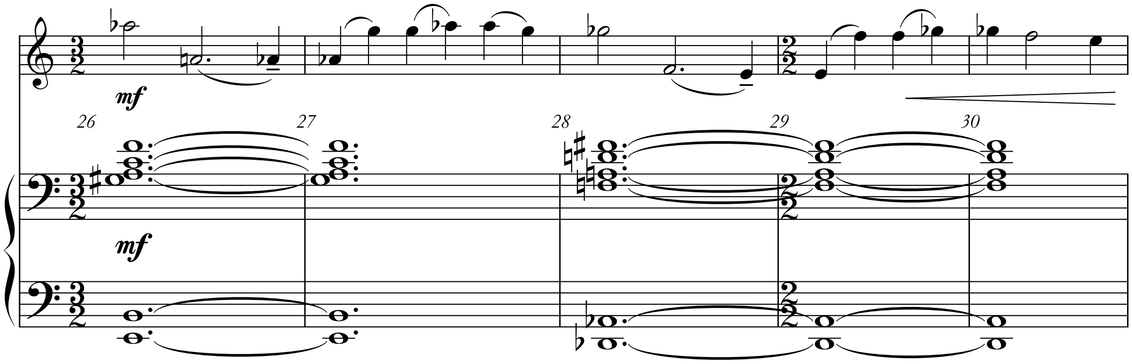
Example 1.8. Prokofiev, Six Pieces from *Cinderella*, op. 102, no. 1, “Waltz,” mm. 17–25.
An E minor phrase slides into E-flat major for the half cadence of mm. 23–24.



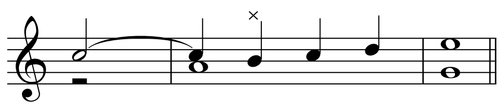


Example 1.9. Schnittke, Cello Sonata No. 1, III, mm. 1–13.
P- and S-related polychords.

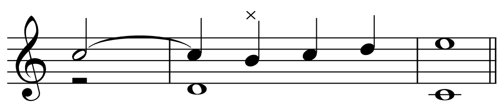




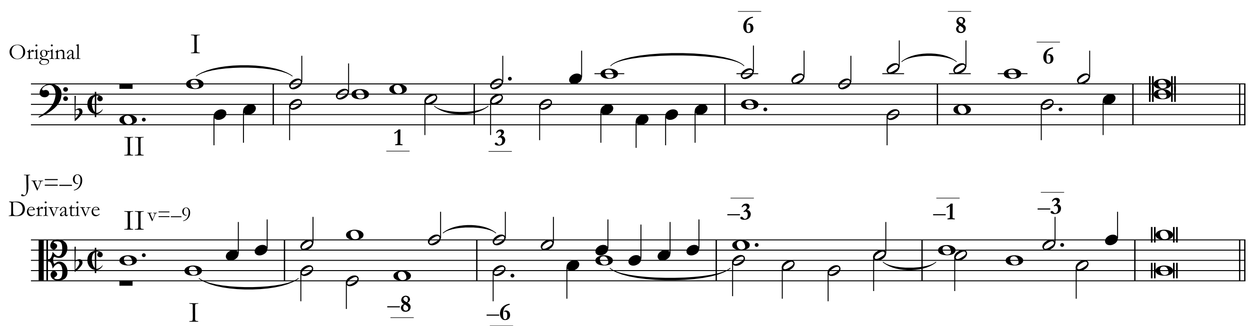
Example 1.10. Schnittke, Cello Sonata No. 1, III, mm. 26–30.
Three-triad polychords.



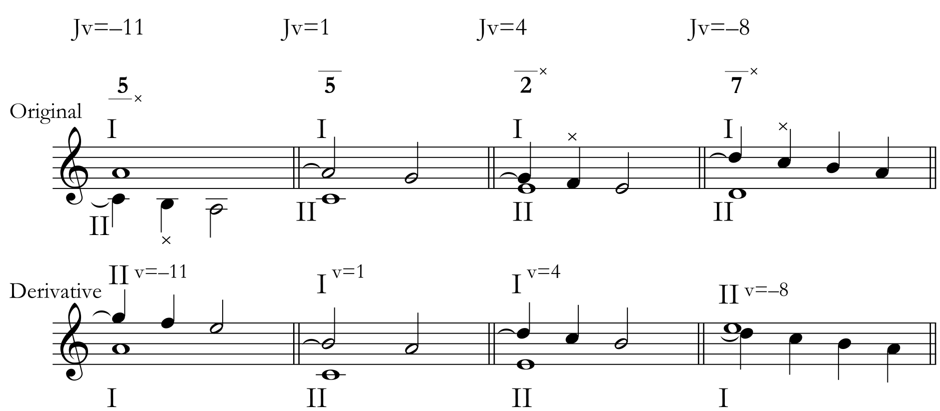
Example 2.1.1. The symbol × and suspensions.
Suspensions whose resolutions correspond to dissonant intervals take the symbol × (Taneyev 1909, 64).



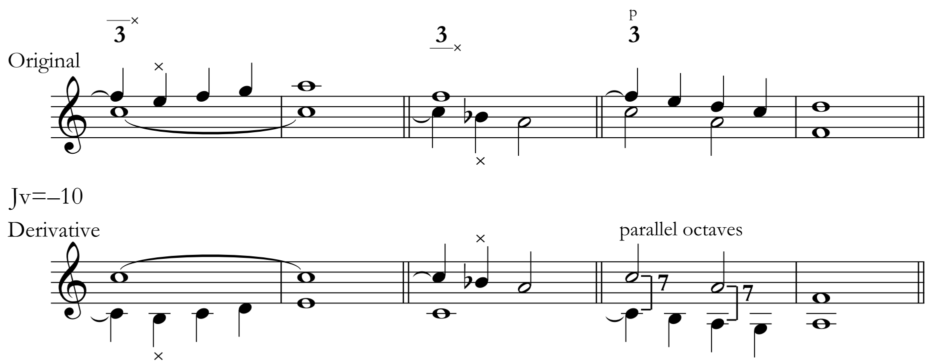
Example 2.1.2. Possible original combination that would produce the derivative of Example 2.1.1 at *Jv* = –4.



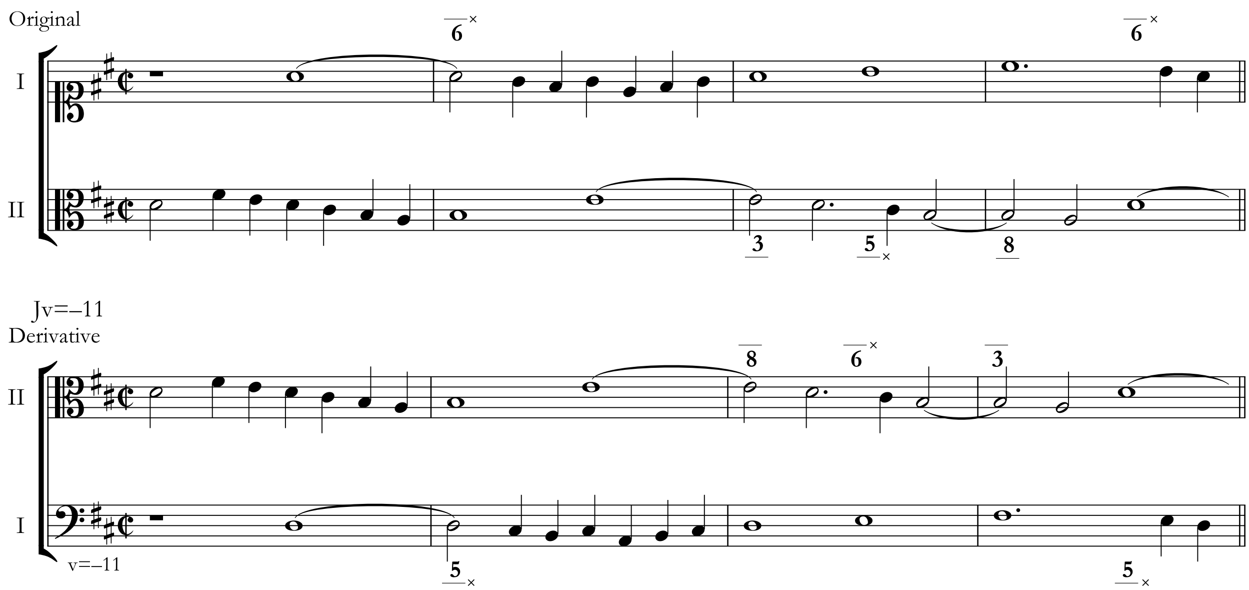
Example 2.1.3. Invertible counterpoint at the tenth (*Jv* = –9).
All four fixed dissonances are used in this passage (Taneyev 1909, 84; Taneiev 1962, 86).



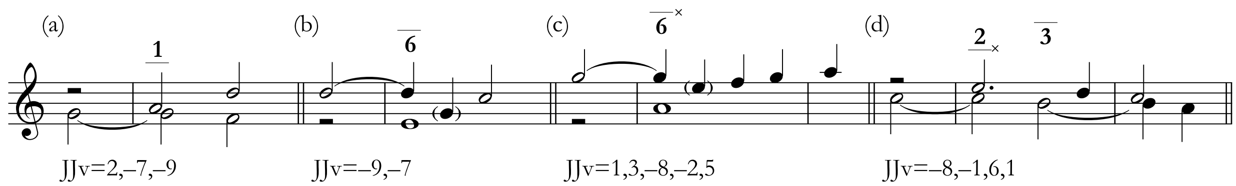
Example 2.1.4. Realizations of the equations in Figure 2.4. Variable consonances produce derivative dissonances that can function as suspensions, according to the symbols – and –×.



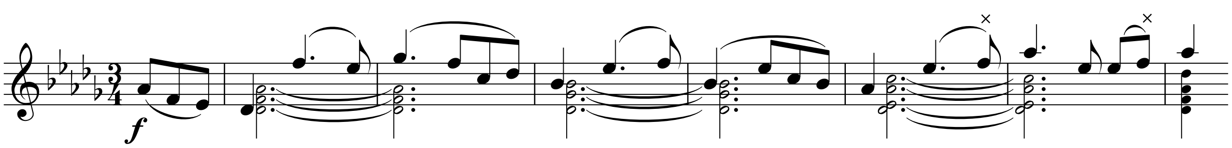
Example 2.1.5. Restrictions on variable dissonance 3 at *Jv* = –10 (as shown in Figure 2.5). Interval 3 can be used as a suspension in the upper or lower voice, but the note of resolution must be treated as if dissonant. Interval 3 must be treated as if a perfect consonance, meaning that similar and parallel motion to such an interval is prohibited.



Example 2.1.6. Invertible counterpoint at the twelfth (*Jv* = –11). Sixths and sevenths are used as suspensions, according to the symbol –× (Taneyev 1909, 386–87; Taneiev 1962, 322–23).



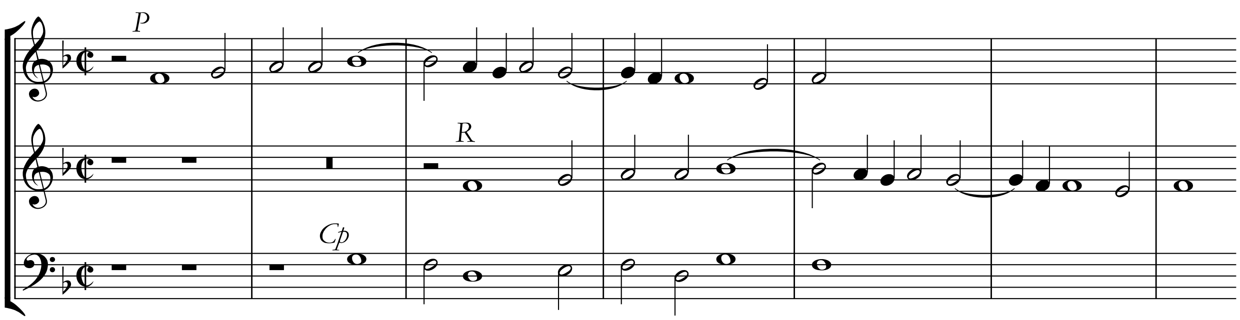
Example 2.1.7. Complex forms of resolution.
(a) The free note may progress to a new note at the moment of resolution (Taneyev 1909, 108; Taneiev 1962, 105). **(b)** A note forming a fixed consonance with the free note may be interpolated between the suspension and its resolution (Taneyev 1909, 109; Taneiev 1962, 107). **(c)** The suspending voice may leap a third and change direction (Taneyev 1909, 110; Taneiev 1962, 107). **(d)** The note of resolution can function as the free note of a new suspension (Taneyev 1909, 90; Taneiev 1962, 90).



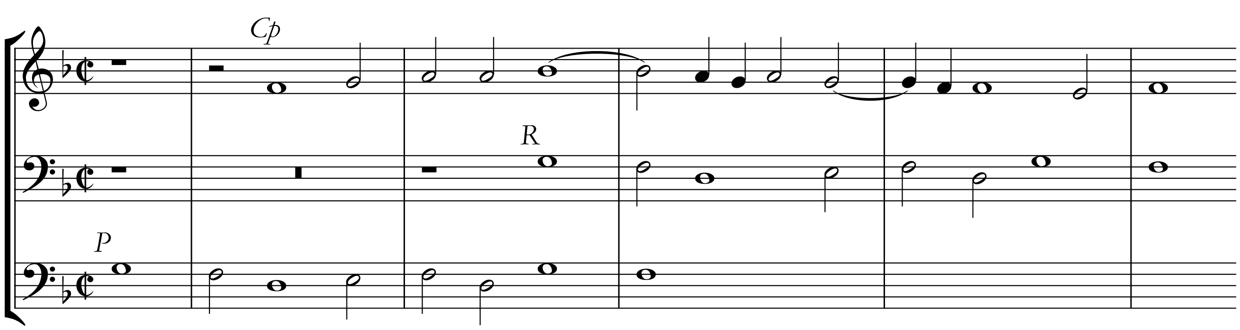
Example 2.1.8. Chaikovsky, Piano Concerto No. 1, op. 23, excerpt.
The symbol × indicates an upward cambiata (Taneyev 1909, 112; Taneiev 1962, 109).

Example 2.1.9. Illustration of *Jv* = –7, –11.
The original combination satisfies the conditions of *Jv* = –7, –11 and can therefore be shifted at both *Jv* = –7 and *Jv* = –11 (Taneyev 1909, 125; Taneiev 1962, 116).

Example 2.2.1. Horizontal shifting.
Voices move forward or backward in time relative to one another (Taneyev 1909, 234; Taneiev 1962, 207).

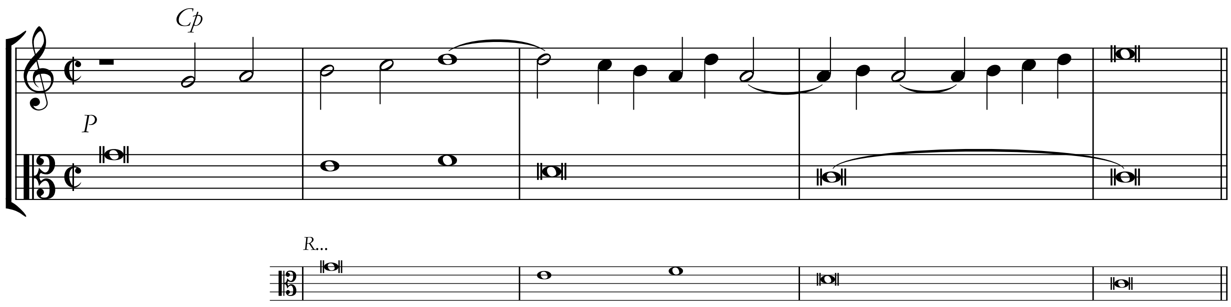


Example 2.2.2. Basic construction, from Palestrina, containing both two-voice combinations of Example 2.2.1 (Taneyev 1909, 235; Taneiev 1962, 208).

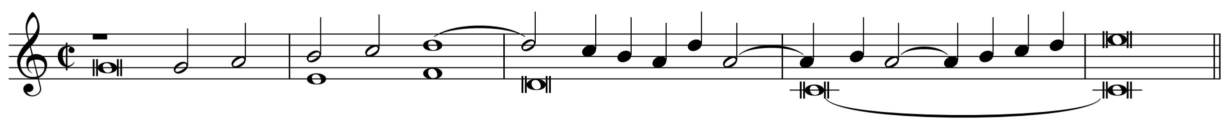


Example 2.2.3. Alternative basic construction containing the same two-voice combinations of Example 2.2.1.

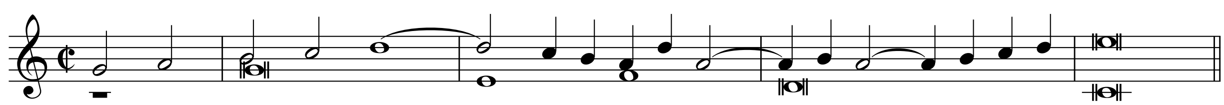
Basic Construction



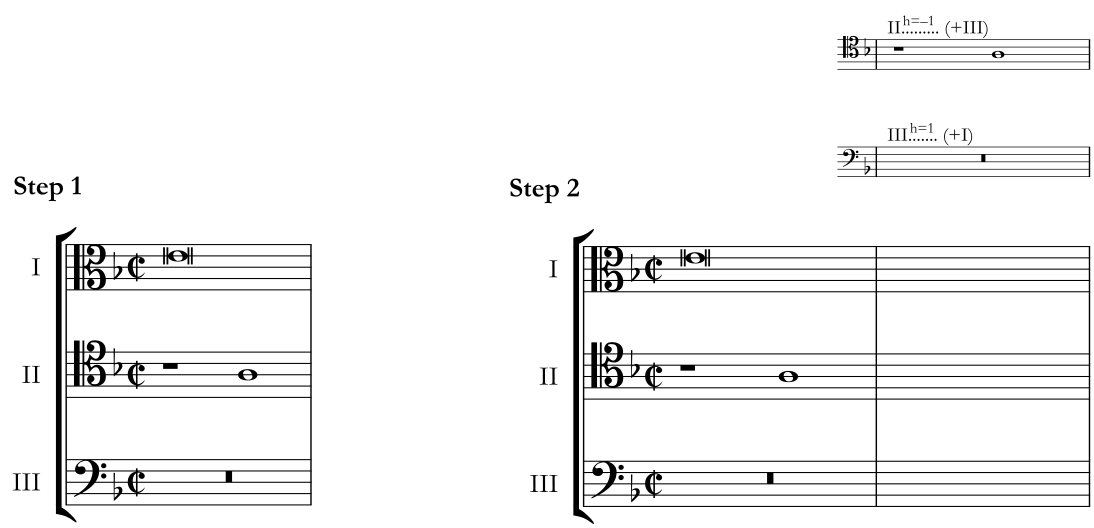
Original (*P* + *Cp*)



Derivative (*R*... + *Cp*)

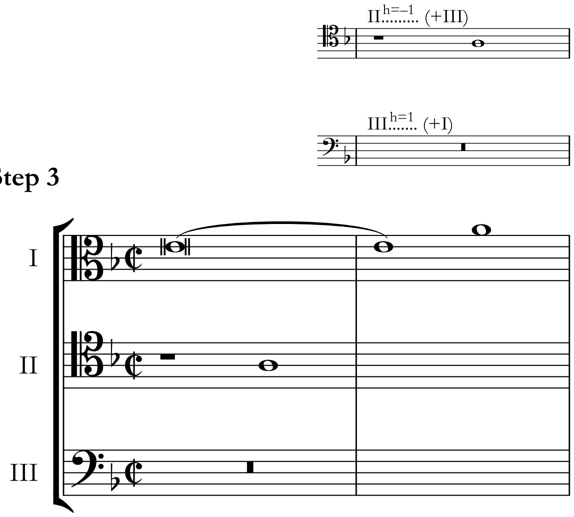


Example 2.2.4. A basic construction containing an imaginary voice. *P* + *R* + *Cp* does not form correct three-voice counterpoint, but correct two-voice combinations can be extracted from the construction (Taneyev 1909, 237; Taneiev 1962, 209–10).

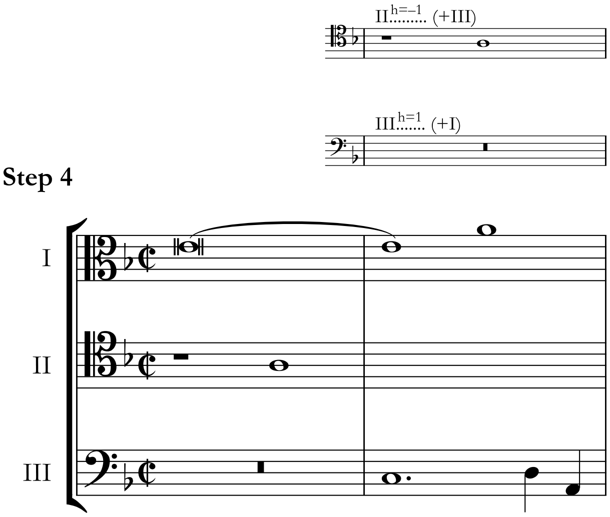


Example 2.2.5. Writing three-voice horizontal-shifting counterpoint using imaginary voices, in eight steps (derived from Taneyev 1909, 315; Taneiev 1962, 272). *Example continues on next three pages.*

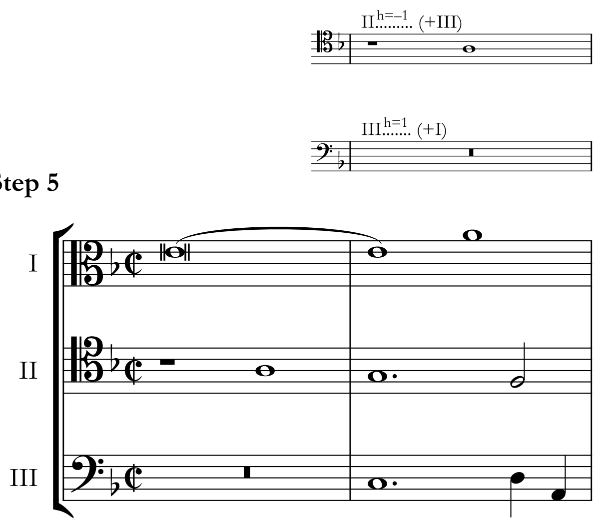
Step 3



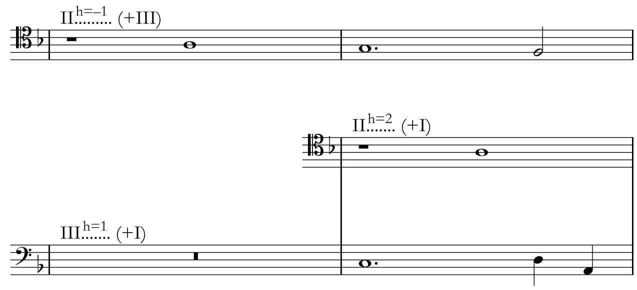
Step 4



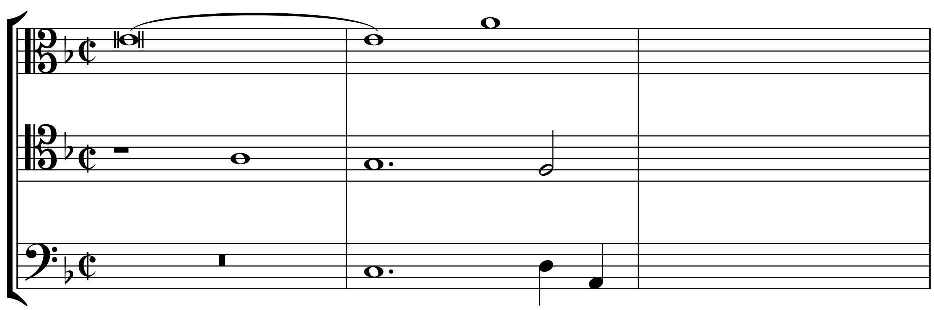
Step 5

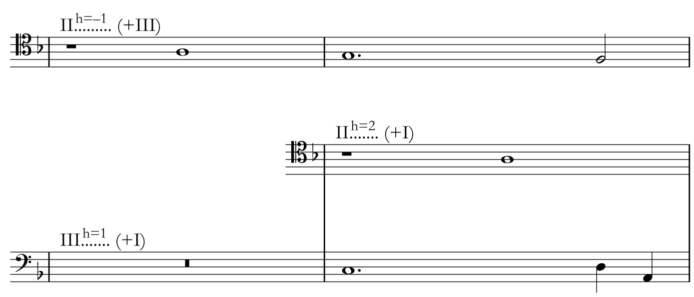


Example 2.2.5. *Continued.*

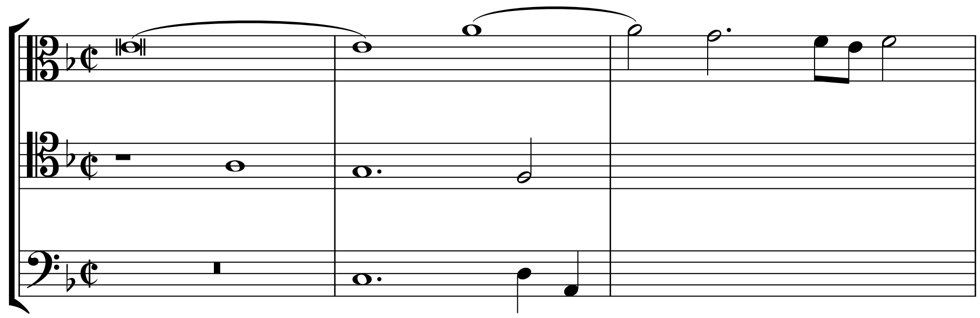


Step 6

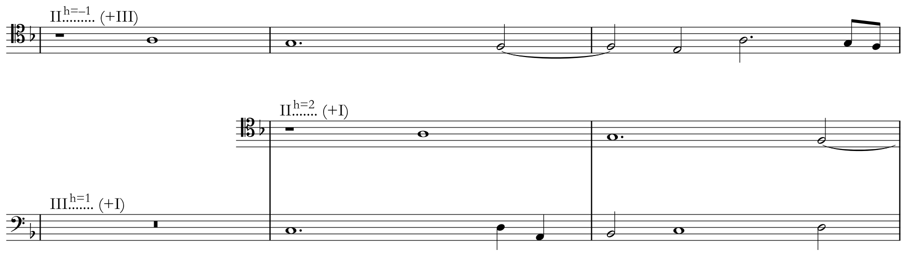




Step 7



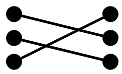
Example 2.2.5. *Continued (and on next page).*



Step 8

Derivative

Example 2.2.6. Derivative combination for Example 2.2.5
(Taneyev 1909, 315–16; Taneiev 1962, 273).

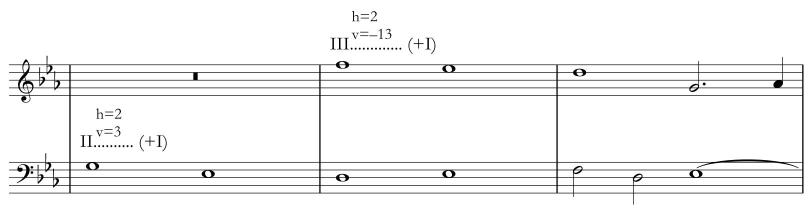


$\mathrm{I}_{v=0}^{h=2} + \mathrm{II}_{v=\pm 3}^{h=0} + \mathrm{III}_{v=-13}^{h=0}$ $\quad (\mathrm{I}_{v=0}^{h=2} + \mathrm{II}_{v=3}^{h=0})$ $\quad Jh' = 2$ $\quad Jv' = 3$

$(\mathrm{II}_{v=-3}^{h=0} + \mathrm{III}_{v=-13}^{h=0})$ $\quad Jh'' = 0$ $\quad Jv'' = -16$

$Jh\Sigma = 2$ $\quad Jv\Sigma = -13$

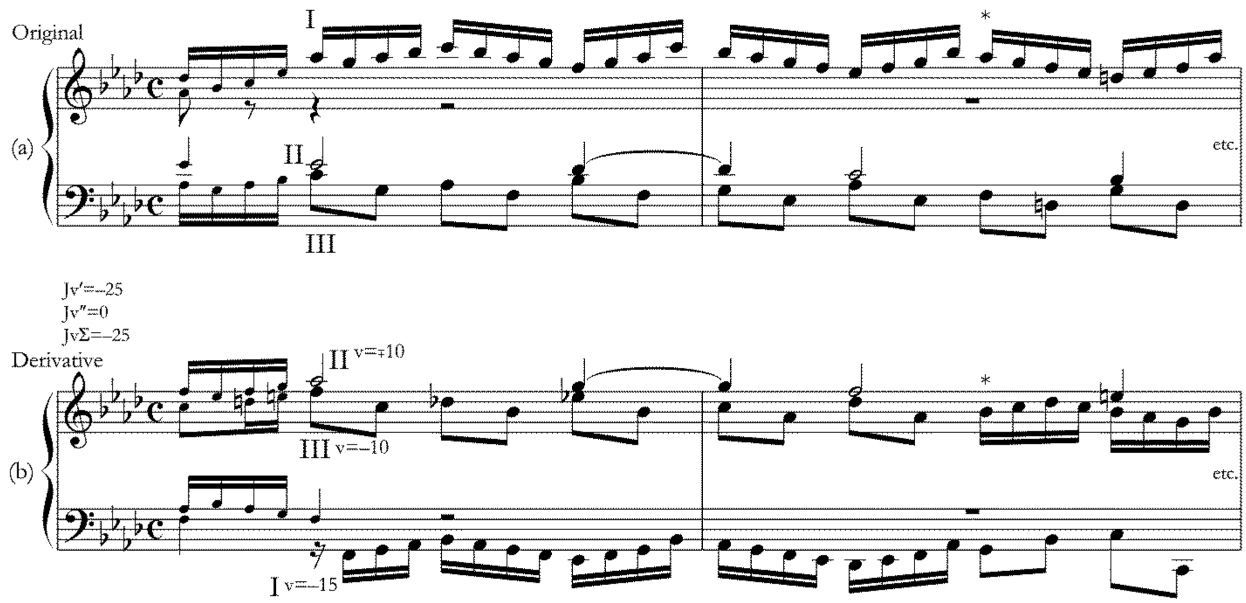
$$\mathrm{I} + \mathrm{II}\overset{h=2}{\underset{\dots\dots}{v=3}},\ \mathrm{I} + \mathrm{III}\overset{h=2}{\underset{\dots\dots\dots}{v=-13}},\ (\mathrm{II} + \mathrm{III})\ Jv = -16$$



Example 2.2.7. Double-shifting counterpoint, basic construction and derivative (Taneyev 1909, 325–26; Taneiev 1962, 280–81). *Example continues on the next page.*

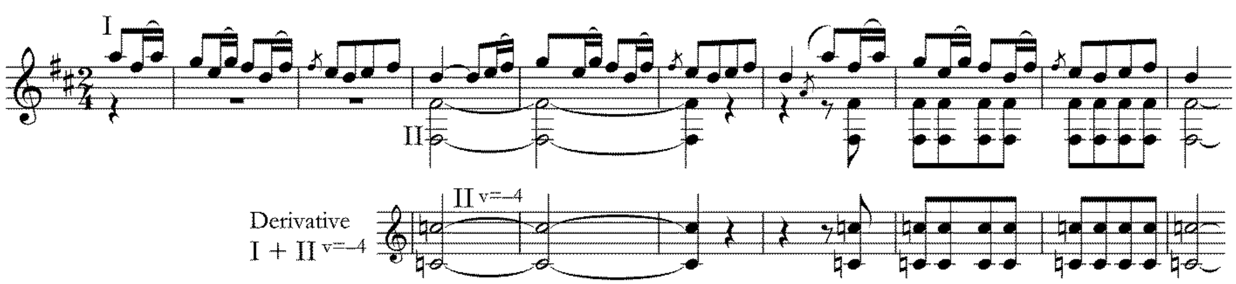
Derivative

Example 2.2.7. *Continued.*

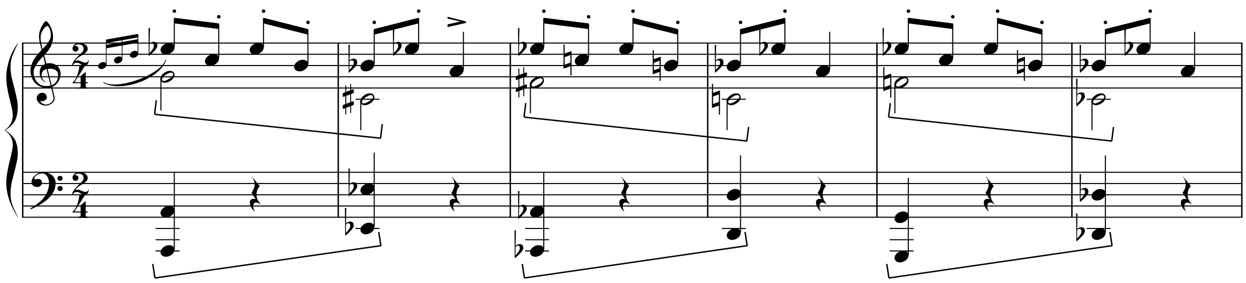


Example 2.3.1. Bach, *The Well-Tempered Clavier*, Book 1, Fugue in A-flat Major: **(a)** mm. 11–12; **(b)** mm. 14–15. Three-voice invertible counterpoint (Taneyev 1909, 198; Taneiev 1962, 177).

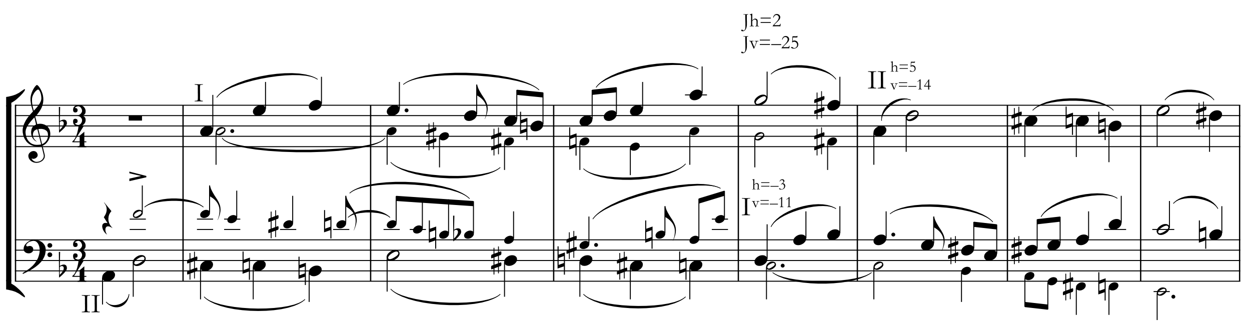
Example 2.3.2. Bach, *The Well-Tempered Clavier*, Book 2, Fugue in D Major: **(a)** mm. 37–40; **(b)** hypothetical derivative (Taneyev 1909, 199; Taneiev 1962, 177–78).



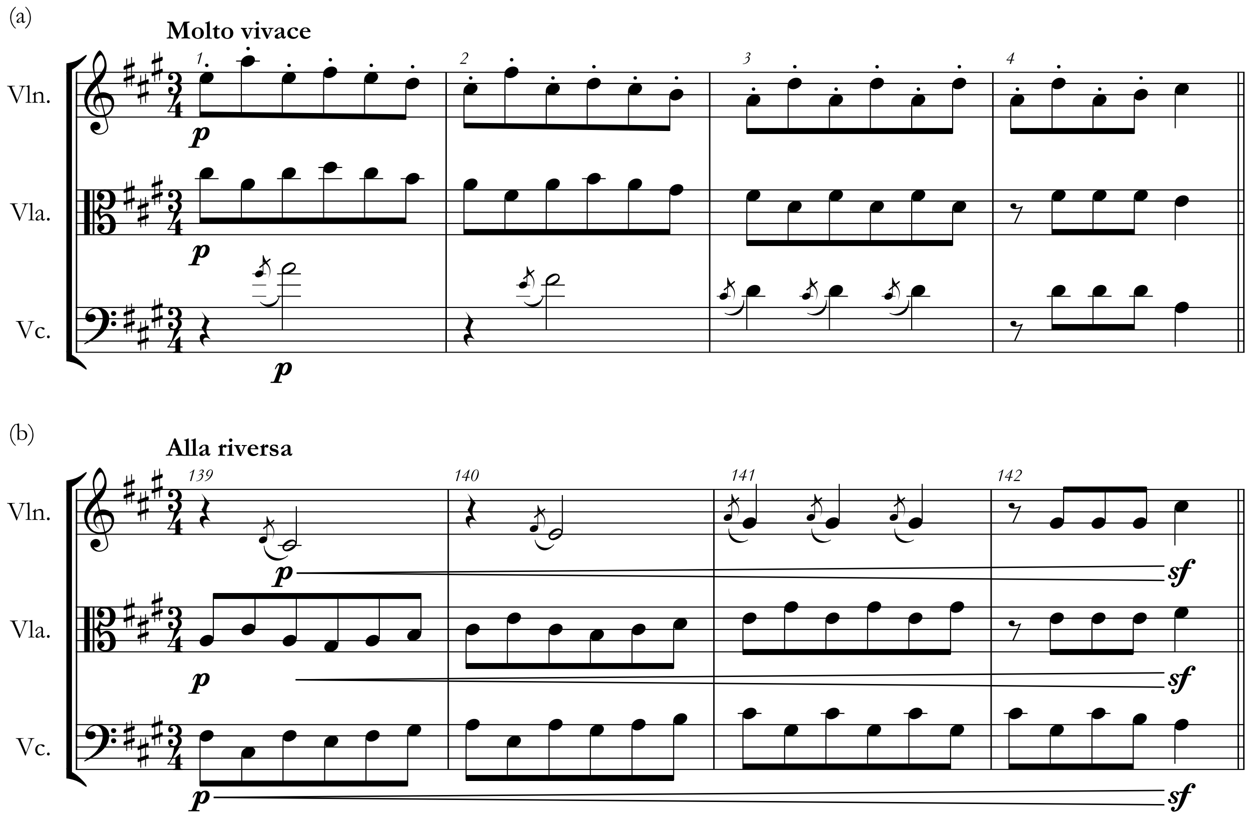
Example 2.3.3. Glinka, *Kamarinskaya*, excerpts (Taneyev 1909, 169; Taneiev 1962, 153).



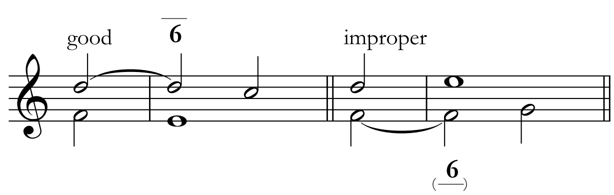
Example 2.3.4. Rimsky-Korsakov, *Kashchey the Immortal*, excerpt
(Taneyev 1909, 170; Taneiev 1962, 153).



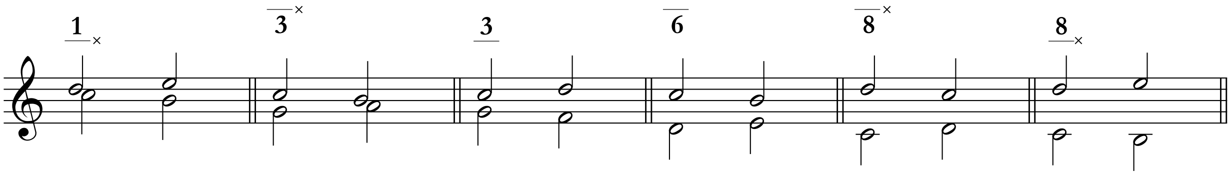
Example 2.3.5. Glazunov, Symphony No. 7, op. 77, excerpt.
Double-shifting counterpoint (Taneyev 1909, 301–2; Taneiev 1962, 260–61).



Example 2.4.1. Taneyev, String Trio in D Major, II: **(a)** mm. 1–4; **(b)** mm. 139–42.

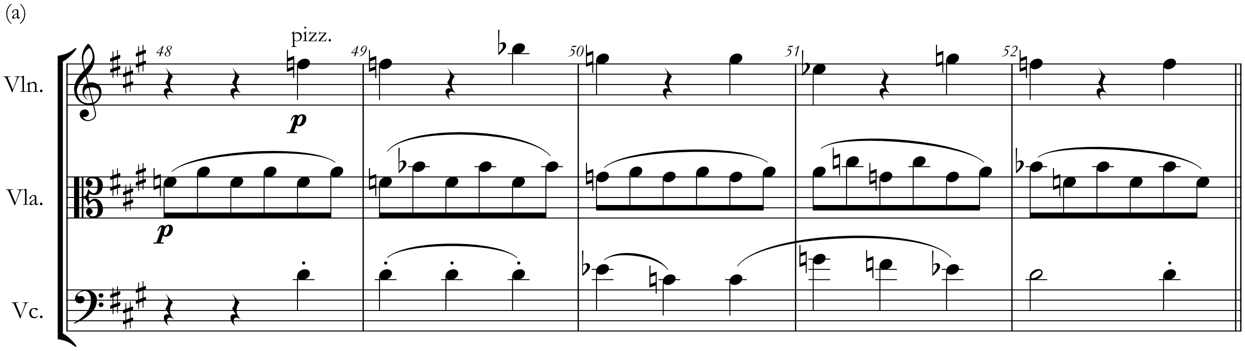


Example 2.4.2. Suspensions and resolutions *alla riversa*.
With a suspended seventh, the upper voice resolves down by step. When the progression is put upside down, the seventh does not resolve properly.

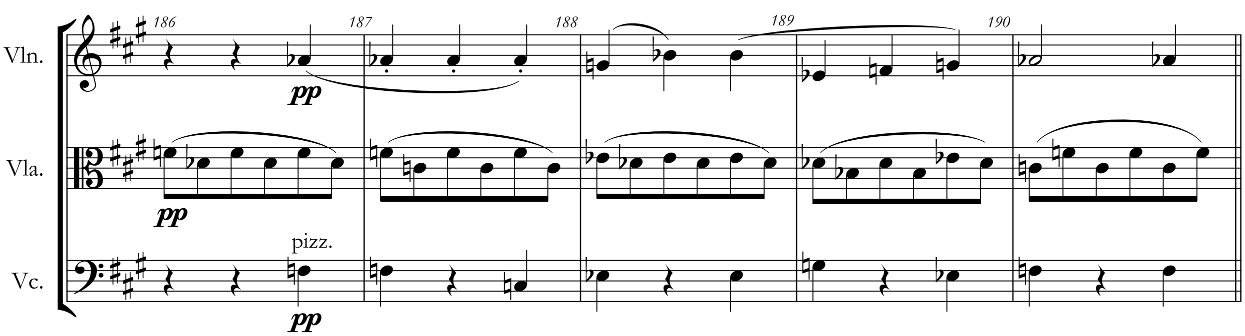


Example 2.4.3. Contrapuntal wedging *alla riversa*.
In counterpoint *alla riversa*, dissonances resolve by wedging in, if the sign – appears above the interval number, or wedging out, if the sign – appears below the interval number.

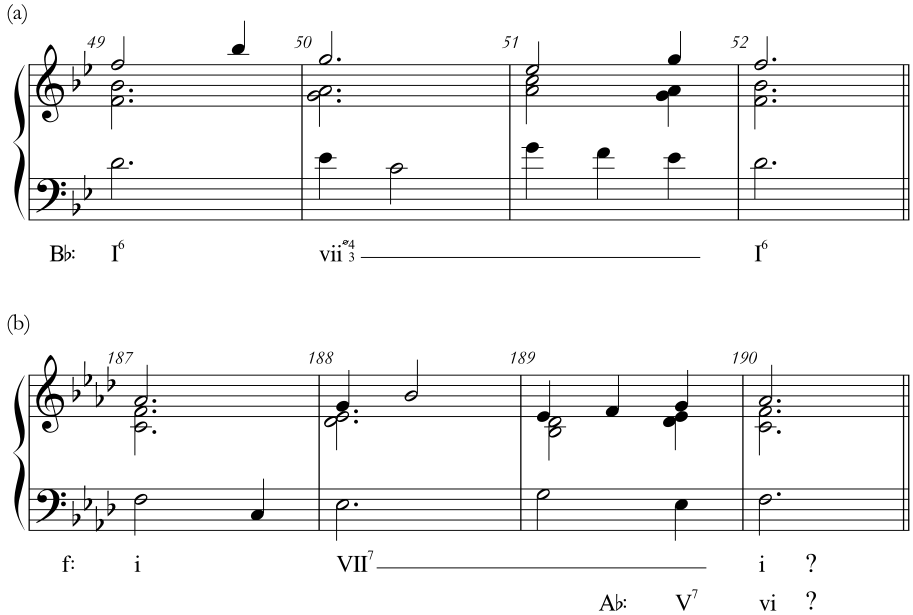
(a)



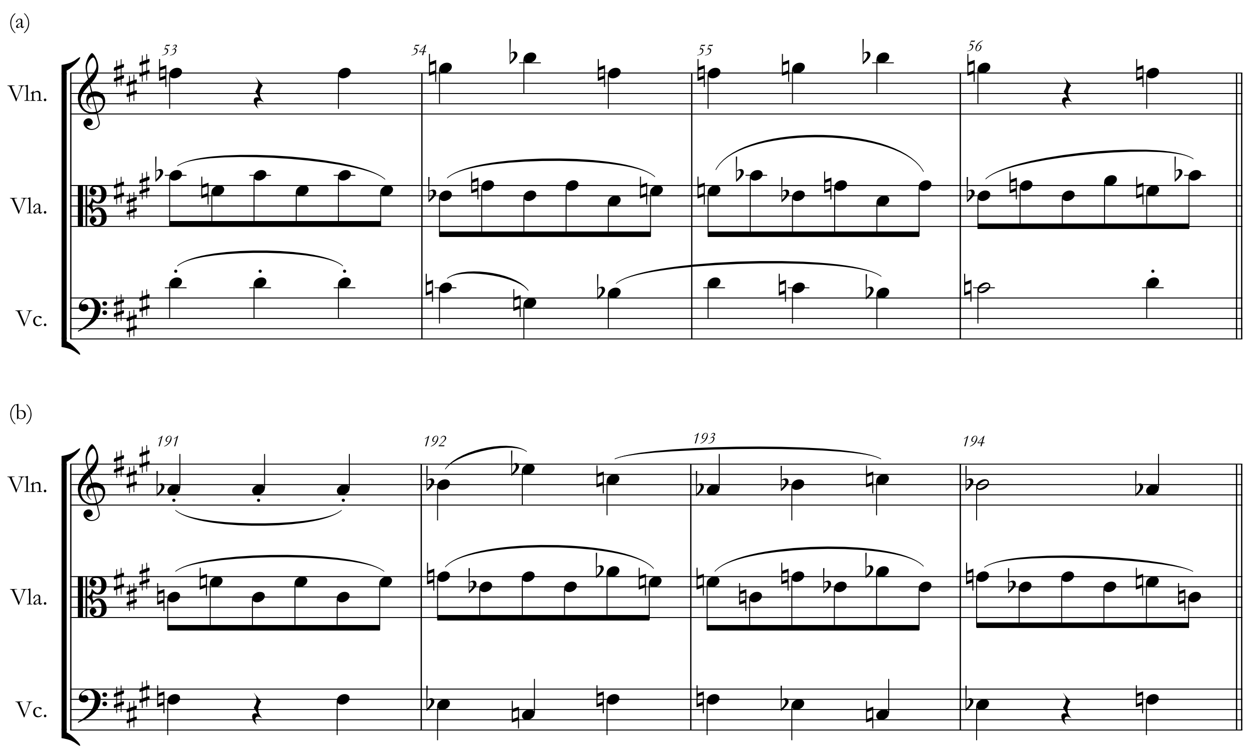
(b)



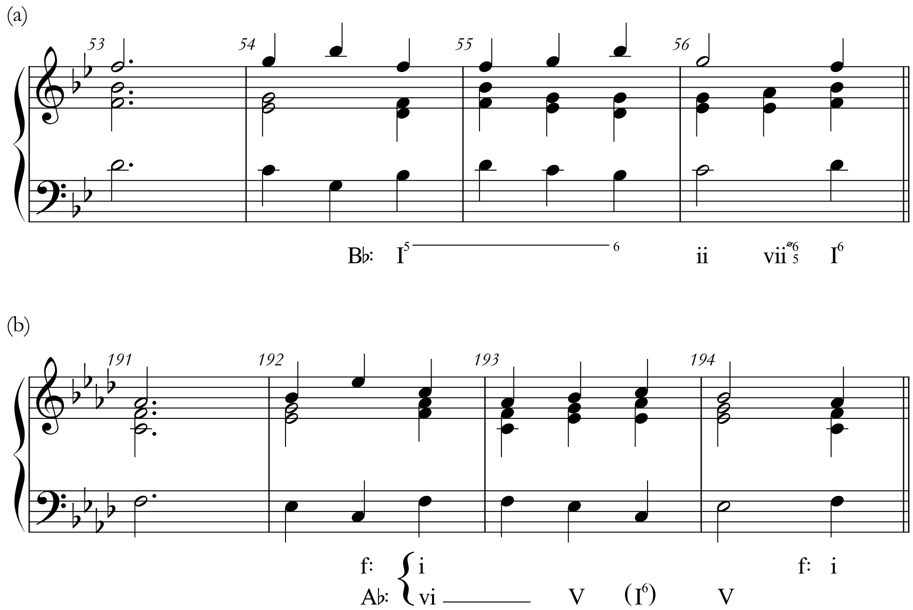
Example 2.4.4. Taneyev, String Trio in D Major, II: **(a)** mm. 48–52; **(b)** mm. 186–90.



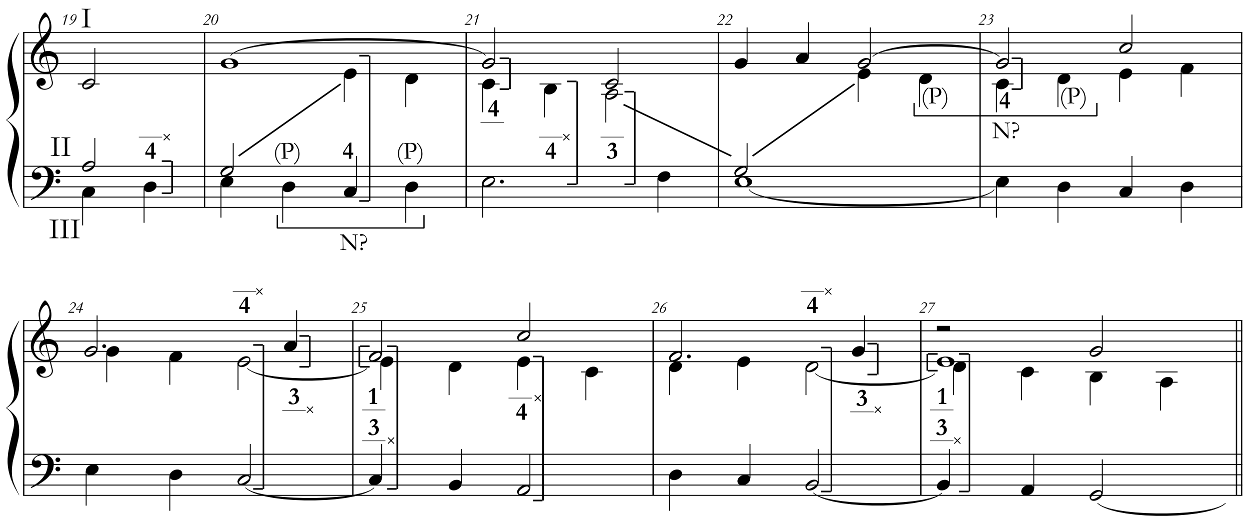
Example 2.4.5. Analytical reduction of Example 2.4.4.



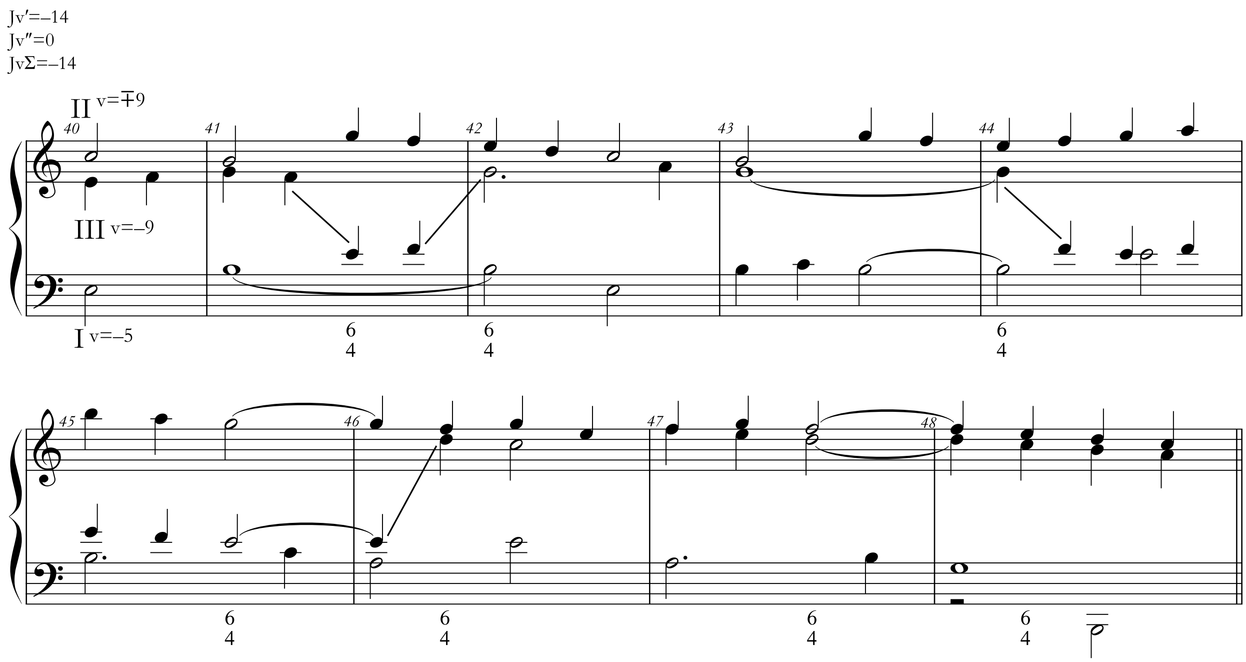
Example 2.4.6. Taneyev, String Trio in D Major, II: **(a)** mm. 53–56; **(b)** mm. 191–94.



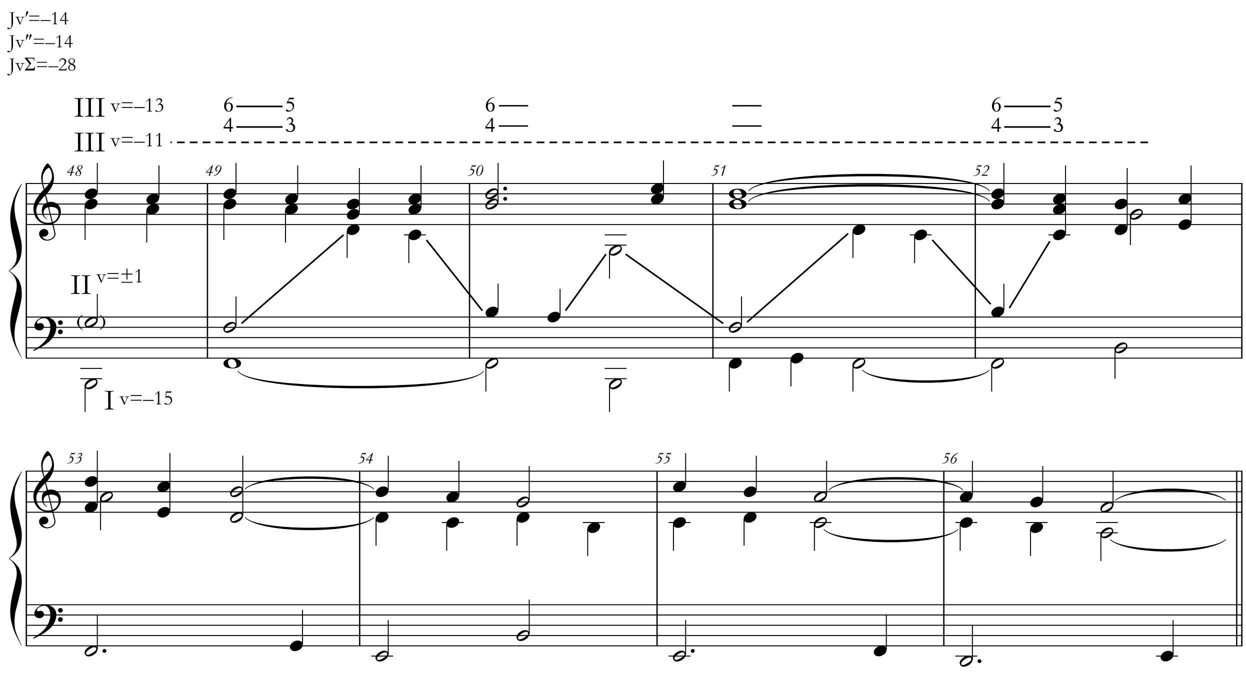
Example 2.4.7. Analytical reduction of Example 2.4.6.



Example 2.4.8. Shostakovich, Fugue in C Major, mm. 19–27.



Example 2.4.9. Shostakovich, Fugue in C Major, mm. 40–48.



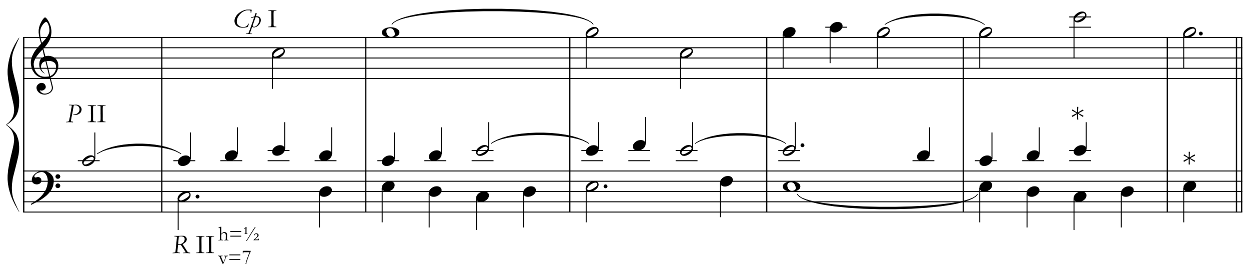
Example 2.4.10. Shostakovich, Fugue in C Major, mm. 48–56.

Example 2.4.11. Shostakovich, Fugue in C Major, mm. 58–66.

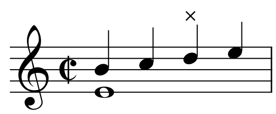
Example 2.4.12. Shostakovich, Fugue in C Major, mm. 66–74.

Example 2.4.13. Shostakovich, Fugue in C Major, hypothetical derivative.
Corresponds to the fourth arrangement for three-voice counterpoint as depicted in Figure 2.8.

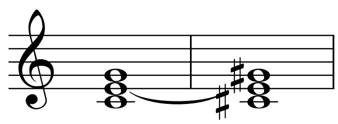
Example 2.4.14. Shostakovich, Fugue in C Major, mm. 79–88.



Example 2.4.15. Shostakovich, Fugue in C Major, hypothetical alternative basic construction for the stretto entries of m. 79.



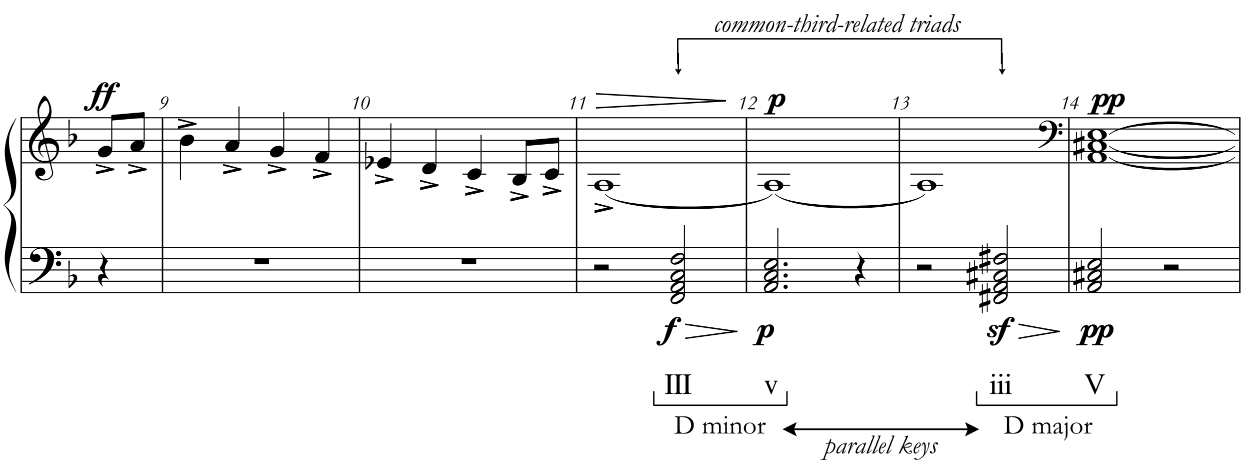
Example 2.5.1. Passing tone on the third quarter (Taneyev 1909, 51; Taneiev 1962, 57).



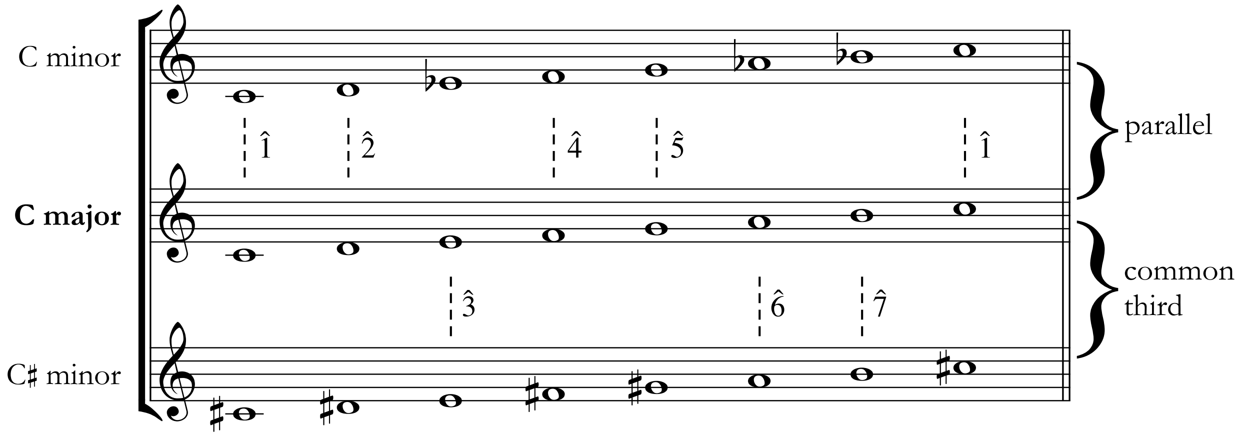
Example 3.0.1. SLIDE-related triads.

$$\text{F–} \xrightarrow{\mathbf{N}} \text{C+} \xrightarrow{\mathbf{S}} \text{D}\flat\text{–} \xrightarrow{\mathbf{R}} \text{E+} \xrightarrow{\mathbf{N}} \text{A–} \xrightarrow{\mathbf{N}} \text{E+} \xrightarrow{\mathbf{S}} \text{F–}$$

Example 3.1.1. Schubert, Fantasy for Piano Four Hands in F Minor, D. 940, mm. 57–91. Cohn's neo-Riemannian analysis (Cohn 1998, 290).

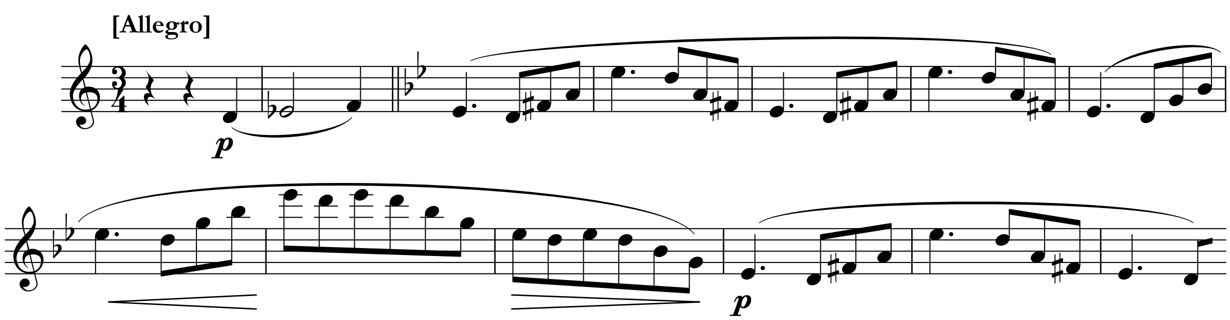


Example 3.2.1. Mahler, Symphony No. 3 in D Minor, I, mm. 8–14.

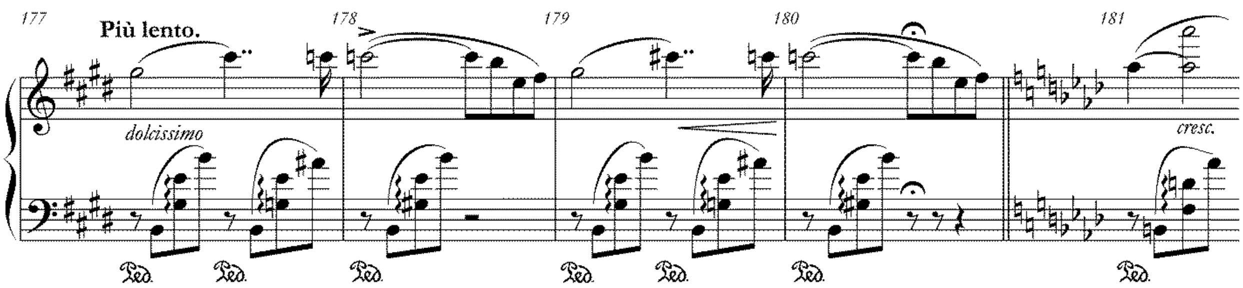


Example 3.2.2. Common scale degrees in the parallel and common third relations, after Mazel.

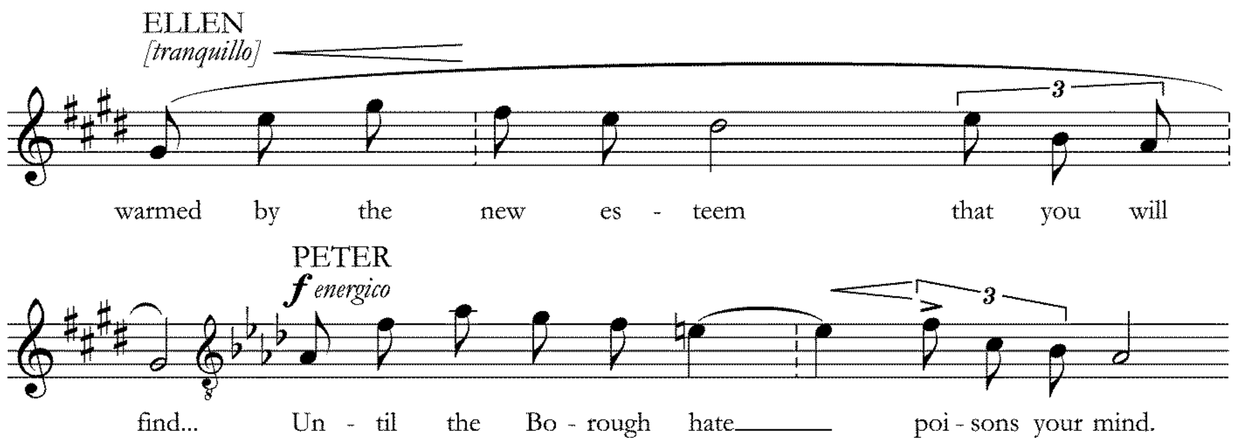
Example 3.2.3. Liszt, *Valse oubliée* no. 1, mm. 15–27 (Mazel' 1982, 160).



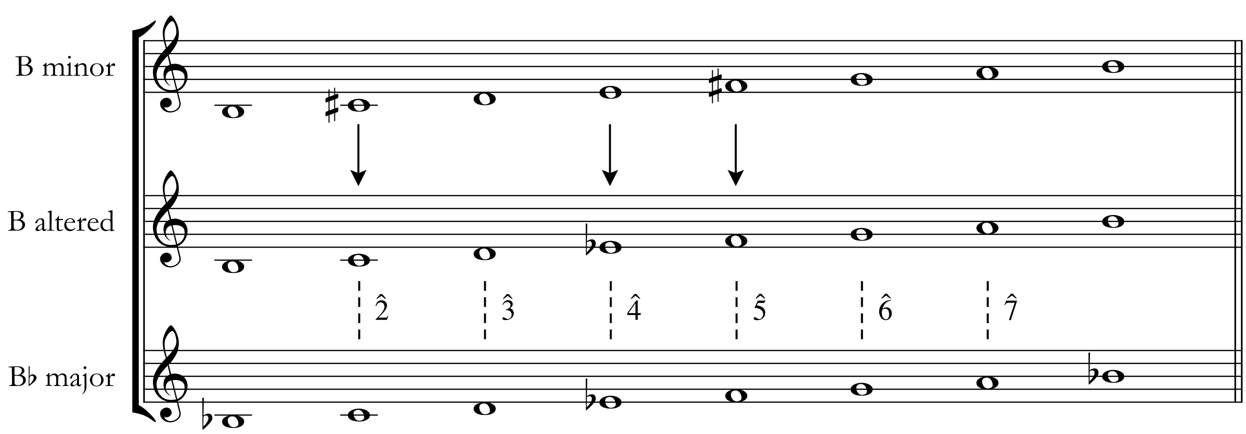
Example 3.2.4. Liszt, *Valse oubliée* no. 1, mm. 122–34 (Mazel' 1982, 161).



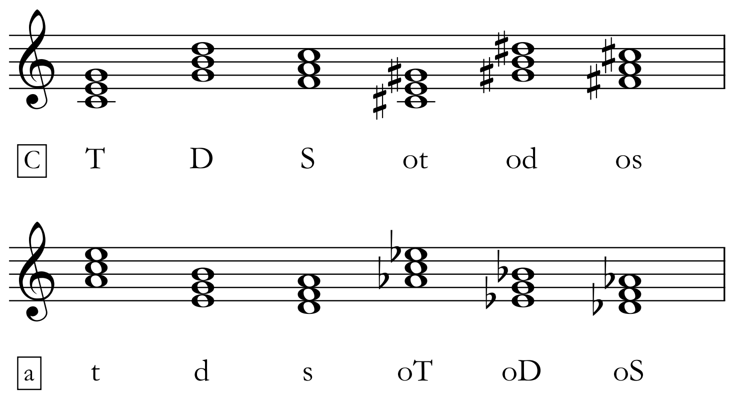
Example 3.2.5. Liszt, "Funérailles," mm. 177–81.



Example 3.2.6. Britten, *Peter Grimes*, Prologue, excerpt (Mazel' 1982, 182).



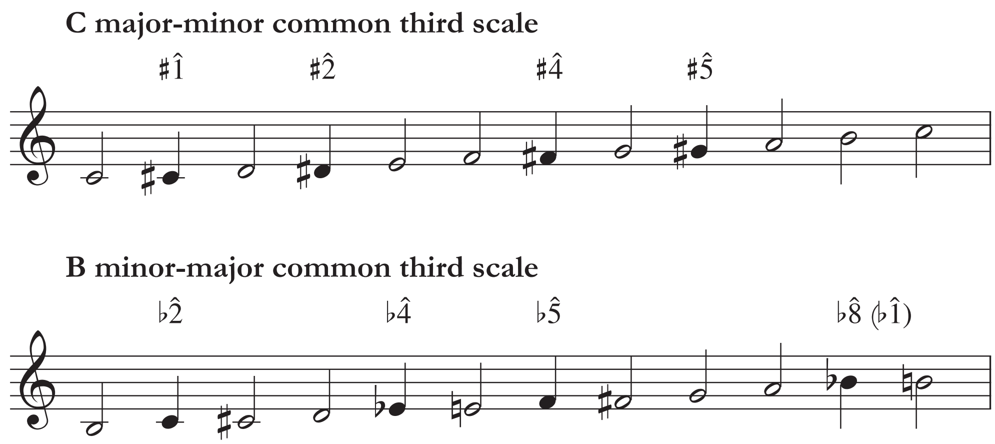
Example 3.2.7. Chromatic lowering and common tones among natural minor, altered, and major scales.



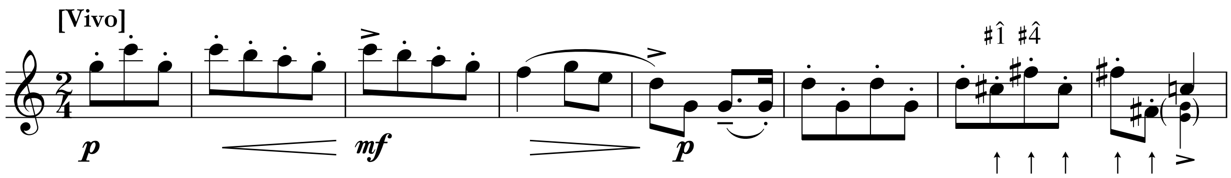
Example 3.2.8. Primary triads in Tiftikidi's common third system.

Example 3.2.9. Prokofiev, Piano Sonata No. 3, final measures.
Tiftikidi's analysis (Tiftikidi 1970, 28).

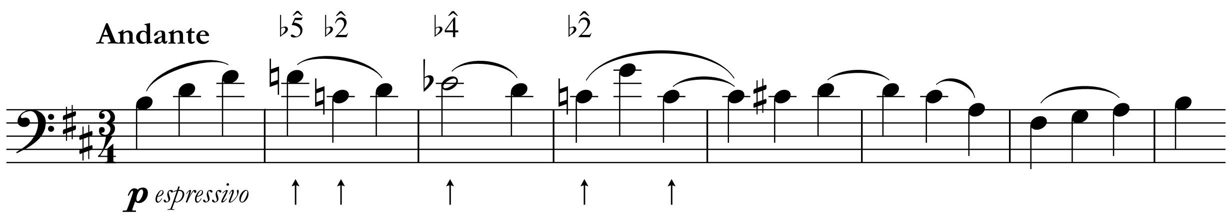
Example 3.2.10. Prokofiev, Gavotte, op. 32, no. 3, mm. 1–8.
Tiftikidi’s analysis (Tiftikidi 1970, 29).



Example 3.2.11. Scales in Tiftikidi’s common third system (Tiftikidi 1970, 25).

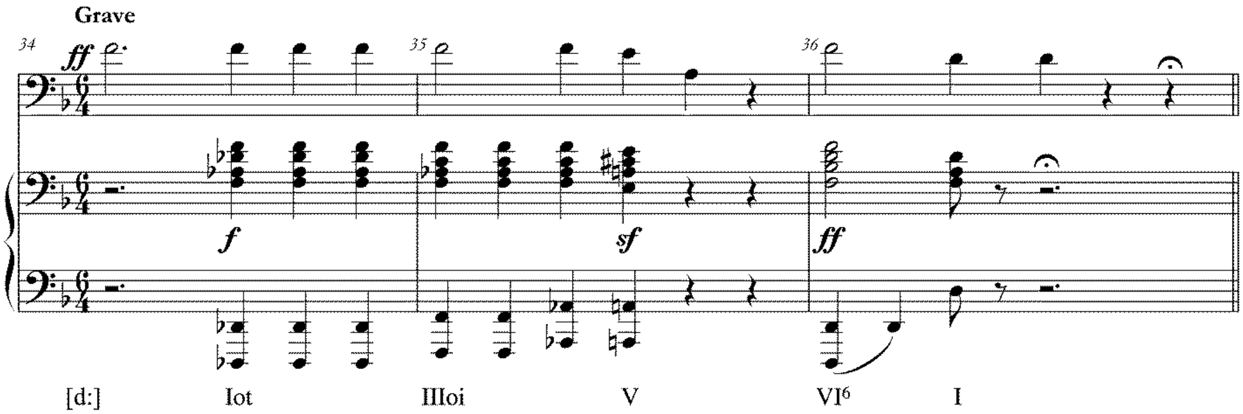


Example 3.2.12. Prokofiev, *Cinderella*, no. 17, excerpt (Tiftikidi 1970, 35).

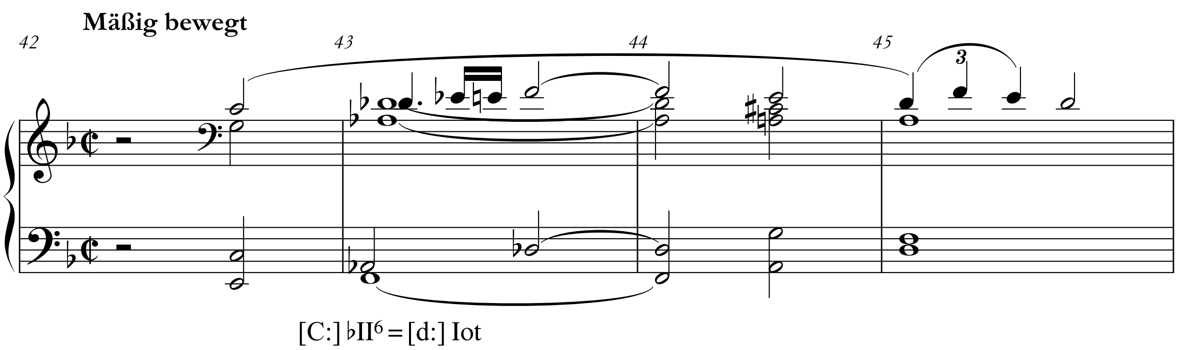


Example 3.2.13. Shostakovich, String Quartet No. 5, II, mm. 11–18 (Tiftikidi 1970, 37).

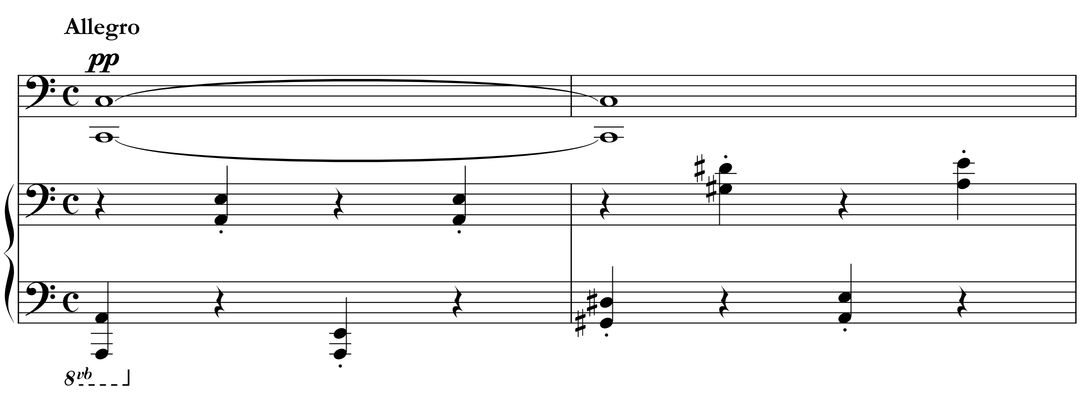
Example 3.2.14. Cadential progressions with various VI chords (Orfeyev 1970, 69).



Example 3.2.15. Musorgsky, "Ne bozhiim gromom gore udarilo" ("Unlike the Thunder, Trouble Struck"), mm. 34–36. Orfeyev's analysis (Orfeyev 1970, 78).

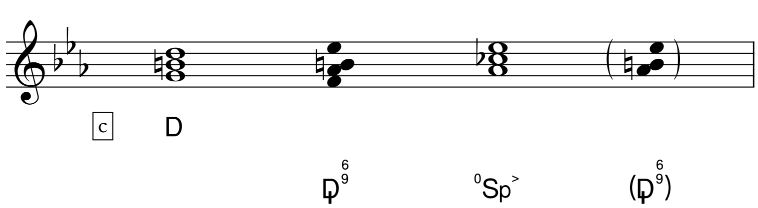


Example 3.2.16. Bruckner, Symphony No. 3, I, mm. 42–45.
Orfeyev's analysis (Orfeyev 1970, 78).

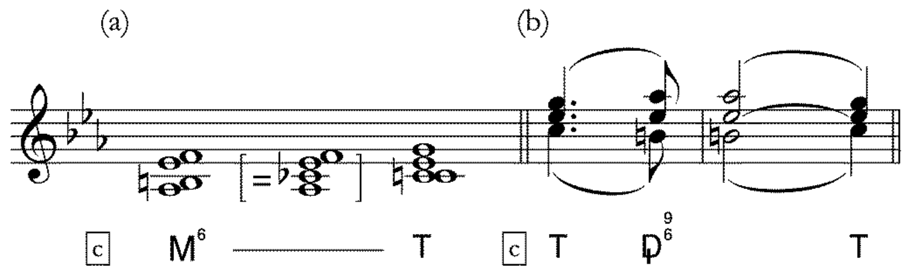


Example 3.2.17. Revutsky, "Ide, ide did" (Go away, old man), excerpt (Orfeyev 1970, 78).

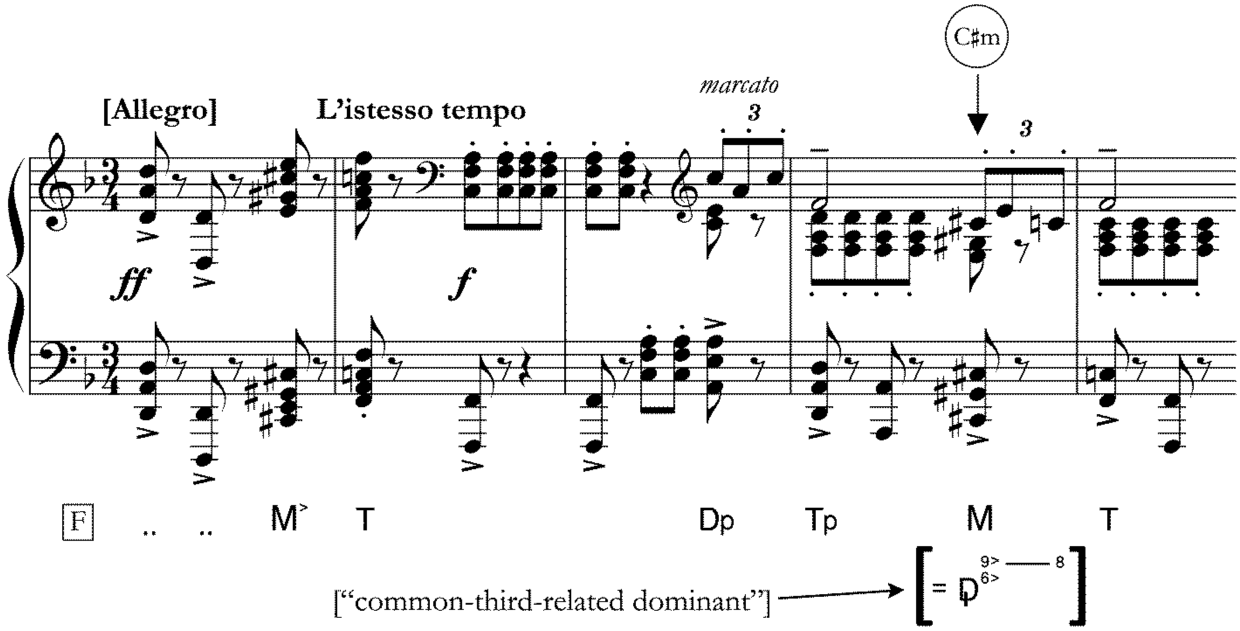
Example 3.2.18. Prokofiev, Ten Pieces from *Romeo and Juliet*, op. 75, no. 6, mm. 47–62.



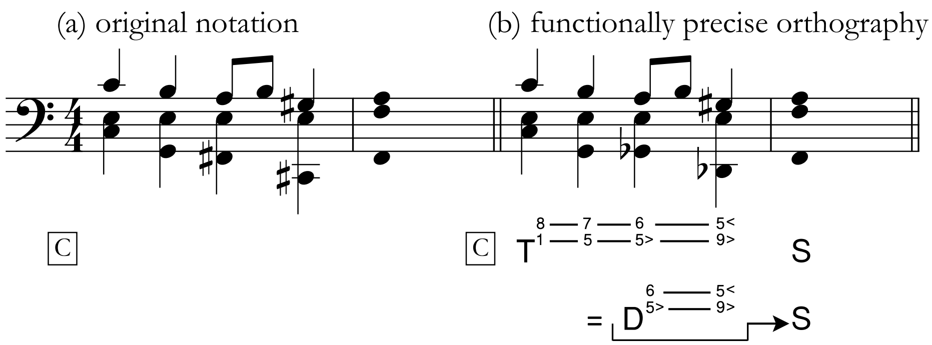
Example 3.2.19. Functional interpretations of the common-third-related dominant (Kholopov 2003, 436).



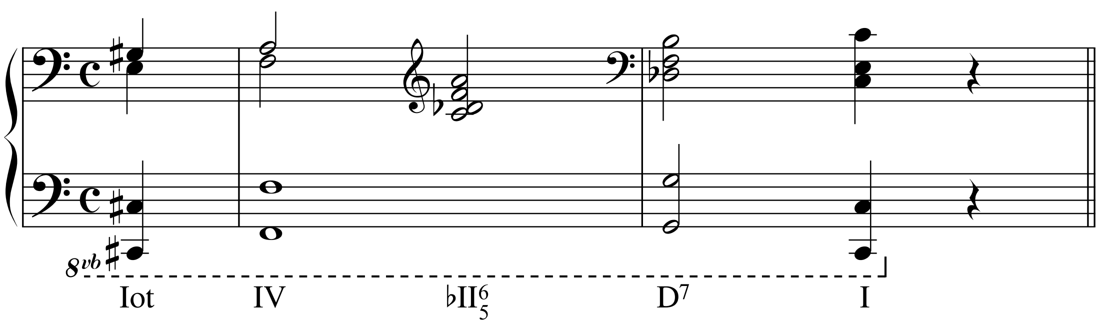
Example 3.2.20. Two contexts for interpreting the common-third-related dominant (Kholopov 2003, 437).



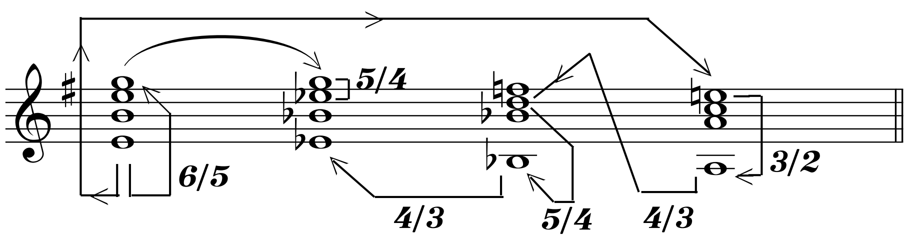
Example 3.2.21. Rachmaninov, *Rhapsody on a Theme of Paganini*, rehearsal no. 35, mm. 8–12. Kholopov's analysis (Kholopov 2003, 437).



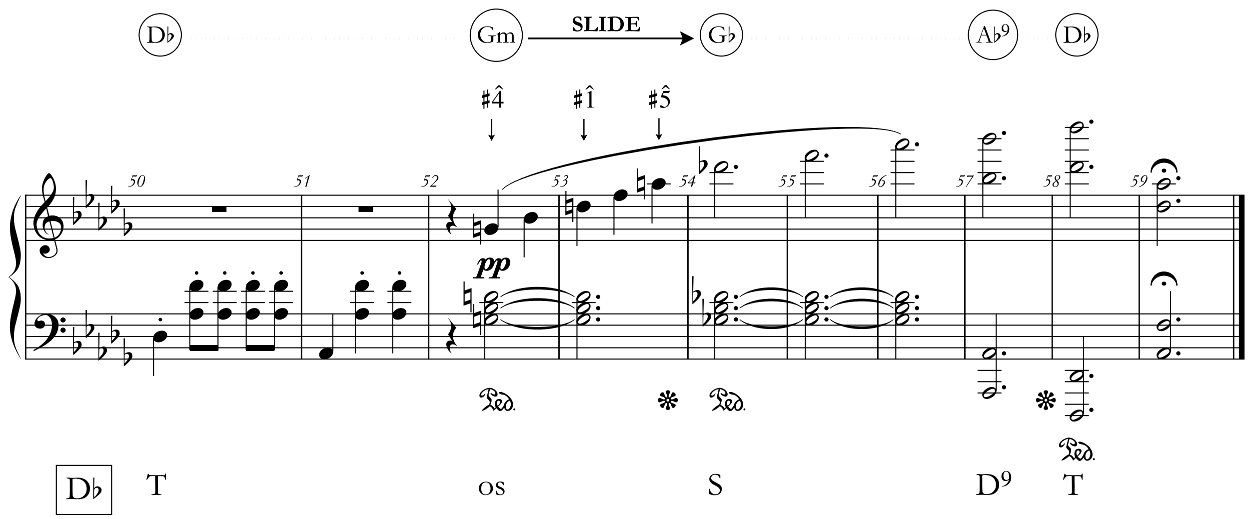
Example 3.2.22. Shostakovich, *Three Fantastic Dances*, op. 5, no. 1, excerpt.
Kholopov's analysis (Kholopov 2003, 439).



Example 3.2.23. Shostakovich, *Three Fantastic Dances*, op. 5, no. 1, ending.
Orfeyev's analysis (Orfeyev 1970, 73).

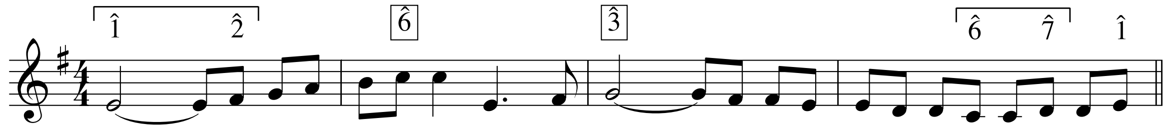


Example 3.2.24. Prokofiev, *Cinderella*, no. 30, excerpt.
Tuning ratios (Kholopov 2003, 440).



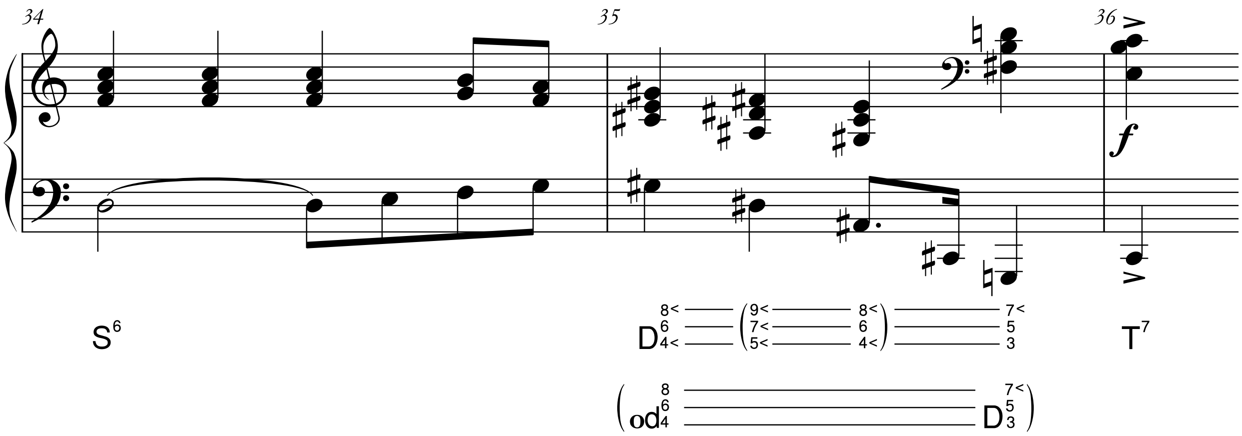
Example 3.3.1. Shostakovich, Prelude in D-flat Major, op. 34, no. 15, mm. 50–59.

Example 3.3.2. Schnittke, *Requiem*, XIII (Credo), m. 5.

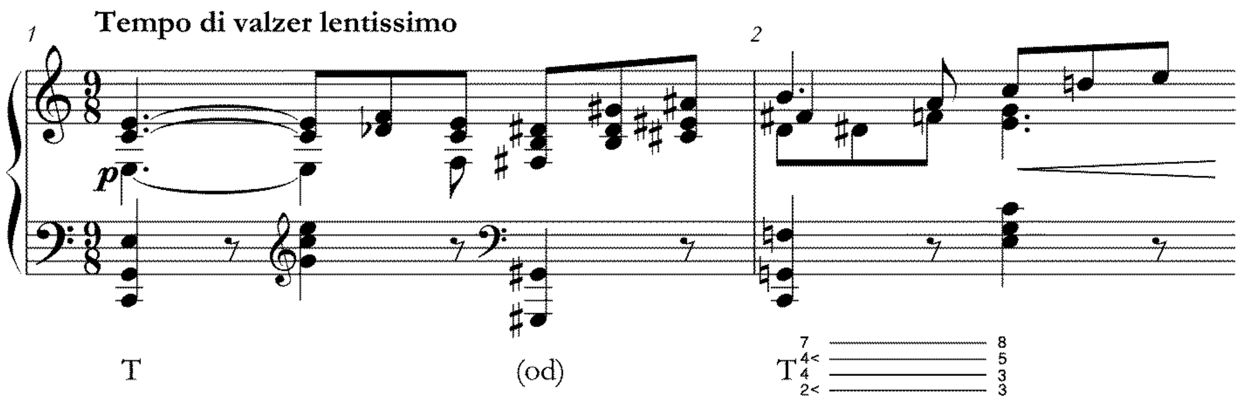


Example 3.3.3. Schnittke, *Requiem*, I (Requiem), main melody.

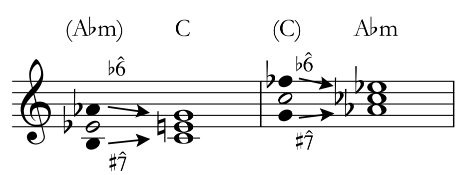
Example 3.3.4. Schnittke, *Requiem*, I (Requiem), mm. 16–27.



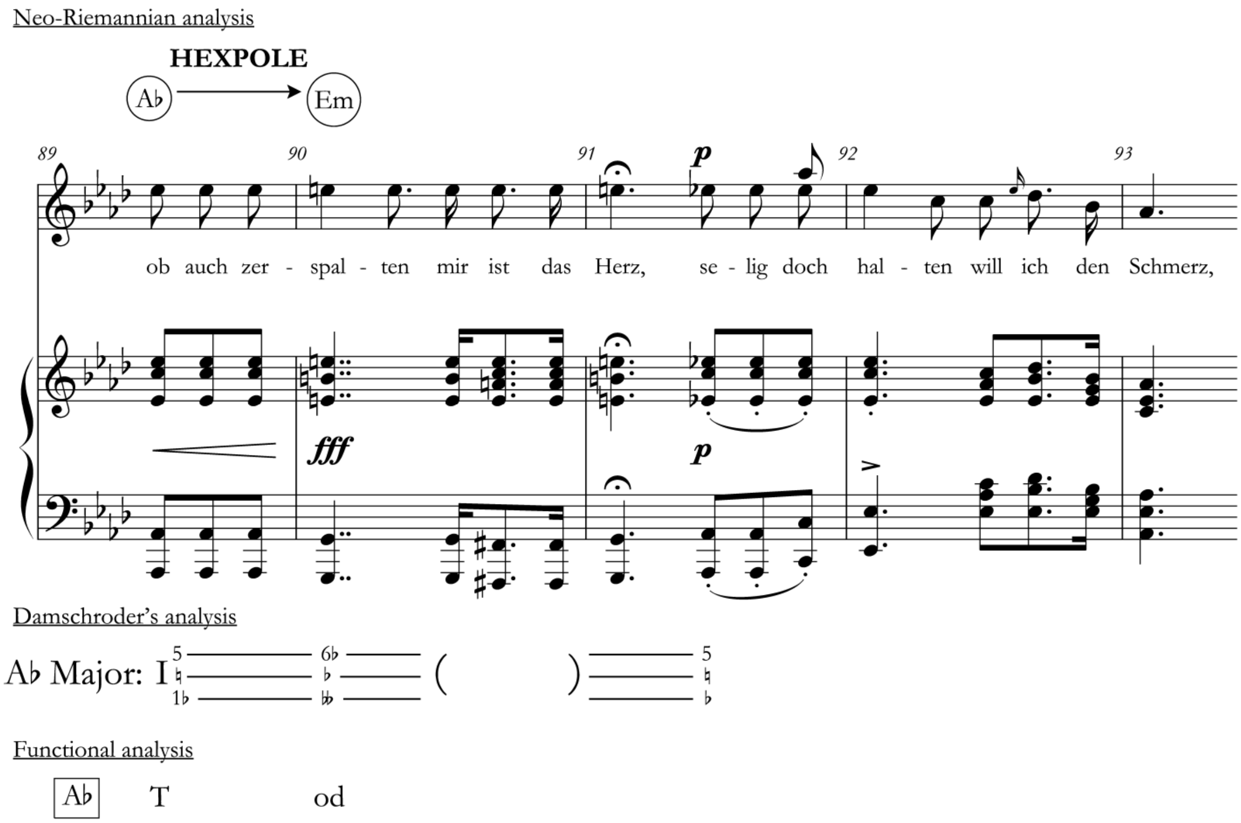
Example 3.3.5. Prokofiev, Piano Sonata No. 6, II, mm. 34–36.



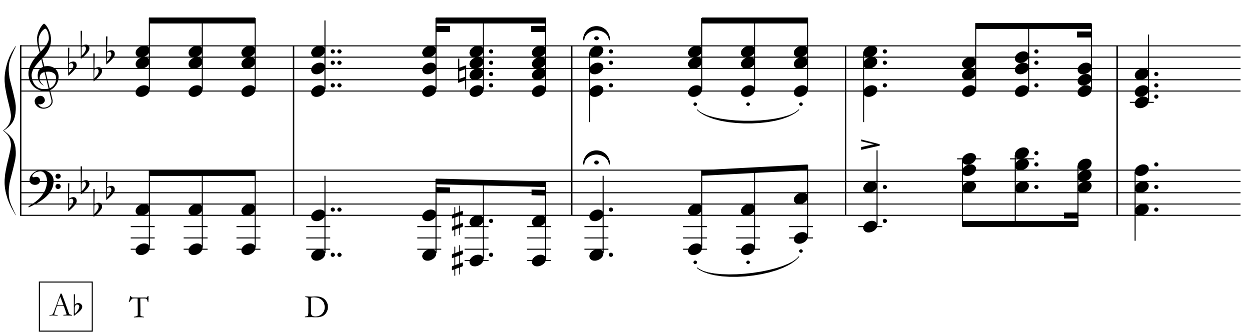
Example 3.3.6. Prokofiev, Piano Sonata No. 6, III, mm. 1–2.



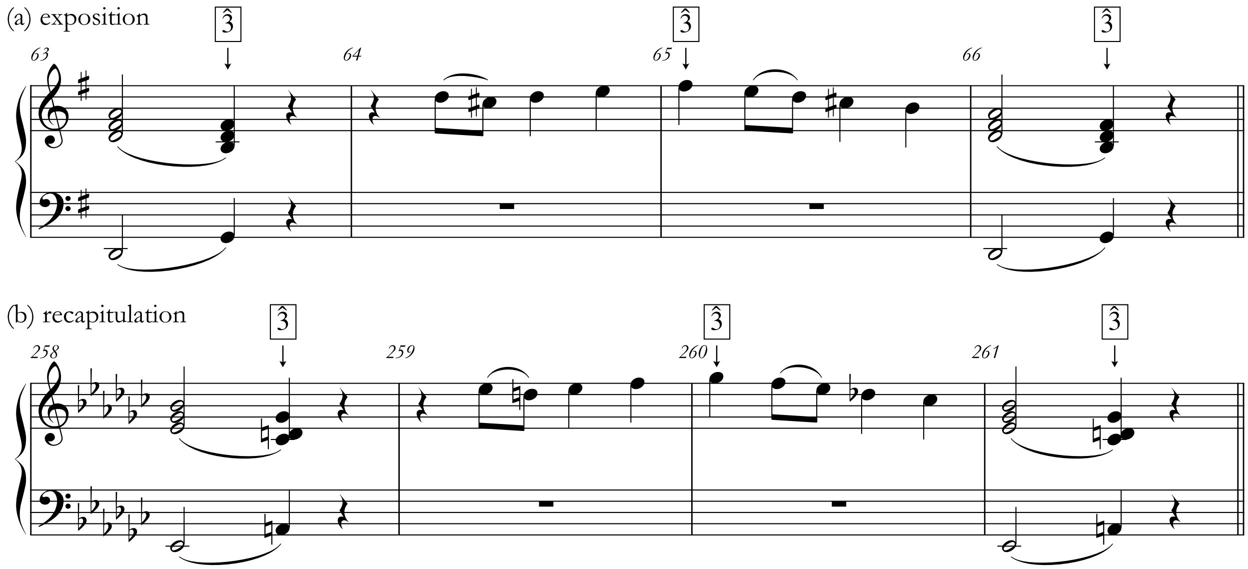
Example 3.3.7. The hexatonic pole relation.
HEXPOLE-related triads contain each other's dualistic leading tones (after Cohn 2004, 308).



Example 3.3.8. Schubert, "Fülle der Liebe," D. 854, mm. 89–93.
Neo-Riemannian, prolongational (Damschroder 2010a, 58), and functional analyses.



Example 3.3.9. Schubert, "Fülle der Liebe," D. 854, hypothetical recomposition of mm. 89–93.

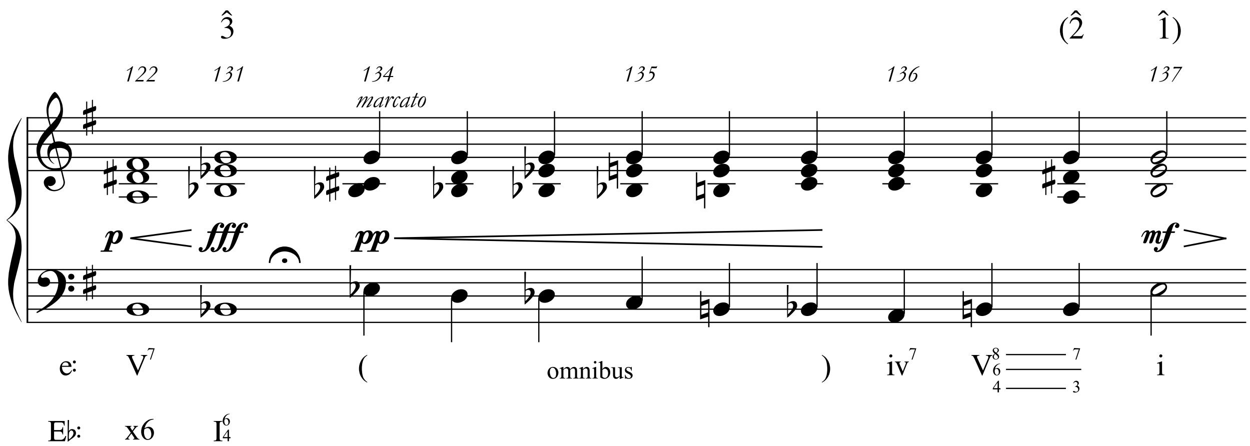


Example 3.3.10. Shostakovich, String Quartet No. 6, I: **(a)** mm. 63–66; **(b)** mm. 258–61.

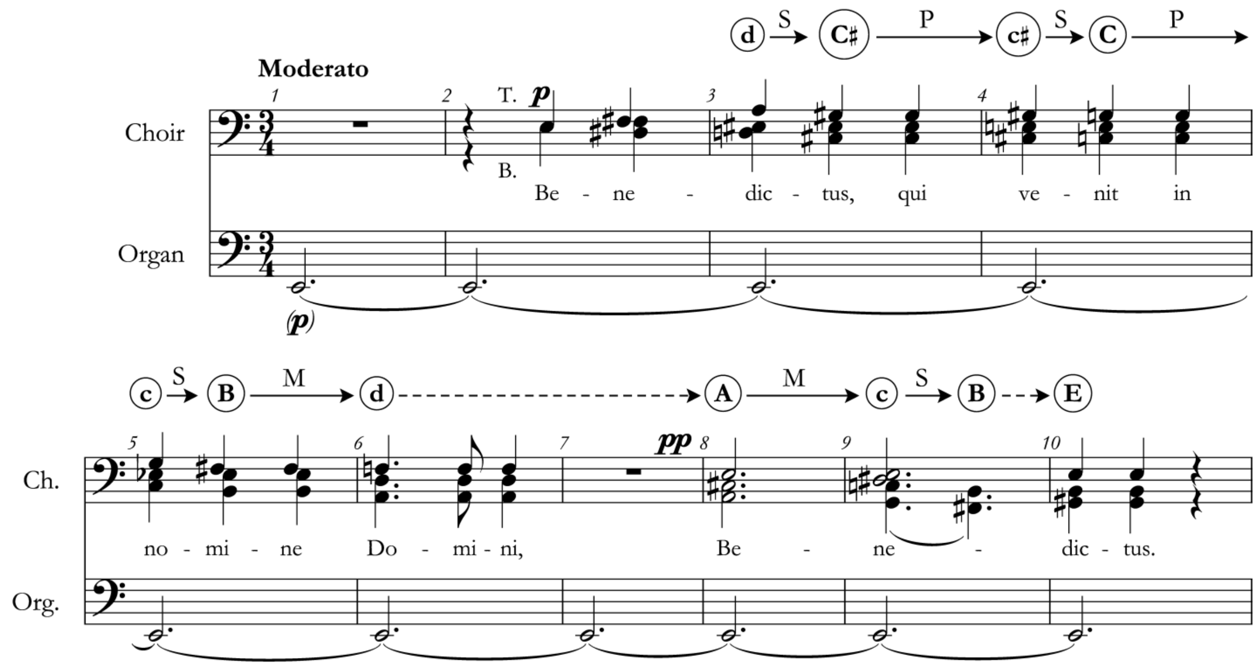
Example 3.3.11. Shostakovich, String Quartet No. 6, I: **(a)** mm. 111–17; **(b)** mm. 302–9.

Example 3.4.1. Chaikovsky, Symphony No. 4, I, mm. 1–12.

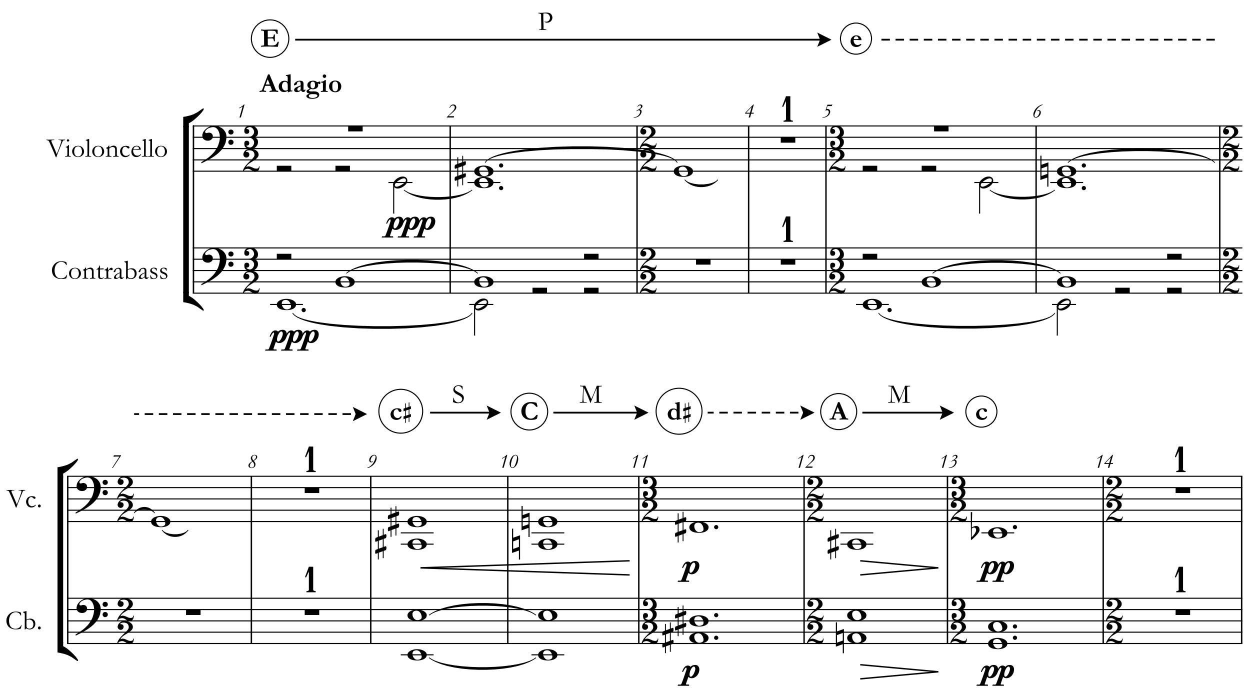
Example 3.4.2. Chaikovsky, *Eugene Onegin*, Act I, Scene 2, Tatyana’s letter scene, excerpts.



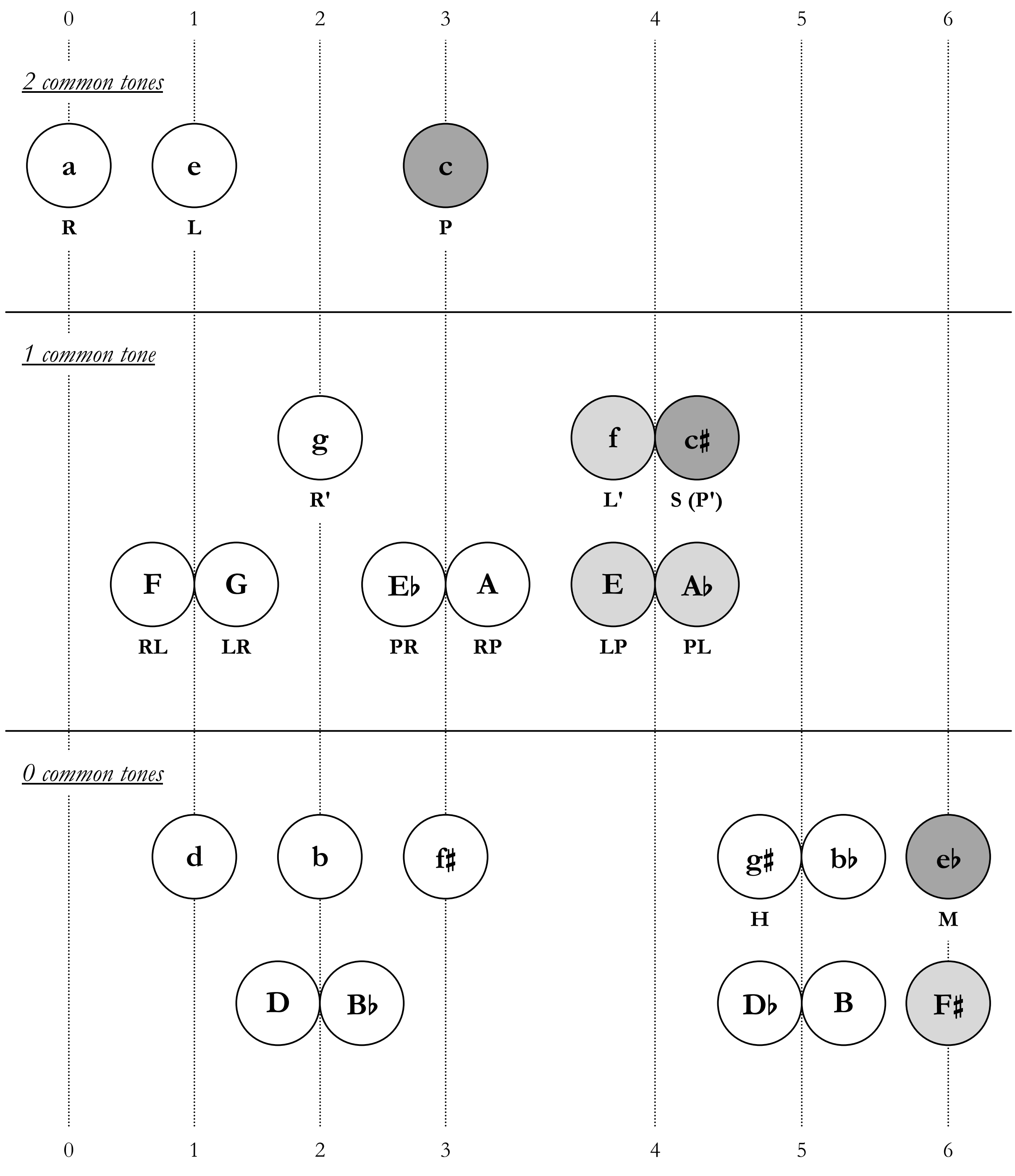
Example 3.4.3. Chaikovsky, *Grande Sonate* in G Major, op. 37, II, mm. 122–37, analytical sketch.



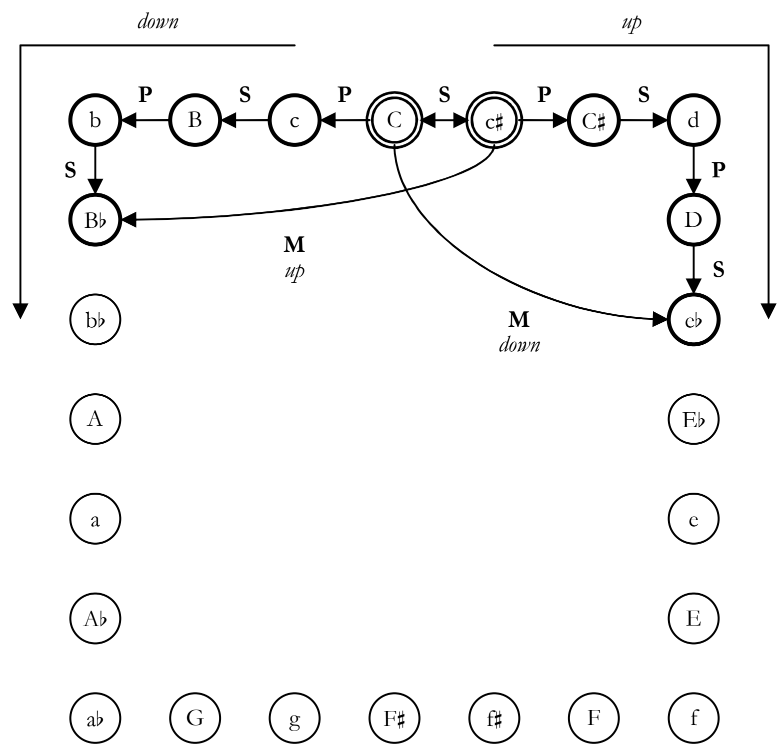
Example 4.1.1. Schnittke, *Requiem*, XI (Benedictus), mm. 1–10.



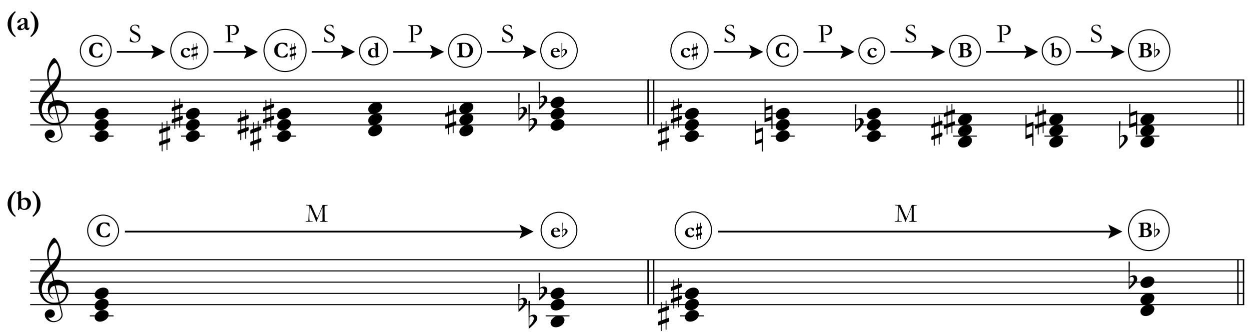
Example 4.1.2. Schnittke, *Hymn II*, mm. 1–14.



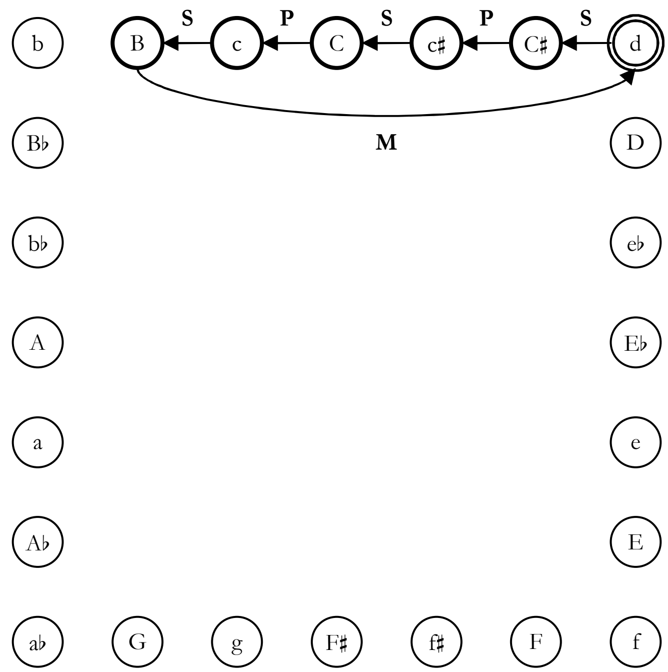
Example 4.2.1. Common tones, circle-of-fifths distance, and neo-Riemannian relation with C major.



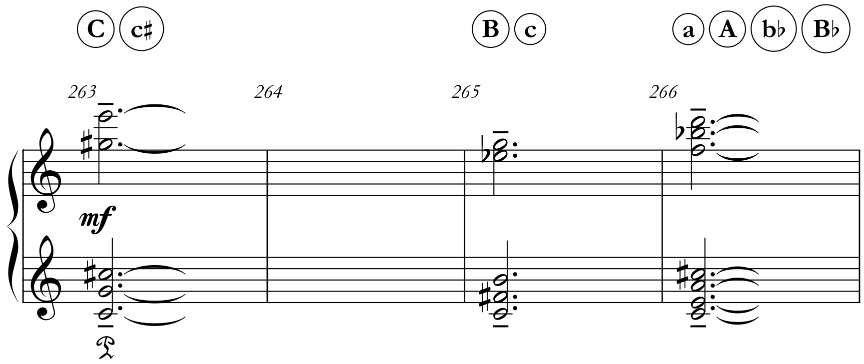
Example 4.2.2. PSM space.
Map of Example 4.2.3. The direction (up/down) of the most efficient voice leading between two given triads is labeled.



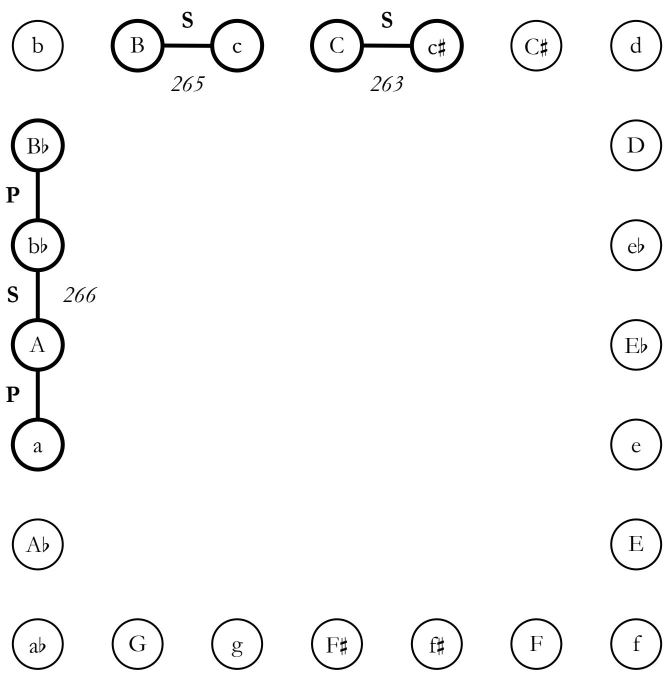
Example 4.2.3. Voice leading for neo-Riemannian relations.
(a) With an alternation of S and P, the most efficient voice leading moves up for clockwise motions through the space (left illustration) and down for counterclockwise motions (right illustration). **(b)** With M the directions are reversed.



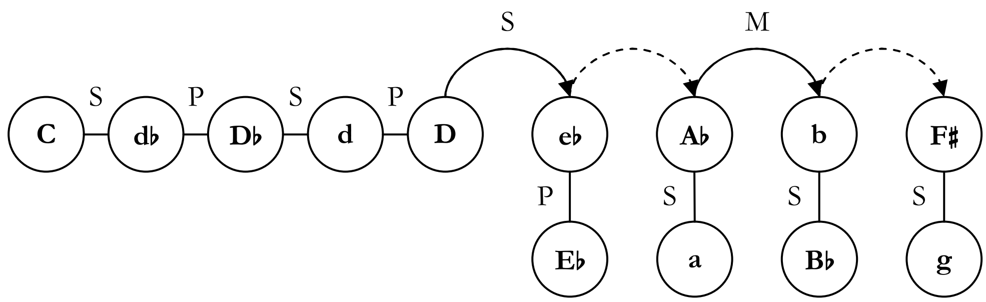
Example 4.2.4. Schnittke, *Requiem*, XI (Benedictus), mm. 3–6.
Map of Example 4.1.1. Transformationally SPSPS is equivalent to M, although the voice leading involved is different.

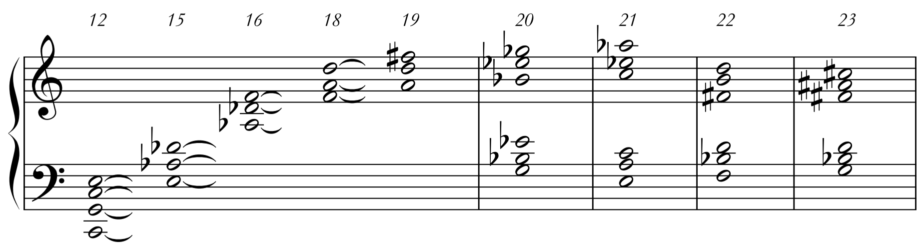


Example 4.3.1. Schnittke, Piano Quintet, II, mm. 263–66.
Analysis after Schnittke's own comments (Schnittke and Hansberger 1982, 46).

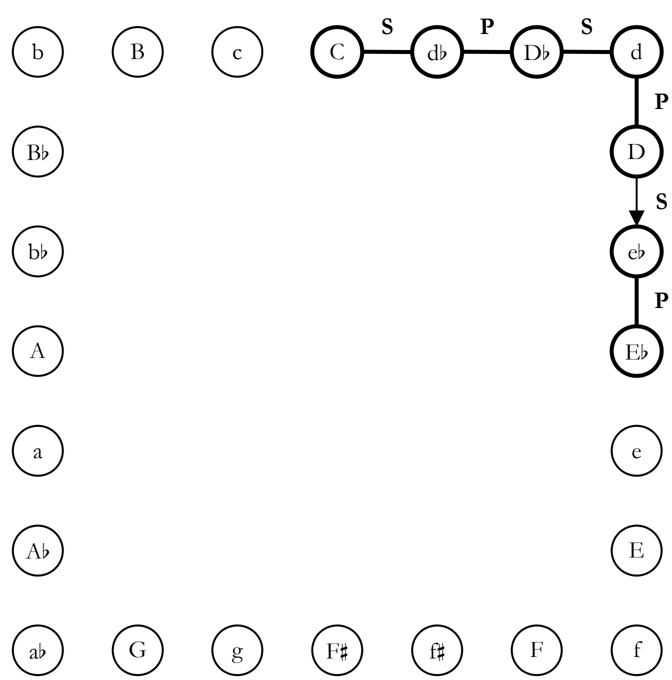


Example 4.3.2. Schnittke, Piano Quintet, II, mm. 263–66.
Map of Example 4.3.1. Each polychord occupies a discrete section of PSM space.

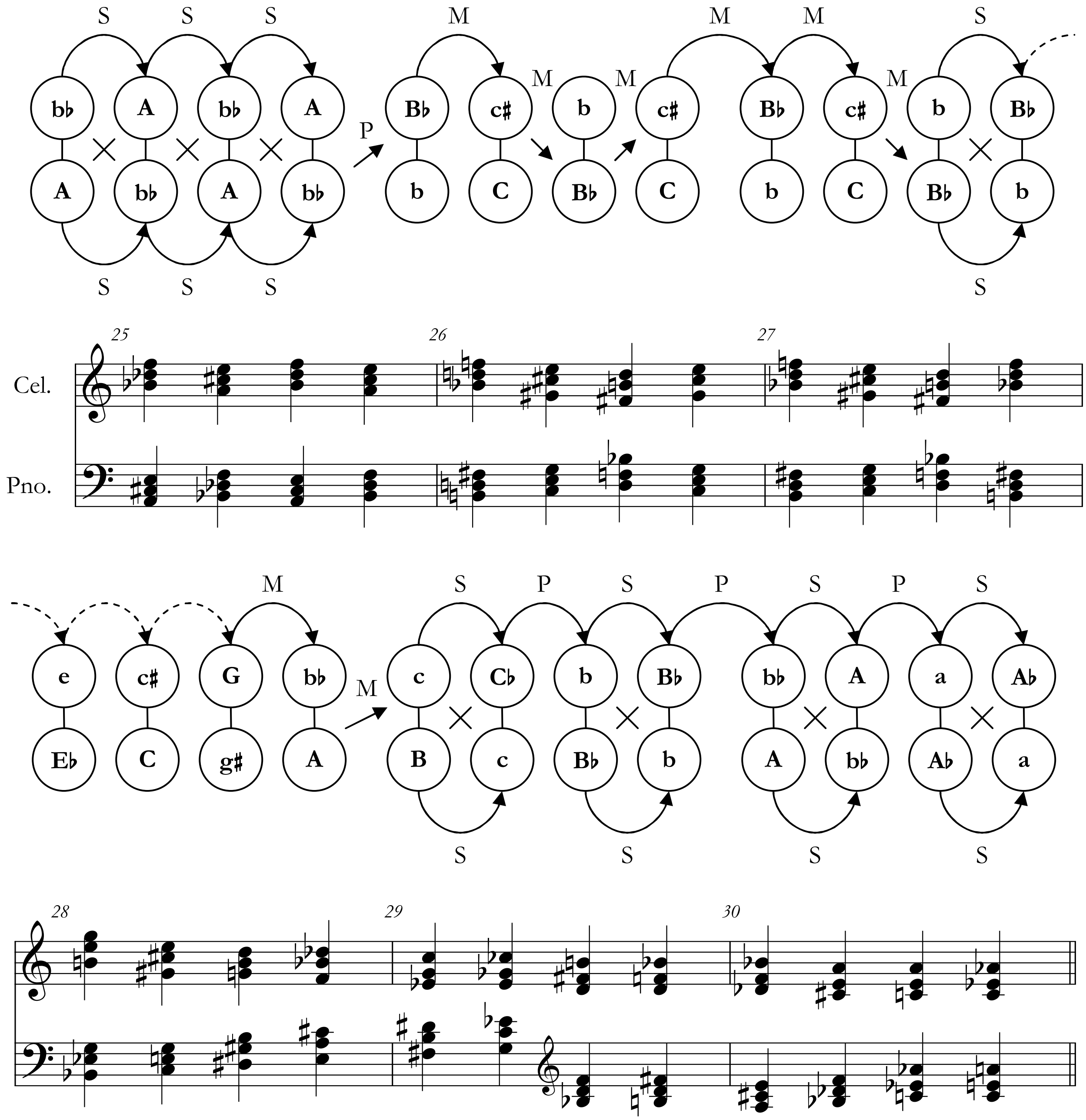




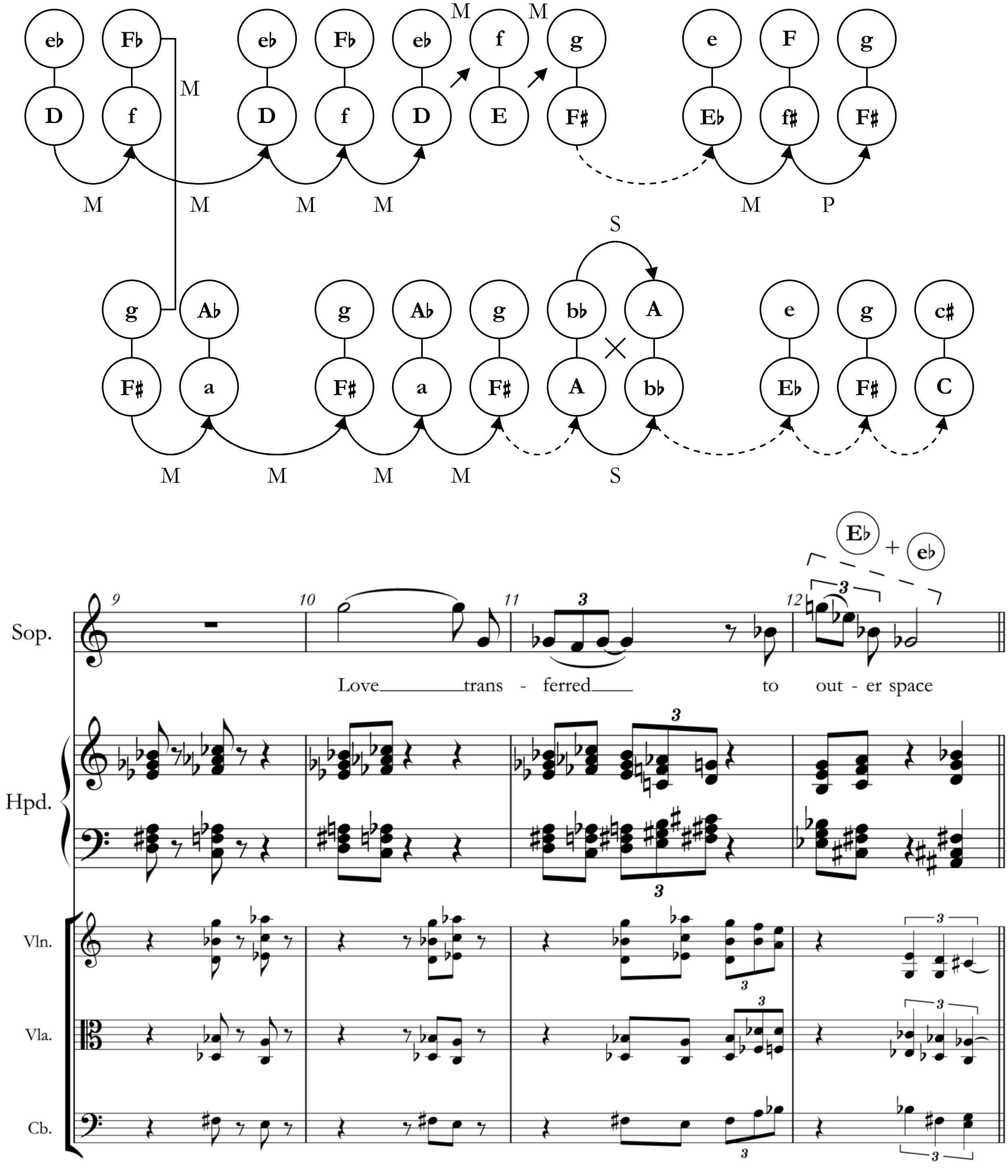
Example 4.3.3. Schnittke, *Requiem*, II (Kyrie), mm. 12–23, analytical sketch.



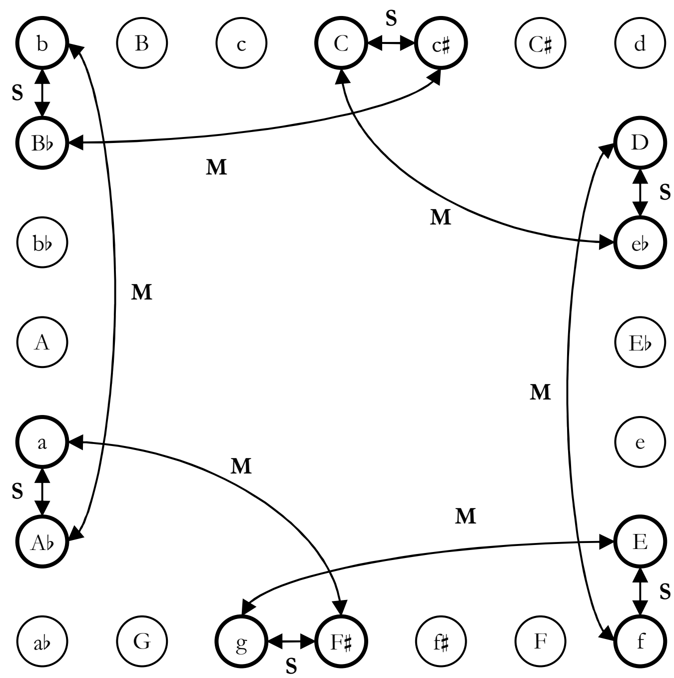
Example 4.3.4. Schnittke, *Requiem*, II (Kyrie), mm. 12–20.
Map of Example 4.3.3. An alternation of S and P leads to a P-related polychord in m. 20.



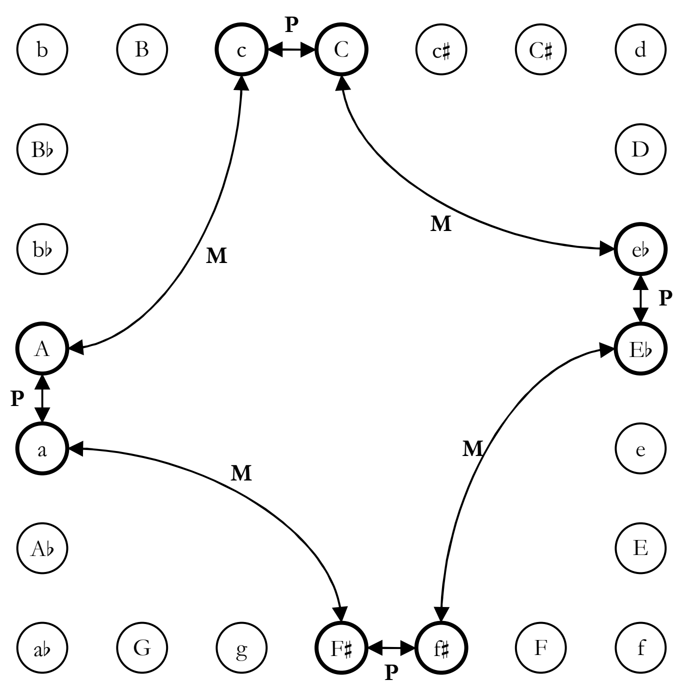
Example 4.3.5. Schnittke, *Requiem*, IV (Tuba mirum), mm. 25–30.
The celesta and piano articulate S-related harmonies on every quarter-note beat.



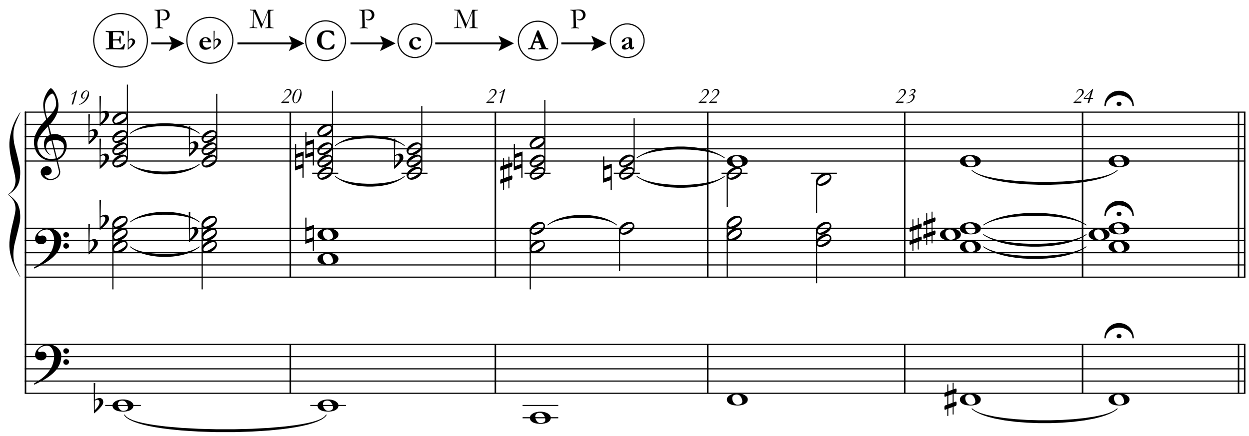
Example 4.3.6. Schnittke, *Three Madrigals*, no. 3, "Reflection," mm. 9–12.
The diagram above the score shows S-related triads in the harpsichord (upper row) and in the strings (lower row).



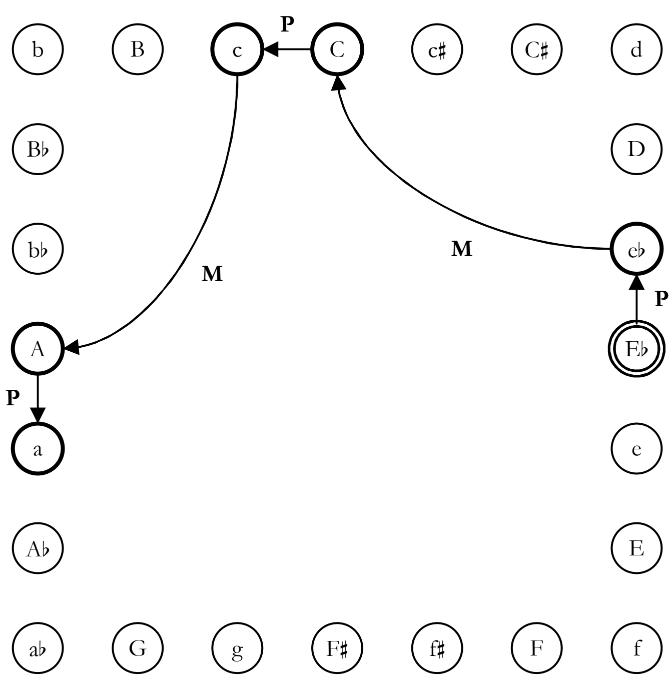
Example 4.3.7. S/M chain.



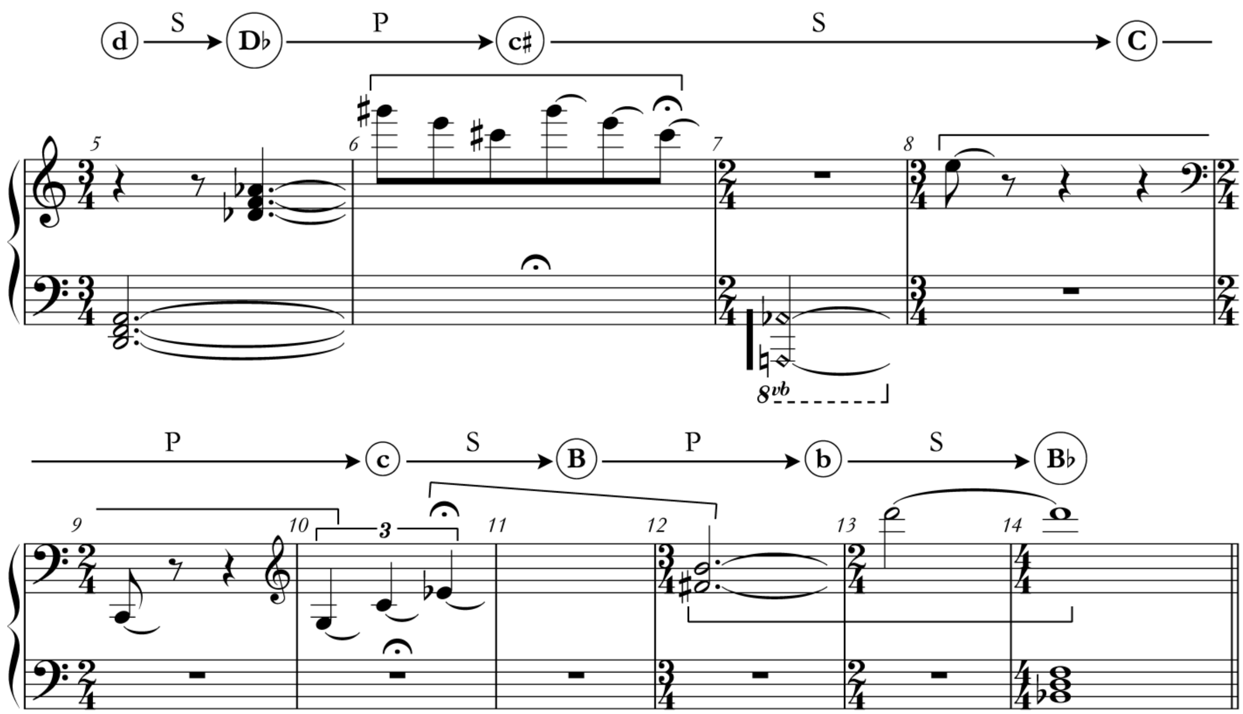
Example 4.3.8. P/M chain.



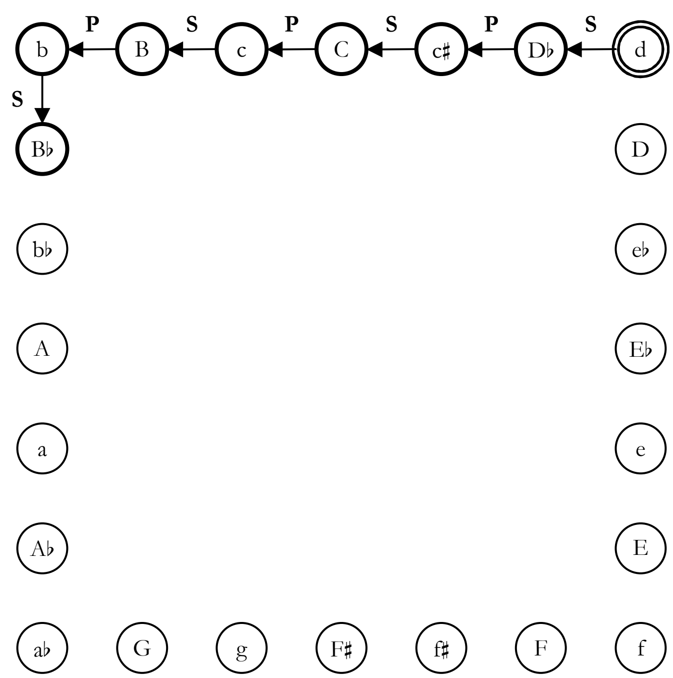
Example 4.3.9. Schnittke, *Requiem*, IX (Hostias), mm. 19–24.
P/M chain.



Example 4.3.10. Schnittke, *Requiem*, IX (Hostias), mm. 19–21.
Map of Example 4.3.9.

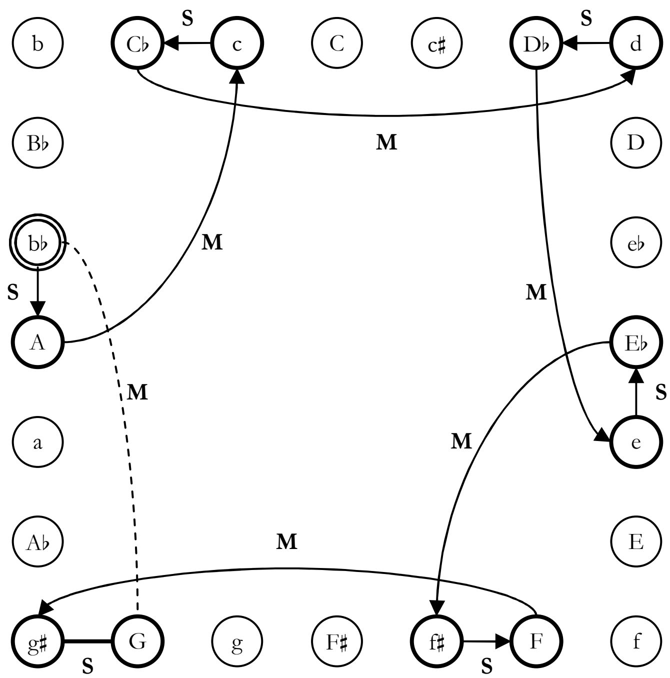


Example 4.3.11. Schnittke, Piano Quintet, I, mm. 5–14.
S/P chain.

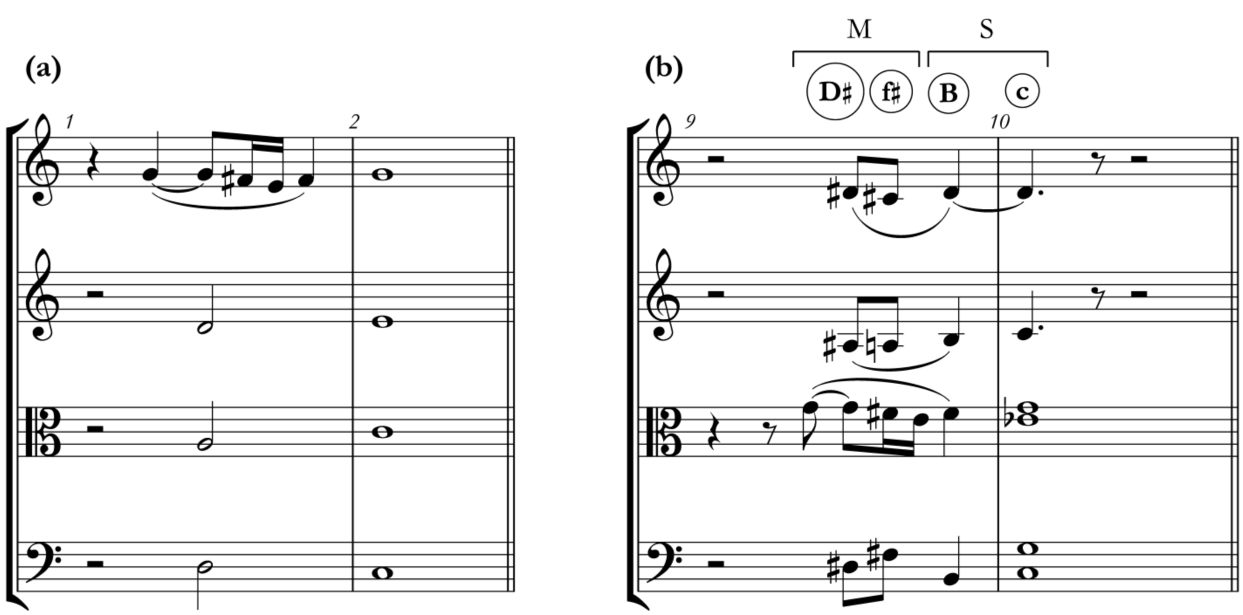


Example 4.3.12. Schnittke, Piano Quintet, I, mm. 5–14.
Map of Example 4.3.11.

Example 4.3.13. Schnittke, String Trio, I, mm. 77–86.
An S/M chain leads to S-related polychords that sound the primary triads of C-sharp minor and C major.

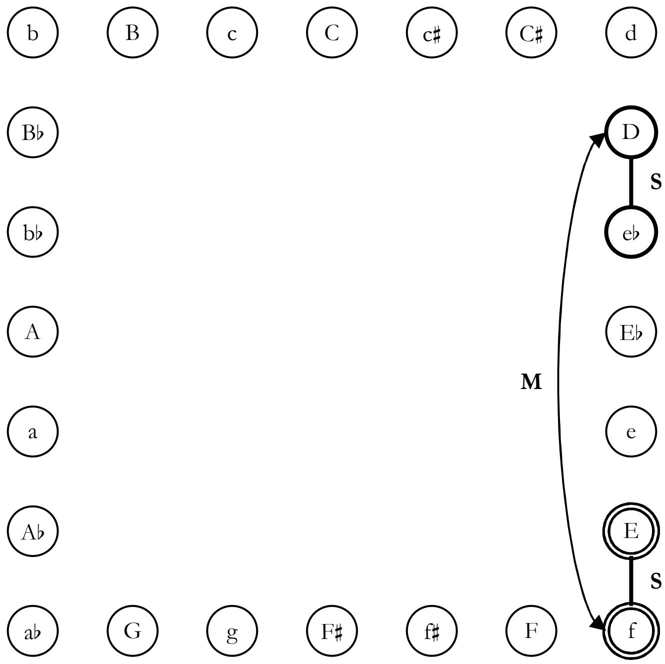


Example 4.3.14. Schnittke, String Trio, I, mm. 77–82.
Map of Example 4.3.13.

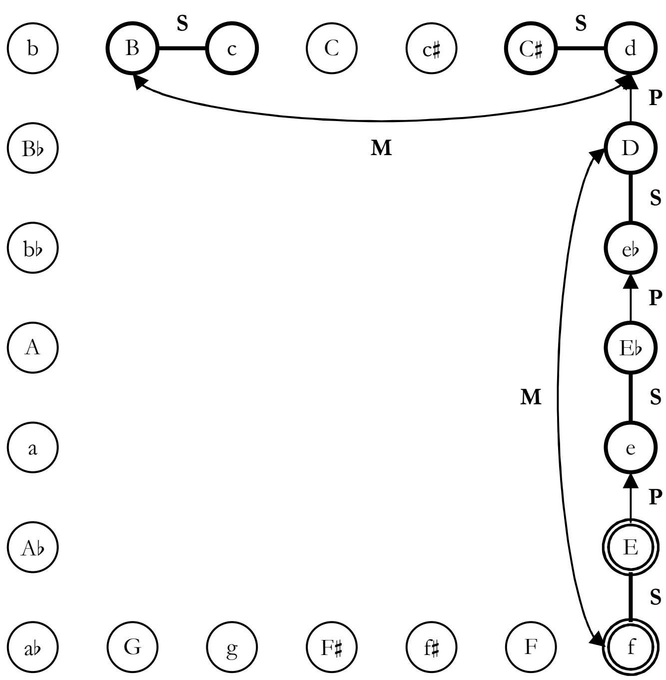


Example 4.3.15. Schnittke, String Quartet No. 3, I: **(a)** mm. 1–2; **(b)** mm. 9–10.
Quotation from Orlando di Lasso's *Stabat mater*, and Schnittkefication of the Lasso quotation.

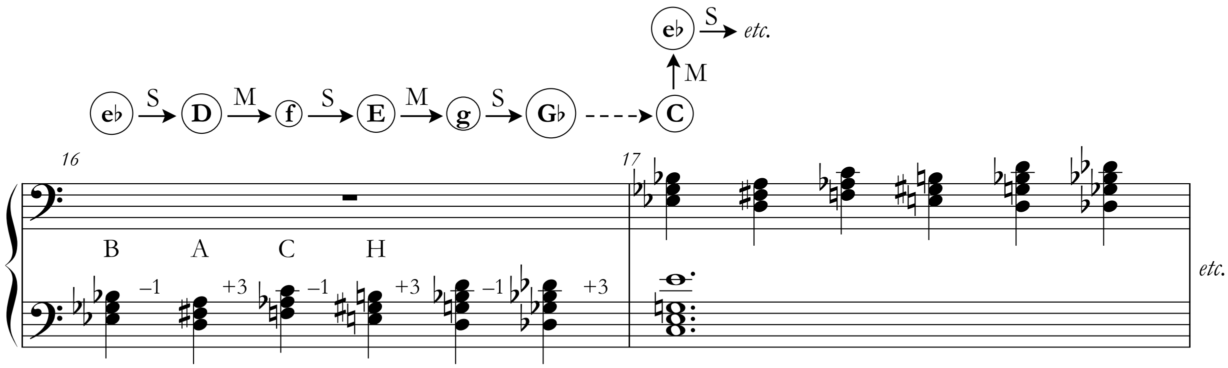
Example 4.3.16. Schnittke, Piano Quintet, II, mm. 203–20.
S-related polychords Schnittkefy the *Dies irae* and BACH motives.



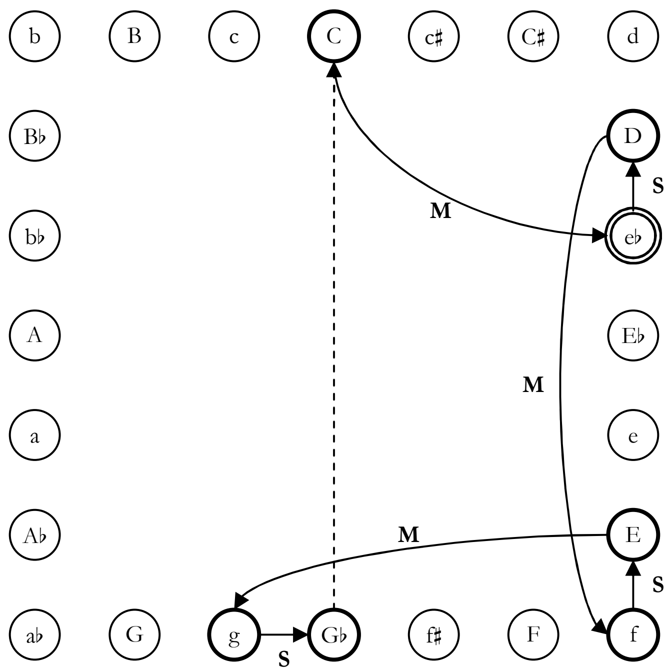
Example 4.3.17a. Schnittke, Piano Quintet, II, mm. 203–9.
Map of Example 4.3.16. The passage opens by bouncing back and forth between E major/F minor and D major/E-flat minor.



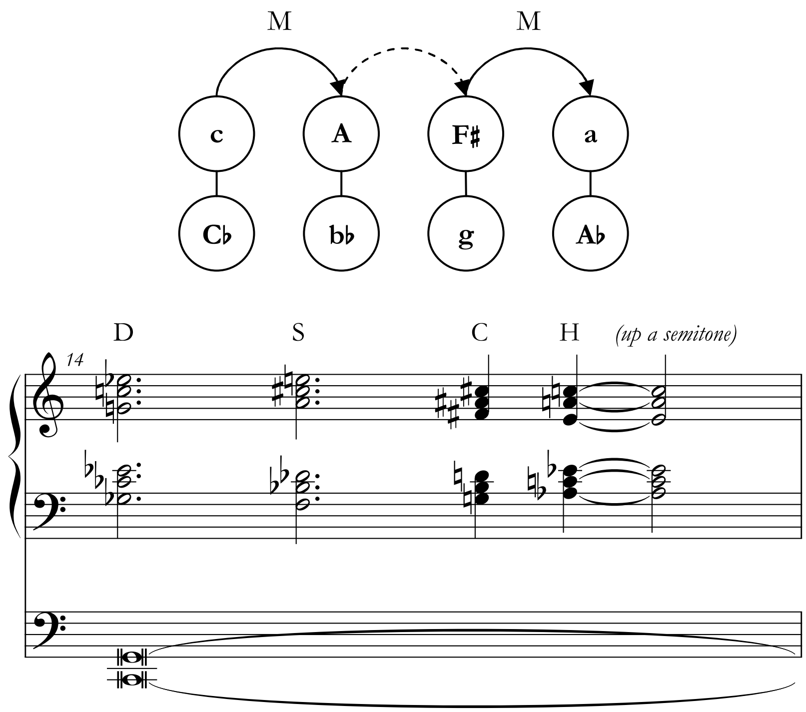
Example 4.3.17b. Schnittke, Piano Quintet, II, mm. 203–20.
Map of Example 4.3.16. As the passage continues, the music moves through an S/P chain, ultimately ending up in a new section of PSM space.



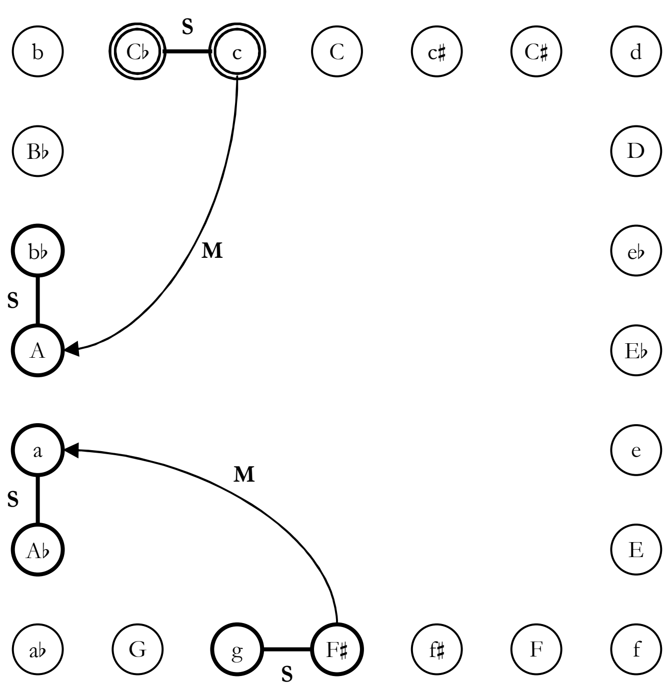
Example 4.3.18. Schnittke, *Three Madrigals*, no. 3, "Reflection," mm. 16–17.
An S/M chain Schnittkefies the BACH monogram.



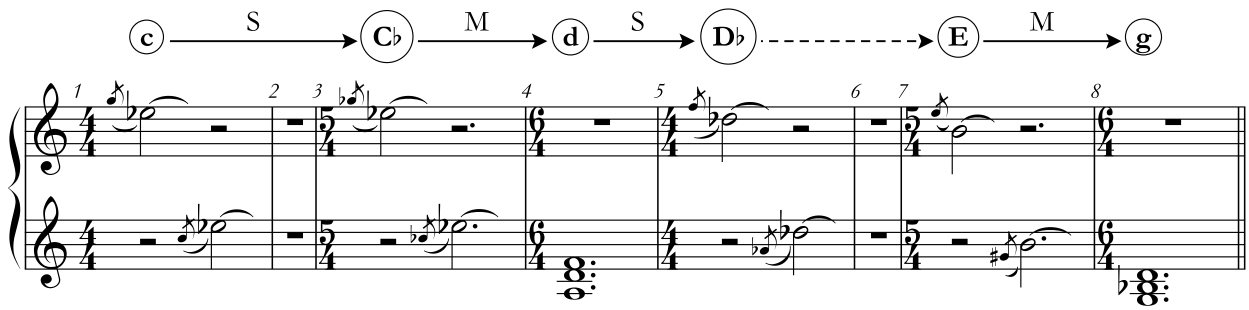
Example 4.3.19. Schnittke, *Three Madrigals*, no. 3, "Reflection," mm. 16–17.
Map of Example 4.3.18.



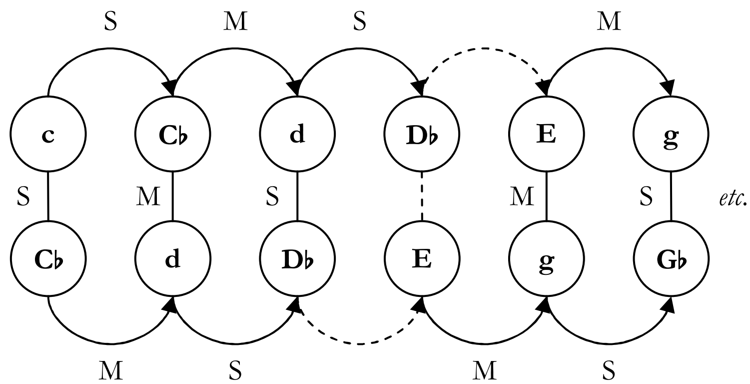
Example 4.3.20. Schnittke, Two Little Pieces for Organ, no. 2, m. 14.
S-related polychords Schnittkefy the DSCH monogram.

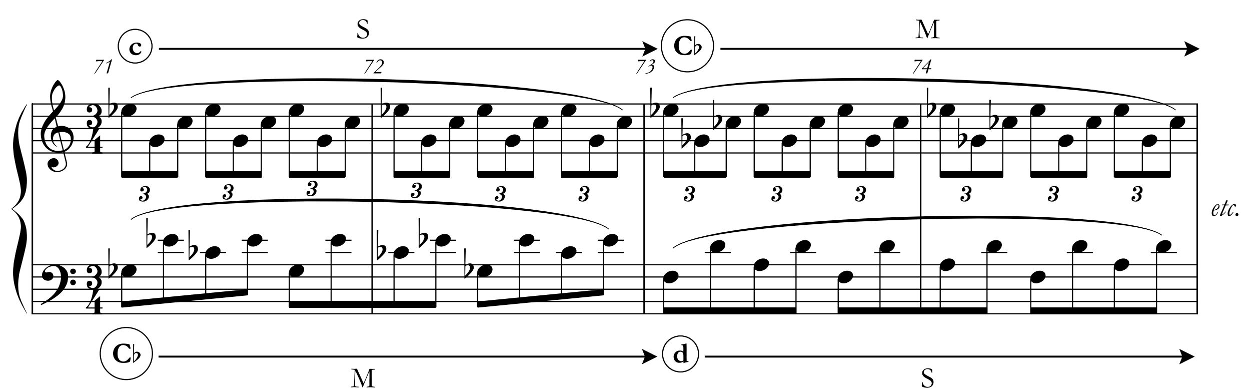


Example 4.3.21. Schnittke, Two Little Pieces for Organ, no. 2, m. 14.
Map of Example 4.3.20.

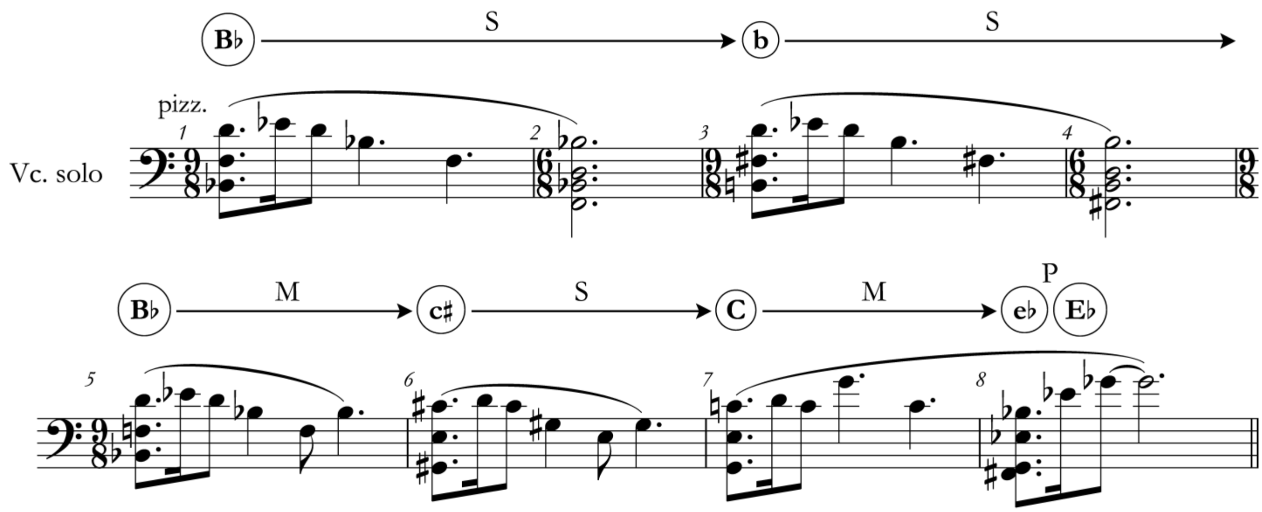


Example 4.3.22. Schnittke, Concerto for Piano and Strings, opening.



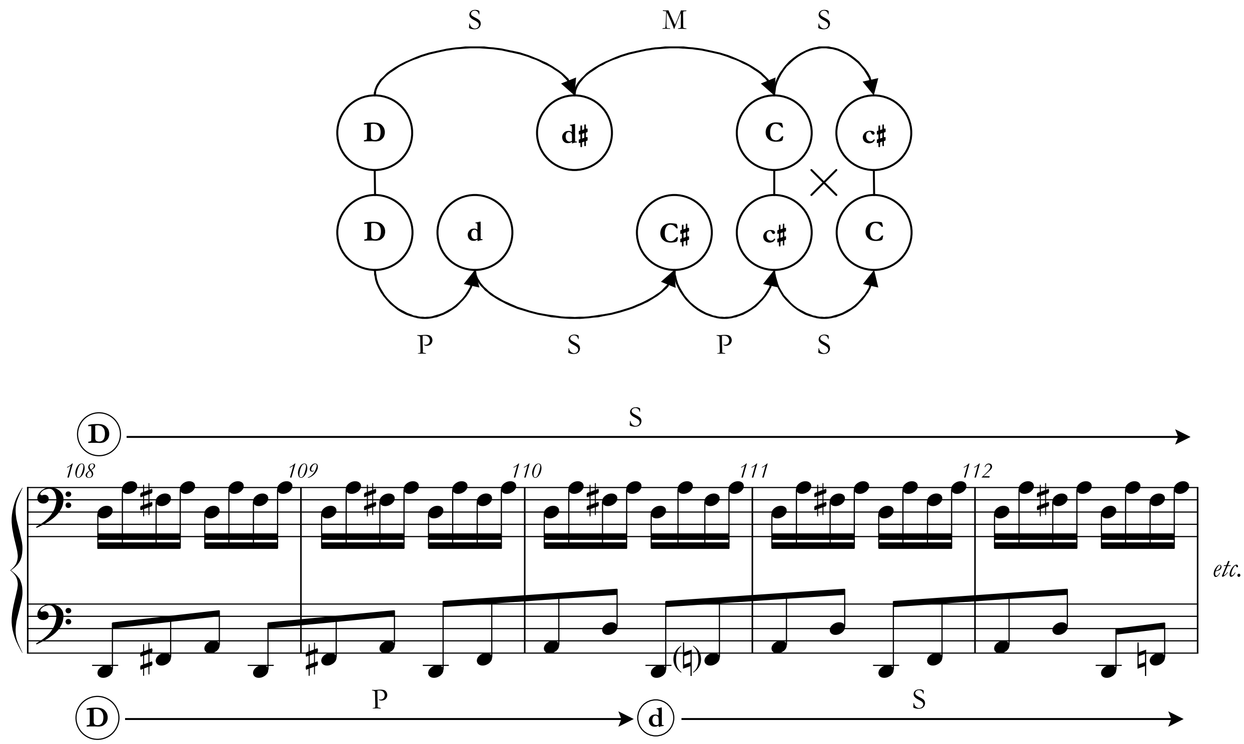


Example 4.3.23. Schnittke, Concerto for Piano and Strings, mm. 71–74.
Schnittkefication of a "Moonlight" Sonata allusion.

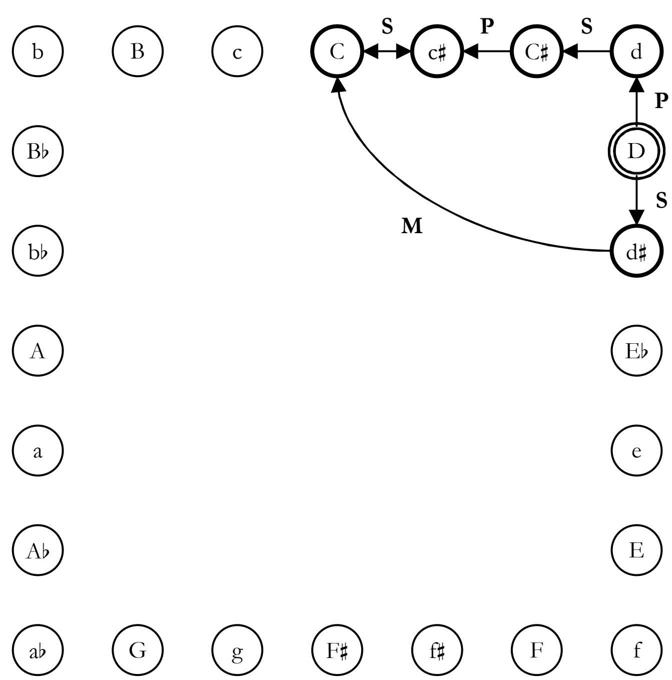


Example 4.4.1. Schnittke, Concerto Grosso No. 2, I, opening.
So-called "Silent Night" theme.

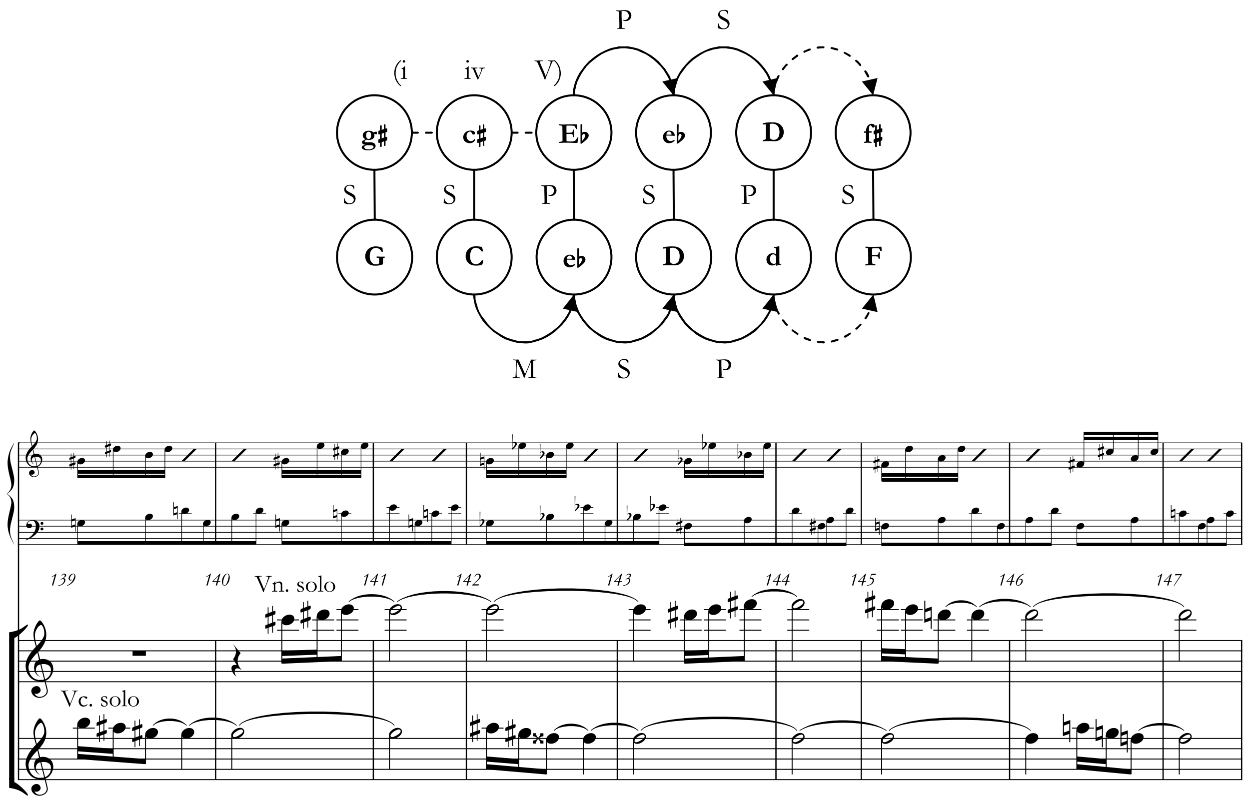
Example 4.4.2.
(L) Schnittke, Concerto Grosso No. 2, I, rehearsal no. 2.
(R) Bach, *Brandenburg* Concerto No. 5, I, opening.



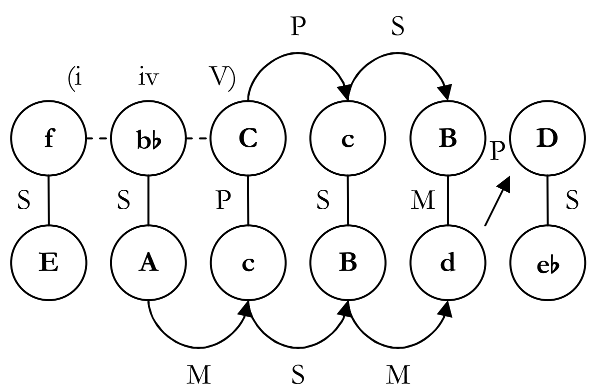
Example 4.4.3. Schnittke, Concerto Grosso No. 2, I, rehearsal no. 10.
Schnittkefication of Bachian *moto perpetuo* texture.



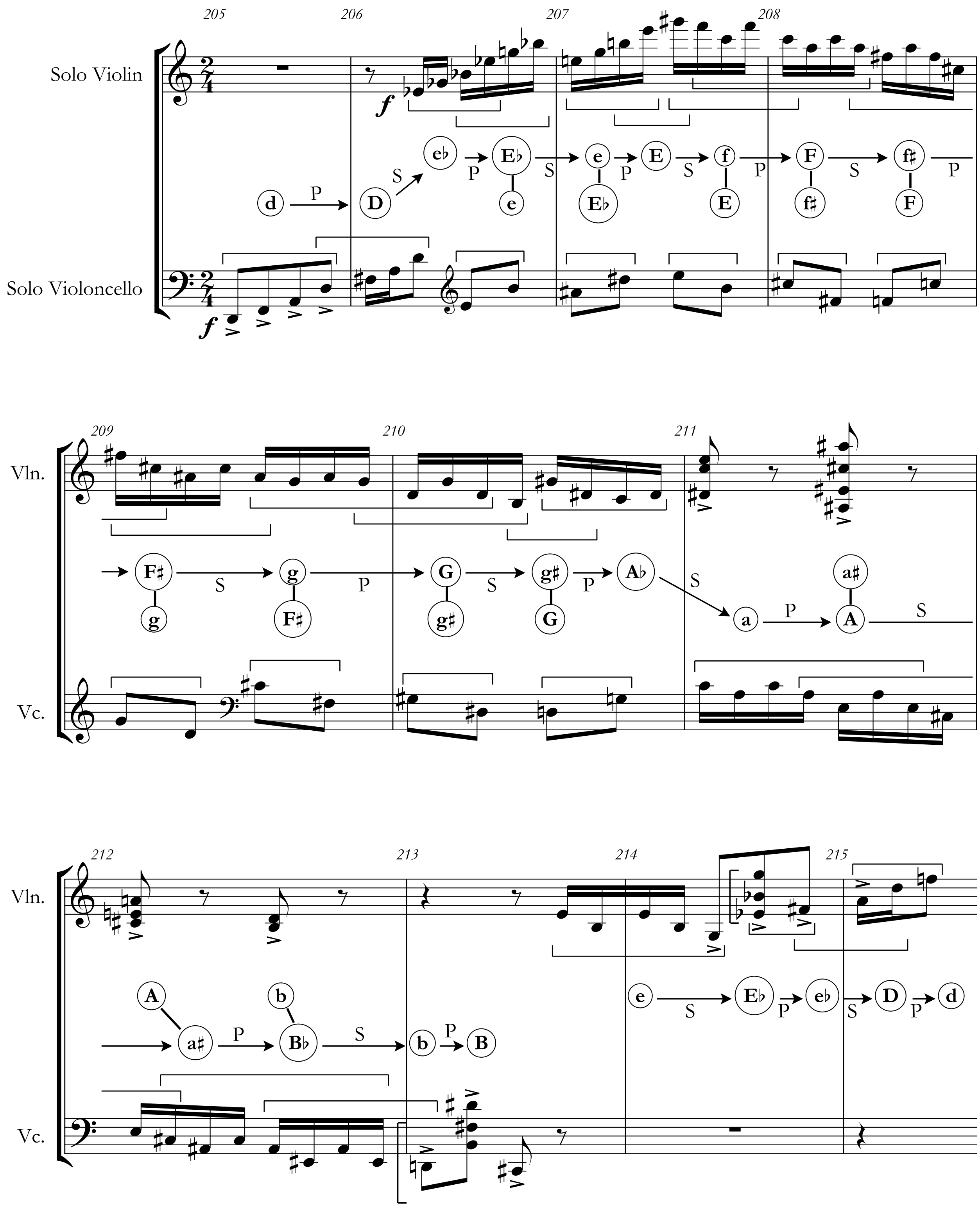
Example 4.4.4. Schnittke, Concerto Grosso No. 2, I, mm. 108–22.
Map of Example 4.4.3.



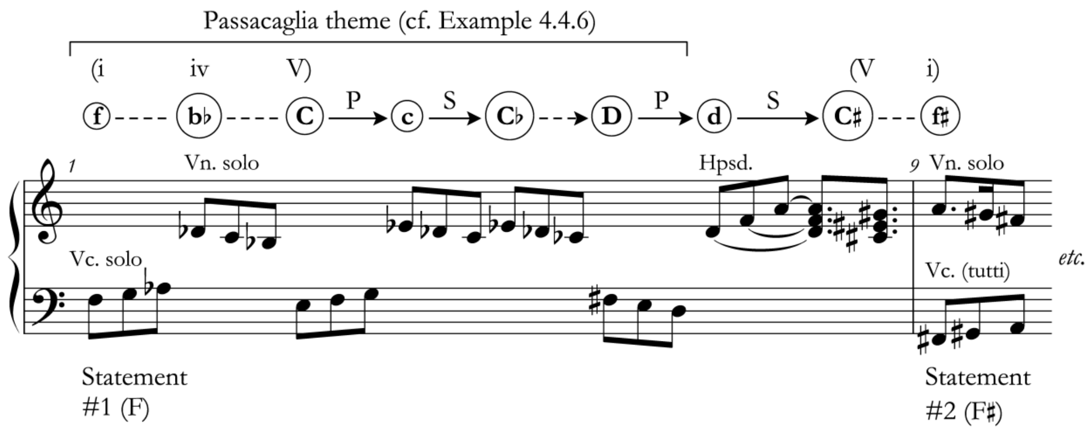
Example 4.4.5. Schnittke, Concerto Grosso No. 2, I, rehearsal no. 13.
First appearance of the passacaglia theme.



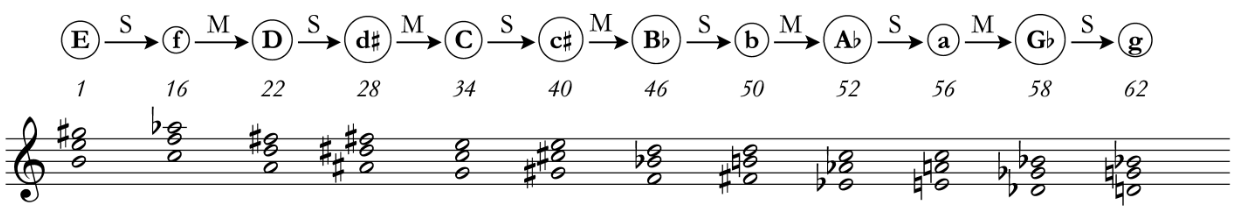
Example 4.4.6. Schnittke, Concerto Grosso No. 2, I, rehearsal no. 19.
Later appearance of the passacaglia theme.



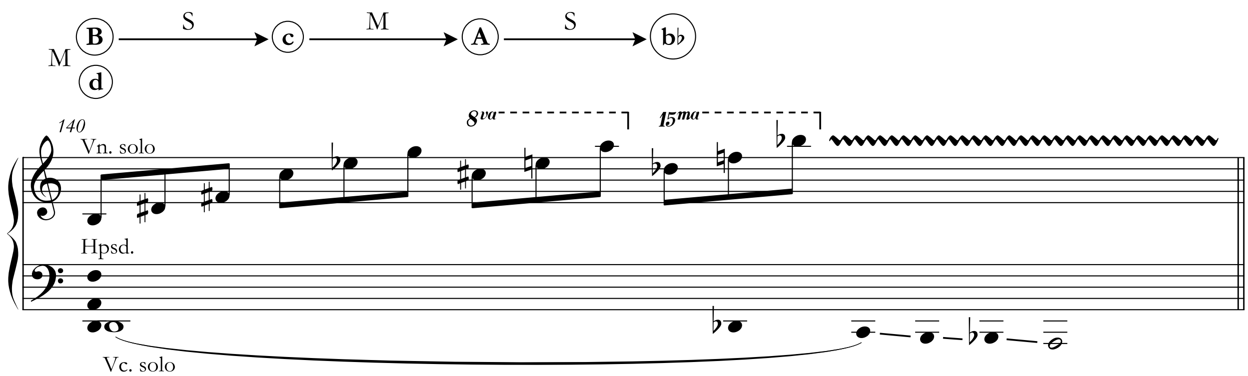
Example 4.4.7. Schnittke, Concerto Grosso No. 2, I, rehearsal no. 20.
Extensive P/S chain.



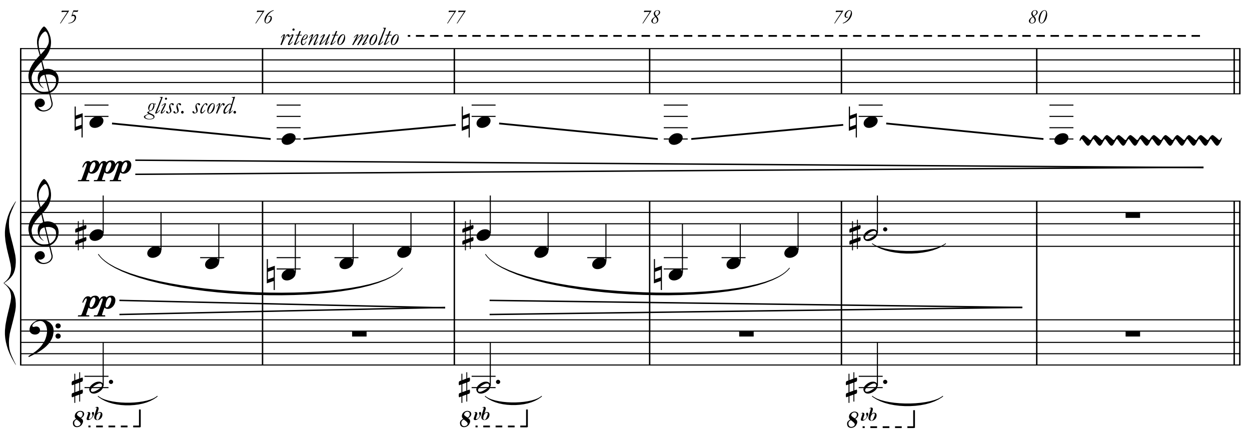
Example 4.4.8. Schnittke, Concerto Grosso No. 2, II, opening, analytical sketch.



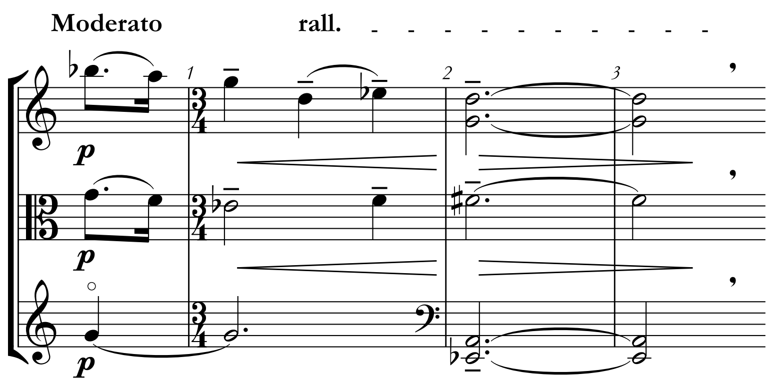
Example 4.4.9. Schnittke, Concerto Grosso No. 2, III, opening, analytical sketch.



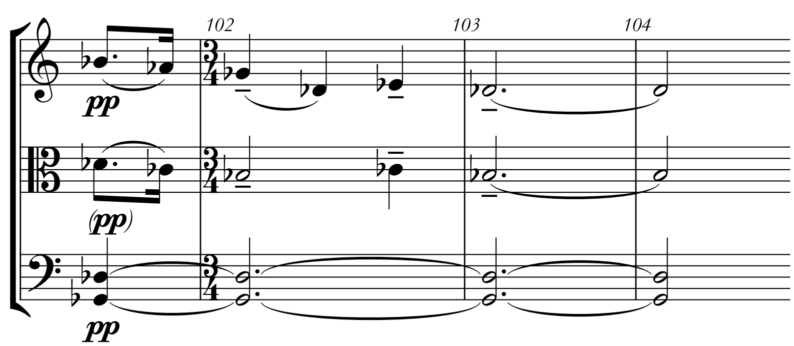
Example 4.4.10. Schnittke, Concerto Grosso No. 2, IV, ending, analytical sketch.



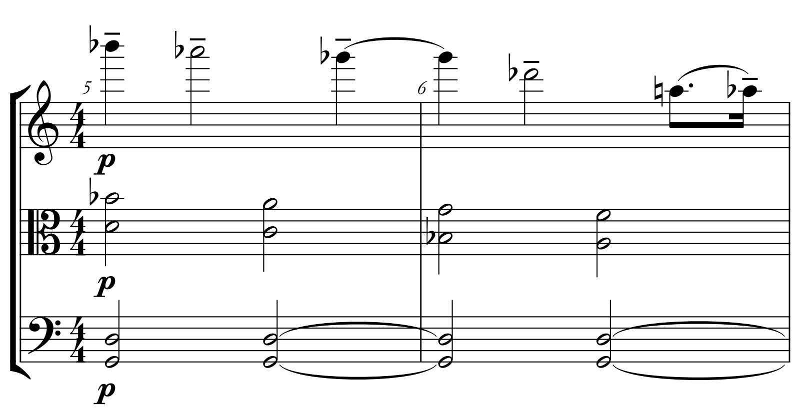
Example 4.4.11. Schnittke, *Stille Nacht*, ending.



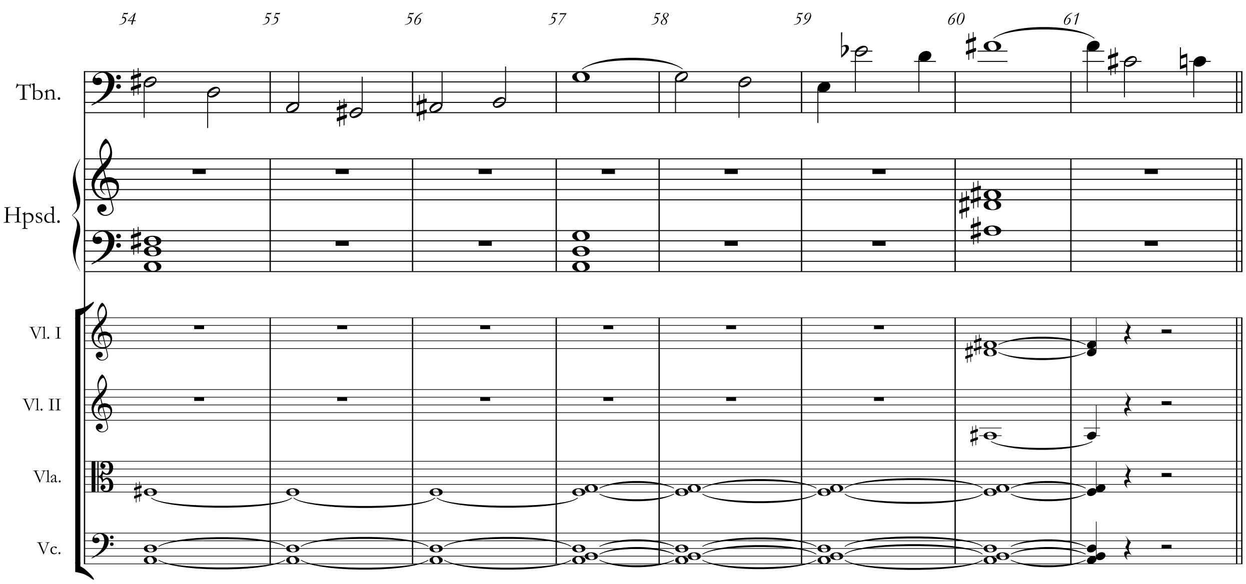
Example 4.5.1. Schnittke, String Trio, I, opening.
The main melodic idea suggests the key of G minor.



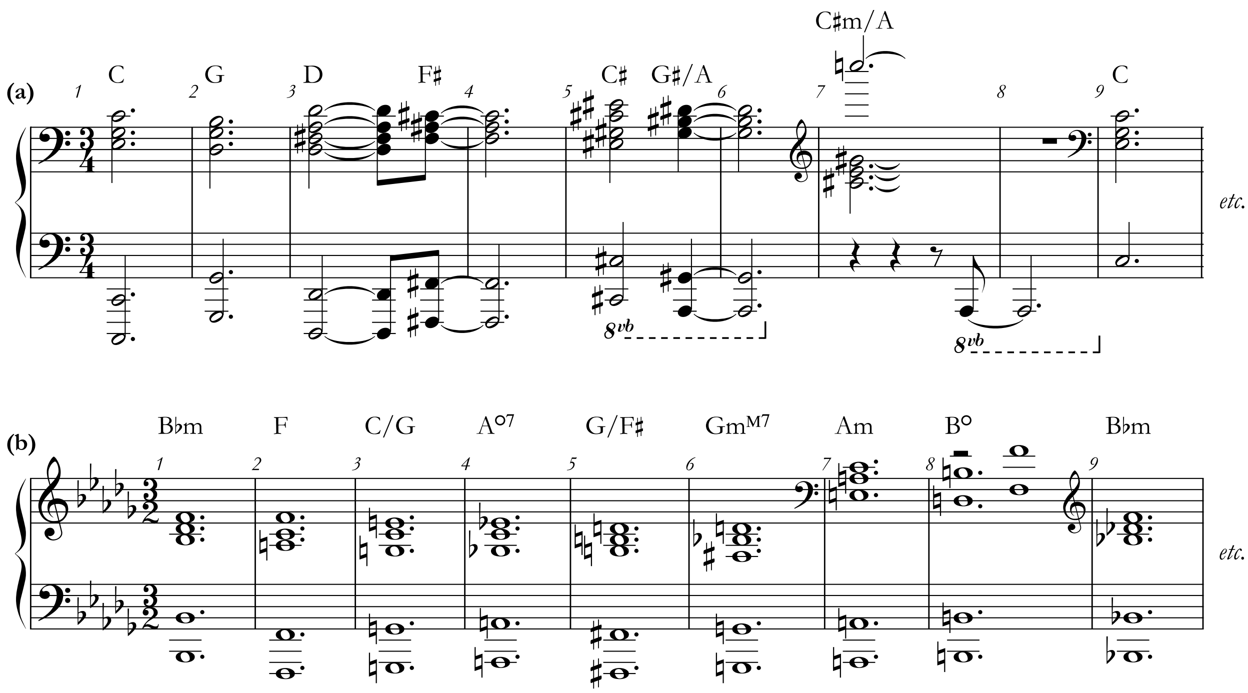
Example 4.5.2. Schnittke, String Trio, I, mm. 101–4.
The main melodic idea is transformed to suggest G-flat major.



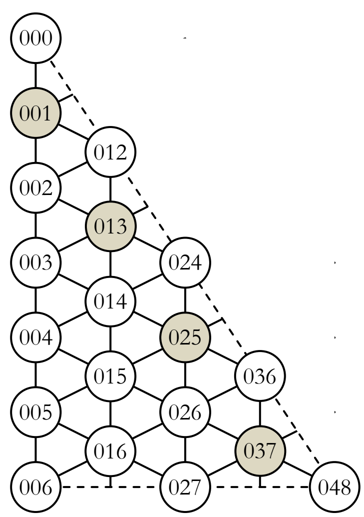
Example 4.5.3. Schnittke, String Trio, II, mm. 5–6.
The violin plays the pitches of the main theme in G-flat major. The viola, with cello accompaniment, suggests the main theme in G minor.



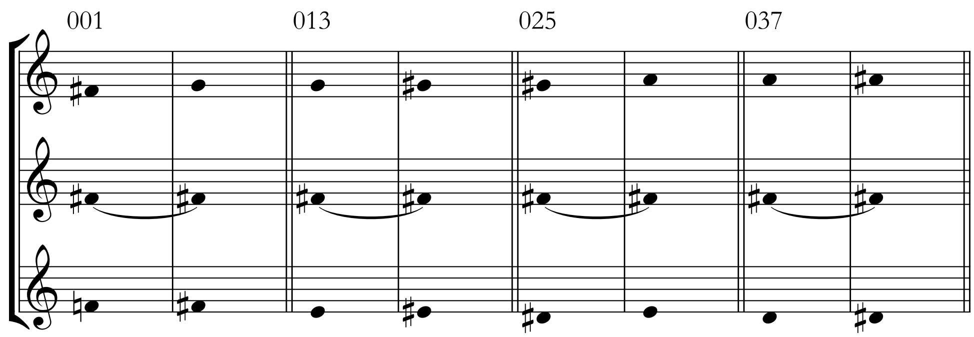
Example 4.5.4. Schnittke, *Five Fragments Based on Paintings of Hieronymus Bosch*, I, mm. 54–61. S-related triads appear in the harpsichord at mm. 54 and 60.



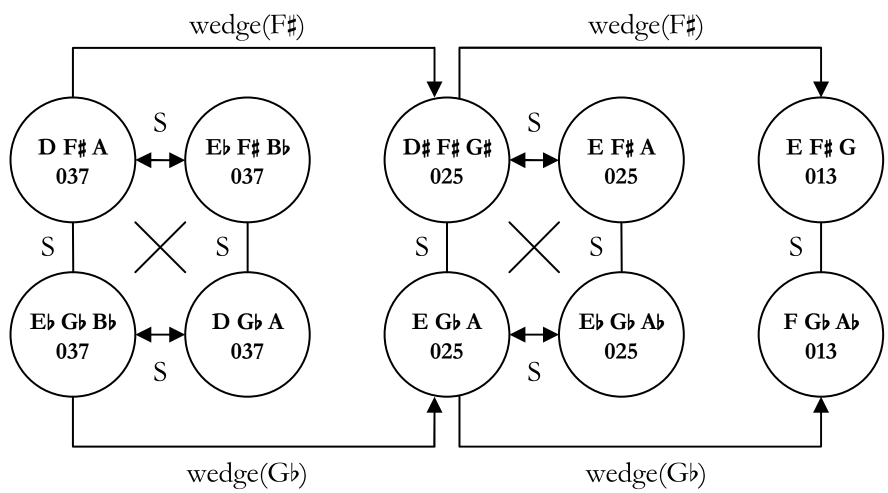
Example 4.5.5.
(a) Schnittke, Violin Sonata No. 1, III, mm. 1–9.
(b) Shostakovich, Piano Trio No. 2 in E Minor, op. 67, III, mm. 1–9.

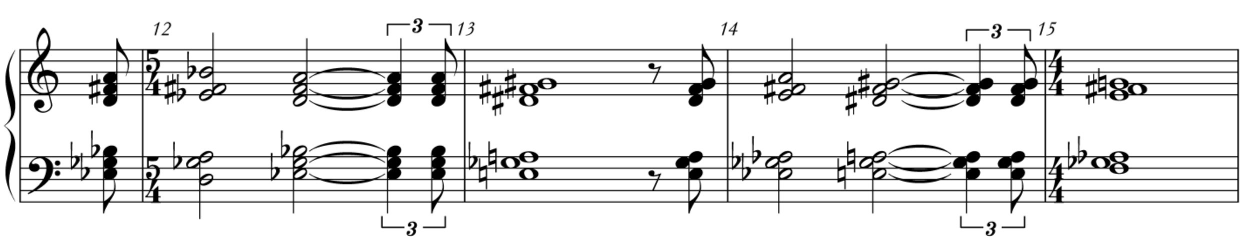


Example 4.6.1. Voice-leading space for trichordal set classes.
S produces semitonal motion when acting on the shaded trichords.

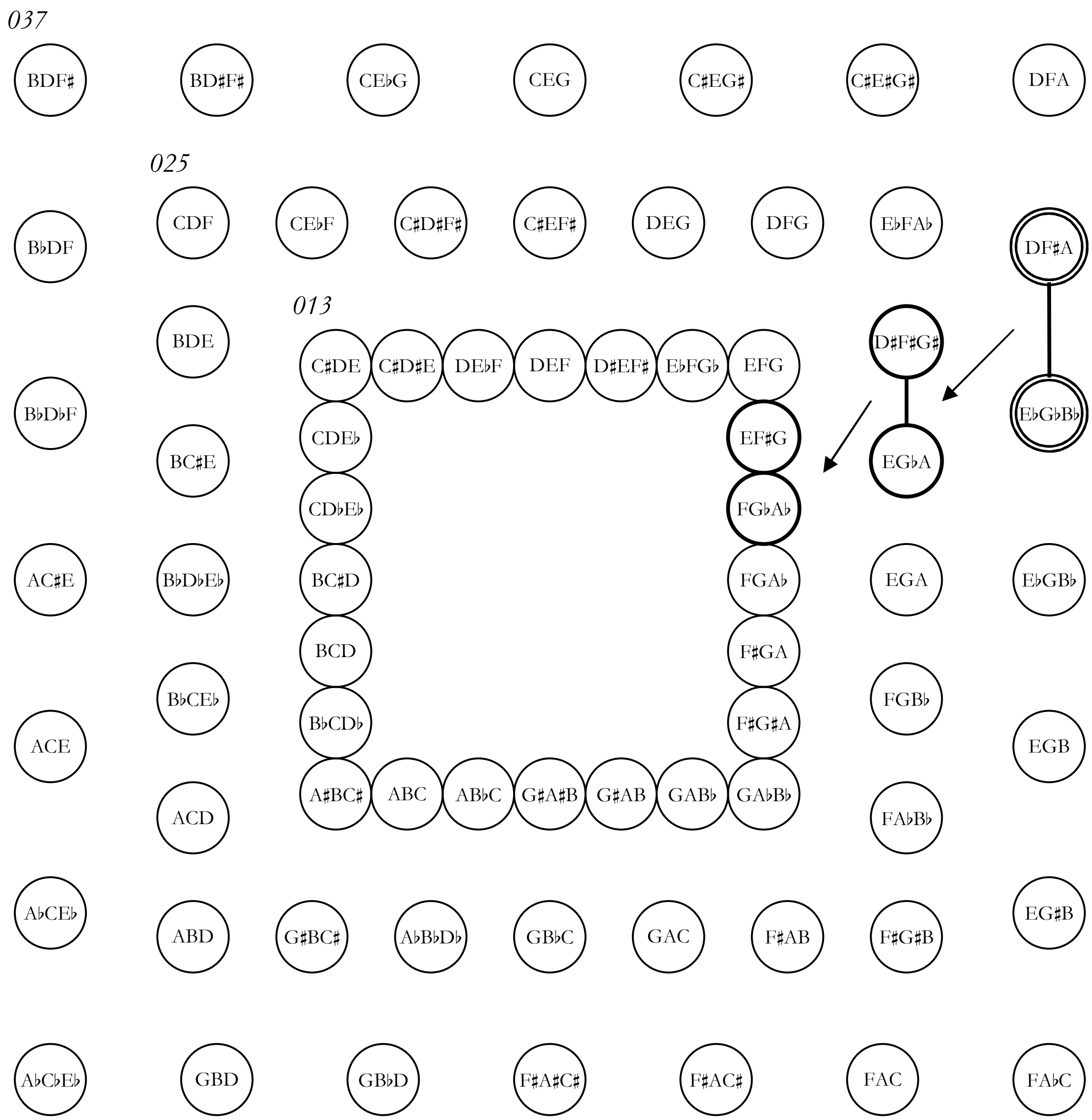


Example 4.6.2. S acting on various trichordal set classes.

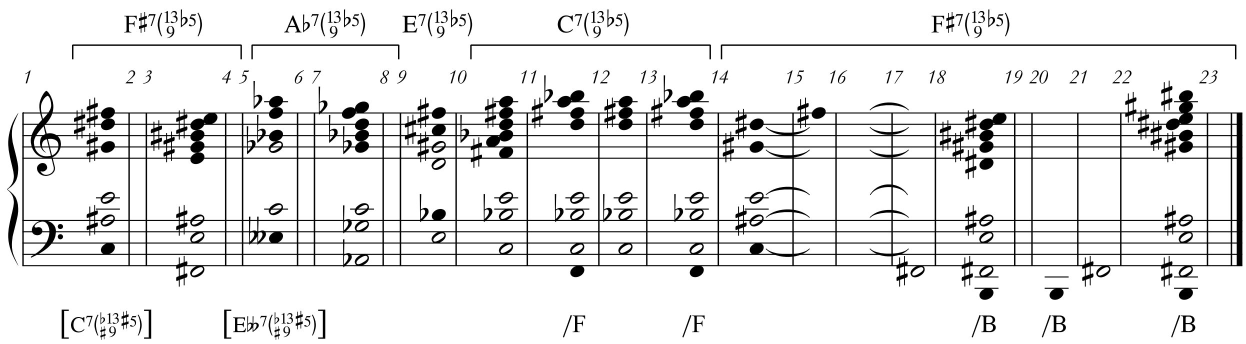




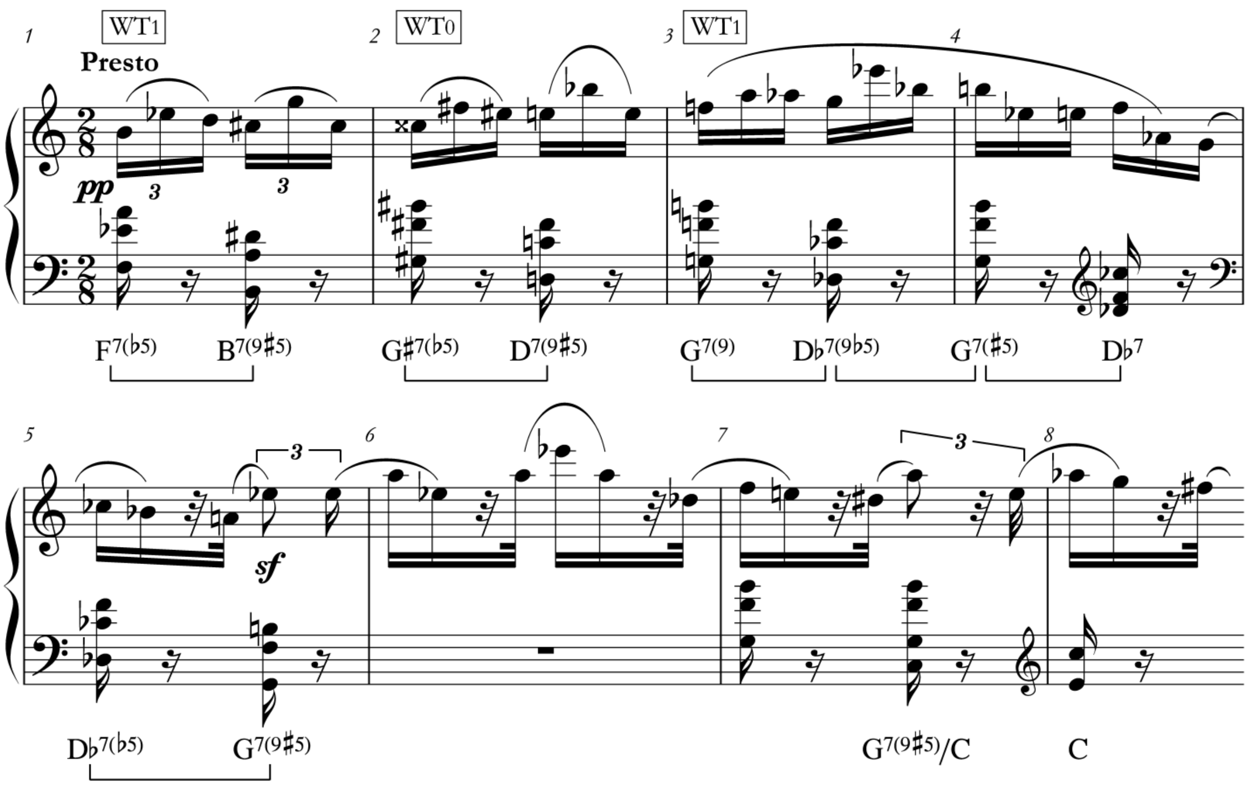
Example 4.6.3. Schnittke, Piano Quintet, III, mm. 11–15.
The S relation acts on set classes 037, 025, and 013.



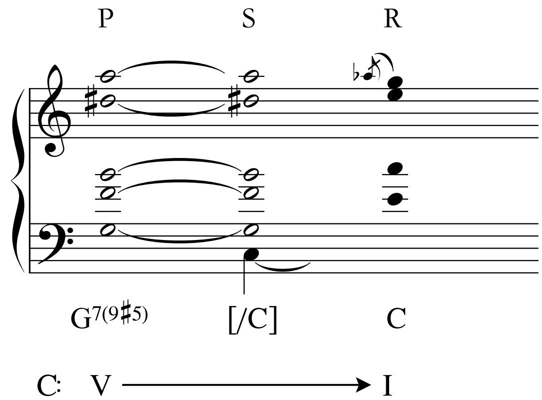
Example 4.6.4. Schnittke, Piano Quintet, III, mm. 11–15.
Map of Example 4.6.3.



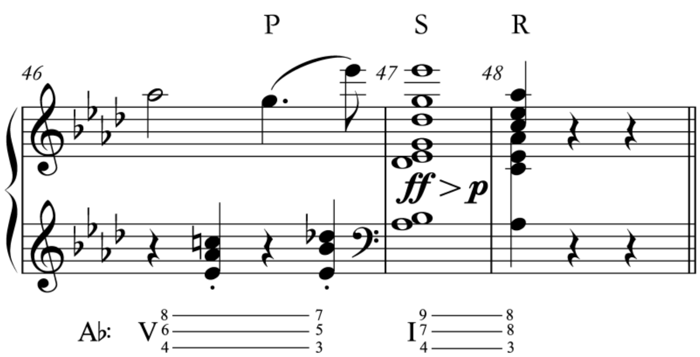
Example 5.1. Scriabin, *Feuillet d'album*, op. 58, analytical reduction.



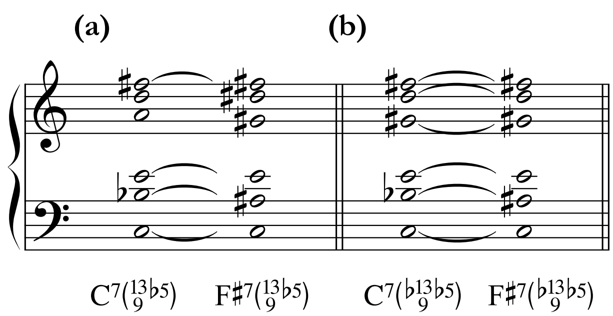
Example 5.2. Scriabin, Etude, op. 56, no. 4, mm. 1–8.
Harmonic and whole-tone analysis. Brackets indicate tritone links.



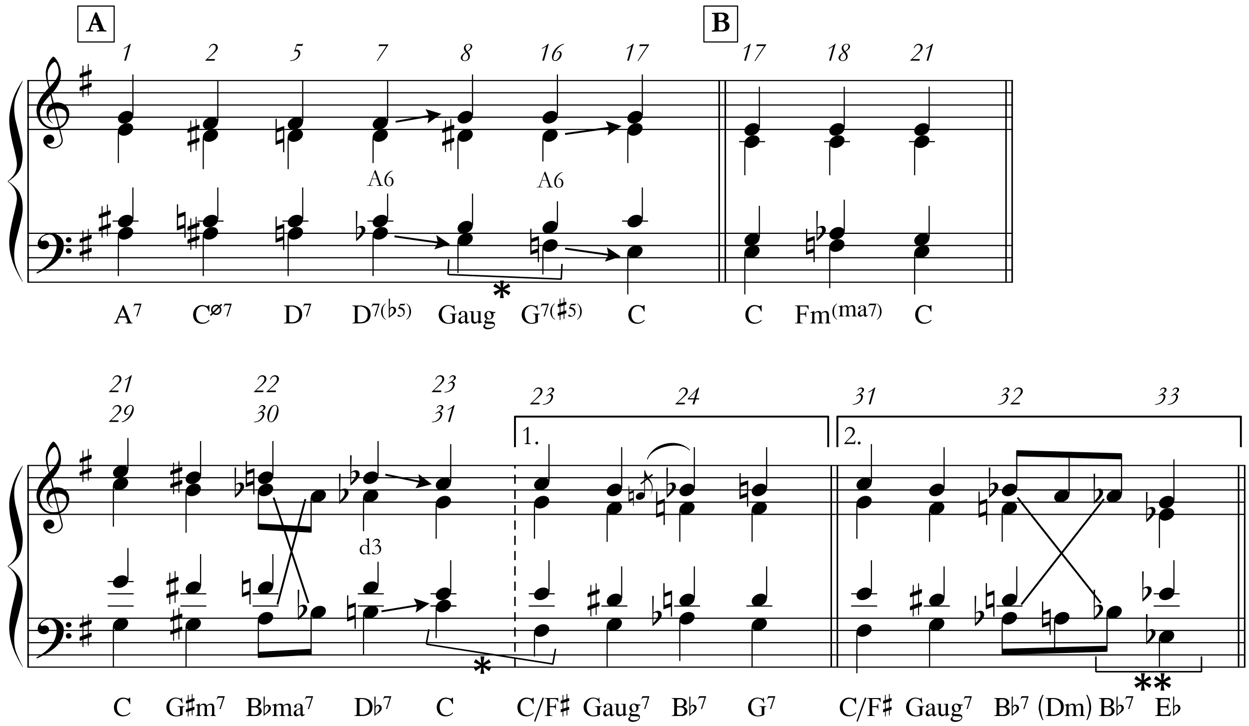
Example 5.3. Scriabin, Etude, op. 56, no. 4, mm. 7–8, analytical reduction.



Example 5.4. Beethoven, Piano Sonata in F Minor, op. 2, no. 1, I, mm. 46–48.
A potential model for Example 5.3. The entire V^7 chord is suspended over $\hat{1}$.



Example 5.5. Parsimonious voice leading between **(a)** tritone-related Mystic chords and **(b)** tritone-related whole-tone chords.



Example 5.6. Shostakovich, *Three Fantastic Dances*, op. 5, no. 2, mm. 1–33, analytical sketch. Single asterisks indicate voice leadings in which the bass moves more than one semitone. The double asterisk indicates a voice leading in which multiple voices move more than one semitone. All other voice-leading motions are by semitone.

Example 5.7. Schnittke, *Suite in the Old Style*, II (Ballet), mm. 1–16.

Example 5.8. Schnittke, *Suite in the Old Style*, I (Pastorale), mm. 1–12.

Figure 2.1. Taneyev's symbols for the direct and inverse shift in two-voice vertical-shifting counterpoint.

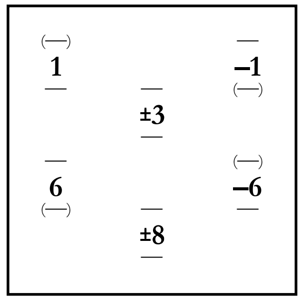


Figure 2.2. Conditions on dissonant intervals in simple two-voice counterpoint. Suspension symbols above interval numbers control restrictions on the upper voice; suspension symbols below interval numbers control restrictions on the lower voice.

Jv = –9

Original intervals:	0	(—) 1 —	2	— 3 —	4	5	— 6 (—)	7	— 8 —	9
Derivative intervals:	–9	— –8 —	–7	(—) –6 —	–5	–4	— –3 —	–2	— –1 (—)	0
Fixed consonances:	0		2		4	5		7		9
Fixed dissonances:		(—) 1 —		(—) 3 —			— 6 (—)		— 8 (—)	

Figure 2.3. Fixed consonances and fixed dissonances at *Jv* = –9, or invertible counterpoint at the tenth. Restrictions on the original intervals are compared with the restrictions on the corresponding intervals in the derivative.

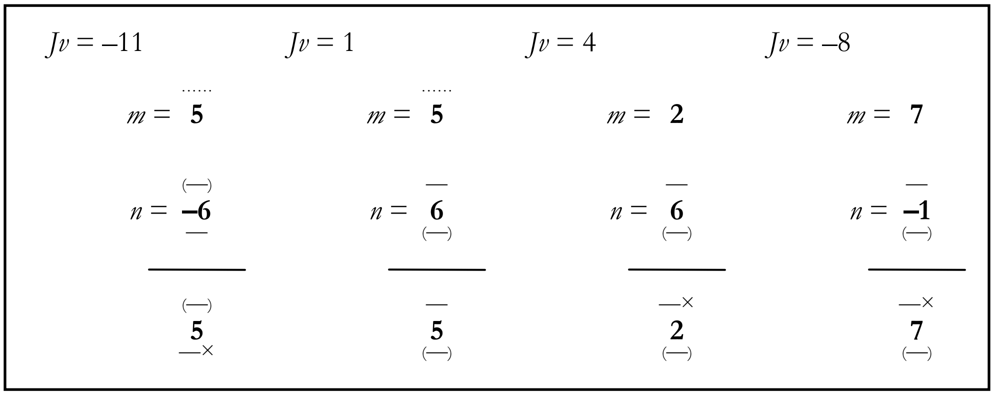


Figure 2.4. Restrictions on variable consonances.
Taneyev compares the original interval (*m*) with the corresponding derivative interval (*n*) at some *Jv*. The suspension symbol – must be treated as –×, except where the original consonance has dotted lines (Taneyev 1909, 91; Taneiev 1962, 91–92).

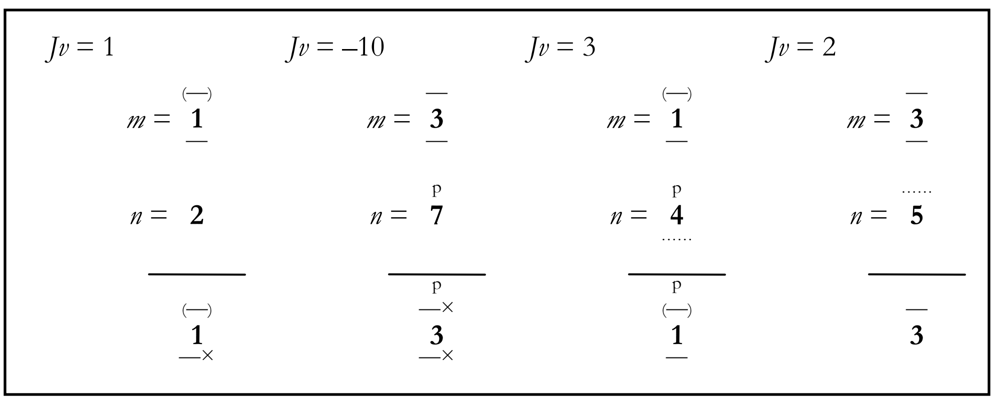


Figure 2.5. Restrictions on variable dissonances.
The symbol – receives the symbol ×, except where the consonant interval has dotted lines. The symbol *p* indicates a perfect consonance and appears above variable dissonances that cannot be approached by similar or parallel motion (Taneyev 1909, 92–93; Taneiev 1962, 92–93).

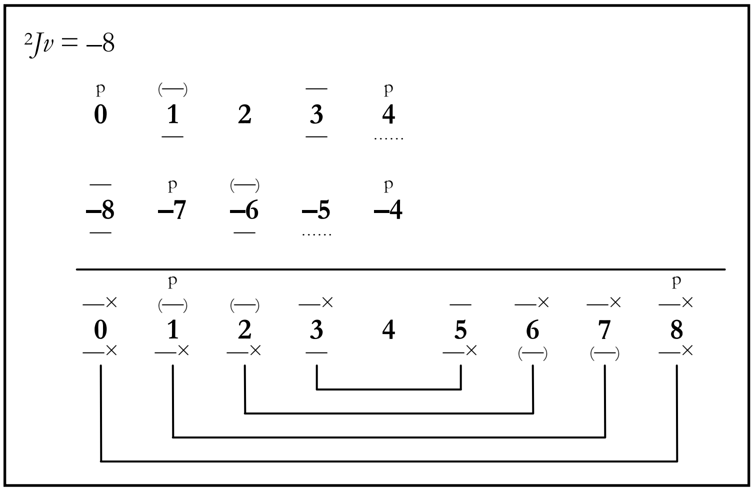


Figure 2.6. The index *Jv* = –8.
In general, intervals equidistant from half the value of the *Jv* have the same suspension symbols in the opposite order. At *Jv* = –8, these are intervals the same distance from interval number 4 (Taneyev 1909, 100; Taneiev 1962, 99).

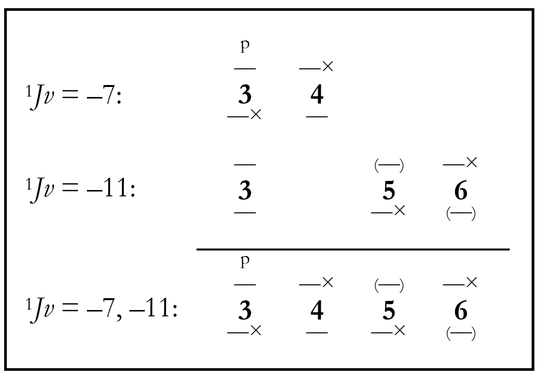


Figure 2.7. The index *Jv* = –7, –11.
Counterpoint invertible at both the octave and the twelfth must follow all restrictions for *Jv* = –7 and *Jv* = –11 (Taneyev 1909, 124; Taneiev 1962, 116).

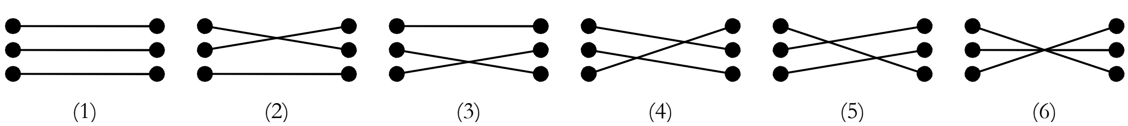


Figure 2.8. Symbols for various kinds of shifts with three-voice vertical-shifting counterpoint (Taneyev 1909, 178; Taneiev 1962, 161).

$+ \longleftarrow \mathrm{I} \longrightarrow - \longleftarrow \mathrm{II} \longrightarrow +$

Figure 2.9. The direction of horizontal shifts.
Positive *h* values correspond to leftward shifts in voice I and rightward shifts in voice II.
Negative *h* values indicate the reverse (Taneyev 1909, 249; Taneiev 1962, 219).

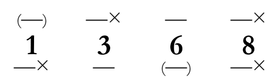


Figure 2.10. Restrictions for *Jv* = 0 *alla riversa*.

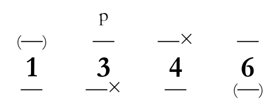


Figure 2.11. Restrictions for *Jv* = –7.

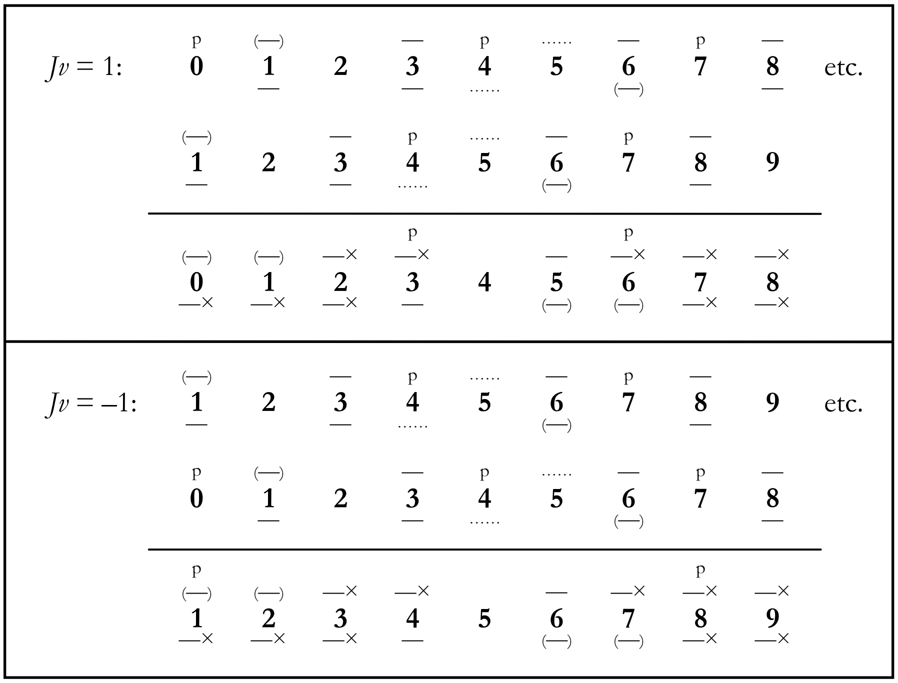


Figure 2.12. Restrictions on *Jv* = 1 and *Jv* = –1.
Taneyev demonstrates that *Jv* = 1 and *Jv* = –1 have similar intervallic restrictions. The final row of the first table shows the same suspension symbols as the final row of the second table, but beginning with a different interval number (Taneyev 1909, 101; Taneiev 1962, 101).

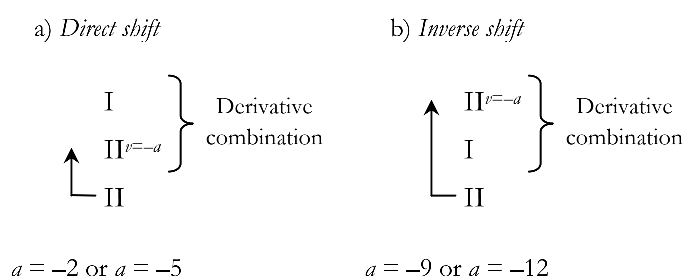


Figure 2.13. Derivative combinations with duplicated voices.
In some derivative combinations, the lower voice may be duplicated a third or sixth higher, below voice I, or a tenth or thirteenth higher, crossing above voice I (Taneyev 1909, 136).

M.	Subject entries
	EXPOSITION
1	F aeolian
8	C phrygian
23	F aeolian
30	C phrygian
	MIDDLE SECTION
49	A♭ mixolydian
56	E♭ mixolydian
84	G♭ mixolydian
107	E aeolian
114	B aeolian
	STRETTO ENTRIES
140	F aeolian/E♭ mixolydian
158	B♭ aeolian/A♭ mixolydian
169	D♭ mixolydian/A♭ dorian/B♭ phrygian
	CODA
192	G♭ lydian? G♭ mode of B♭ harmonic minor?

Table 1.1. Shostakovich, Fugue in F Minor, subject entries.

Russian term	Morphological translation	Meaning	English equivalent
odnoimyonnïy	mononominal	common name	parallel
odnotertsovïy	monotertian	common third	common third
parallelnïy	parallel	parallel	relative

Table 3.1. Russian terms and their English equivalents.

M.	RN	
		EXPOSITION
		Main Theme
1	0	A (exposition)
34	3	B (contrasting middle)
42	4	A′ (recapitulation) ⇒
		Transition
63	6	Subordinate Theme [D major]
		DEVELOPMENT
112	10	Pre-Core
147	13	Core
222	21	Standing on the Dominant ⇒
		RECAPITULATION
		Main Theme
		A (exposition)
250	24	B (contrasting middle)
258	25	Subordinate Theme [E-flat minor]
		CODA
303	30	Coda Theme (= Main Theme, A section)
323	33	Closing Section

Table 3.2. Shostakovich, String Quartet No. 6, I, formal diagram.

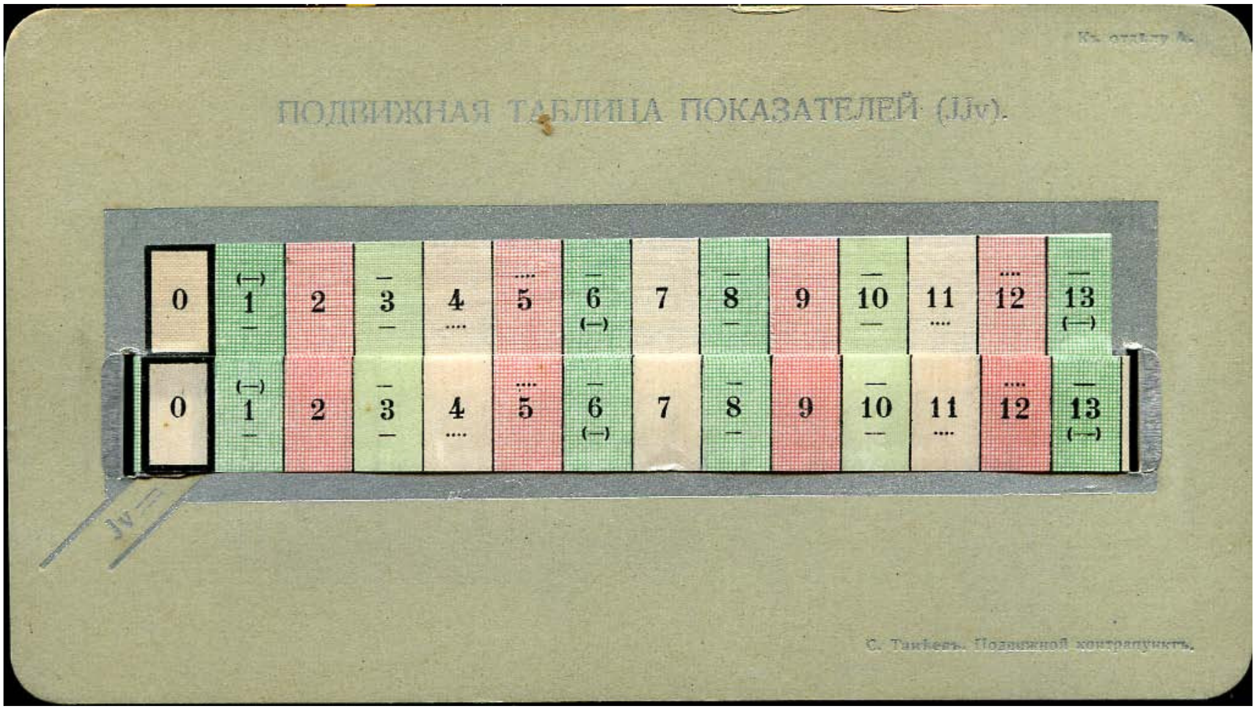


Plate 2.1. Movable Table of Index Values (Taneyev 1909).

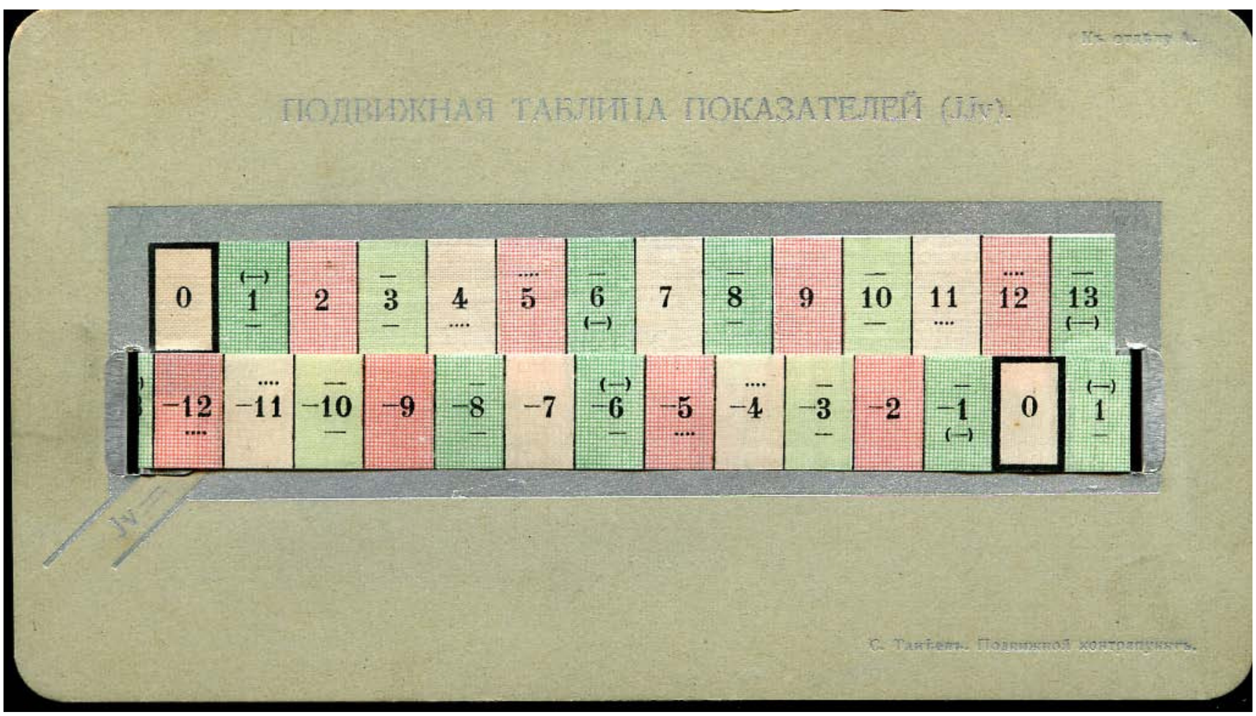


Plate 2.2. Movable Table of Index Values, alternative view (Taneyev 1909).

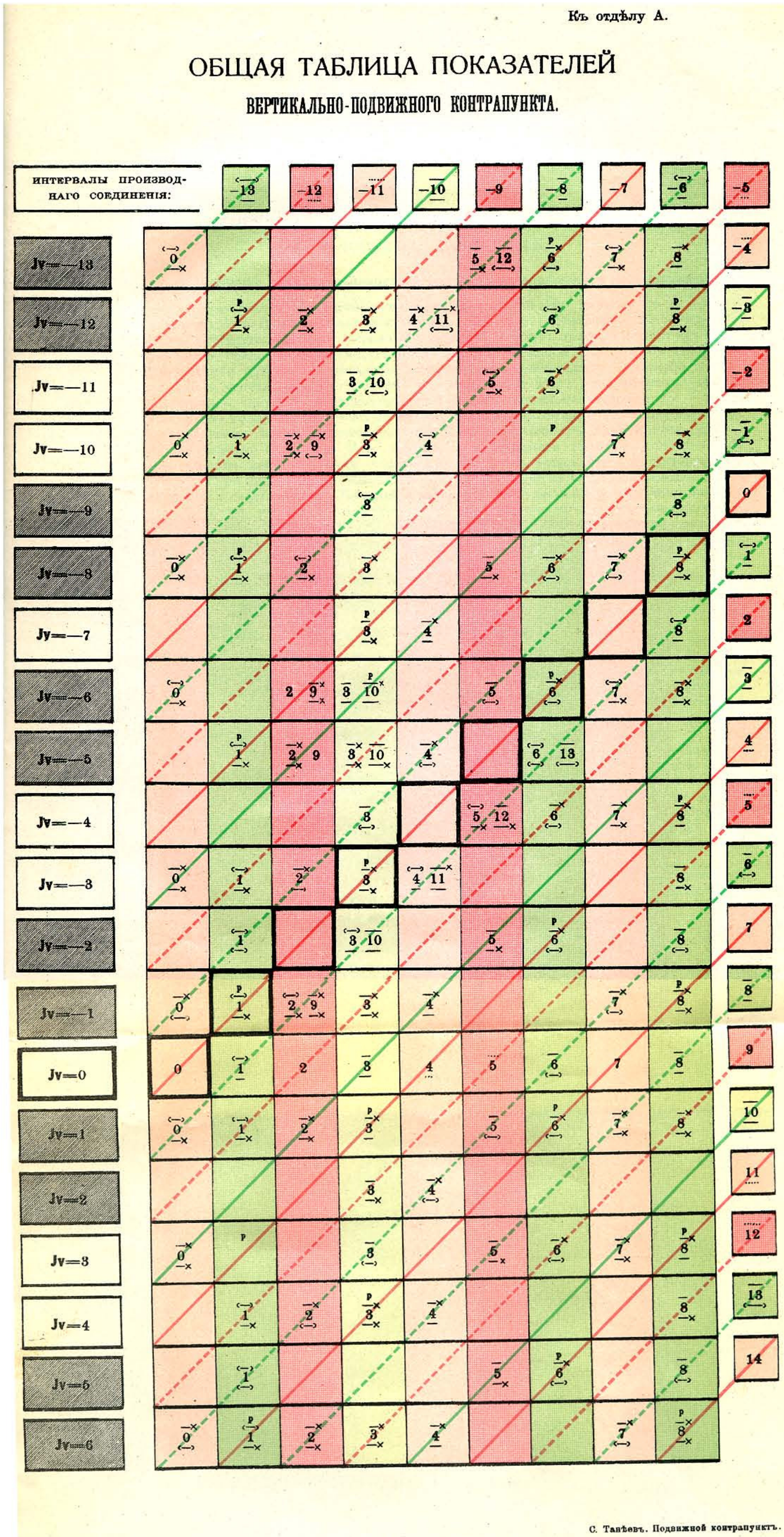


Plate 2.3. General Table of Indices (Taneyev 1909).

Bibliography

Abraham, Gerald. 1966. “Podvizhnoy Kontrapunkt.” Review of *Convertible Counterpoint in the Strict Style*, by S. I. Taneyev, trans. G. Ackley Brower. *The Musical Times* 107, no. 1475: 38.

Adams, Kyle. 2009. “A New Theory of Chromaticism from the Late Sixteenth to the Early Eighteenth Century.” *Journal of Music Theory* 53, no. 2: 255–304.

Aldwell, Edward, and Carl Schachter, with Allen Cadwallader. 2011. *Harmony & Voice Leading.* 4th ed. Boston: Schirmer.

Baker, James M. 1986. *The Music of Alexander Scriabin.* New Haven: Yale University Press.

Bazayev, Inessa. 2007. “Voice-Leading Symmetries in the Late Works of Alexander Scriabin.” Presented at the annual meeting of Music Theory Midwest, Lawrence, KS.

Bellos, David. 2011. *Is That a Fish in Your Ear?: Translation and the Meaning of Everything.* New York: Faber and Faber.

Benitez, Vincent. 2000. “A Creative Legacy: Messiaen as Teacher of Analysis.” *College Music Symposium* 40: 117–39.

Berry, Michael. 2009. “The Importance of Bodily Gesture in Sofia Gubaidulina’s Music for Low Strings.” *Music Theory Online* 15, no. 5.

Brauneiss, Leopold. 2012. “Musical Archetypes: The Basic Elements of the Tintinnabuli Style.” In *The Cambridge Companion to Arvo Pärt*, ed. Andrew Shenton, 49–75. New York: Cambridge University Press.

Bribitzer-Stull, Matthew. 2006. “The A-flat–C–E Complex: The Origin and Function of Chromatic Major Third Collections in Nineteenth-Century Music.” *Music Theory Spectrum* 28, no. 2: 167–90.

Brown, Stephen C. 2003. “Dual Interval Space in Twentieth-Century Music.” *Music Theory Spectrum* 25, no. 1: 35–57.

Cairns, Zachary. 2010. “Multiple-Row Serialism in Three Works by Edison Denisov.” PhD diss., University of Rochester.

———. 2012. “Svetlana Kurbatskaya on Serial Music: Twelve Categories of ‘Twelve-Toneness.’” *Gamut* 5.

Callender, Clifton. 1998. “Voice-Leading Parsimony in the Music of Alexander Scriabin.” *Journal of Music Theory* 42, no. 2: 219–33.

———. 2004. “Continuous Transformations.” *Music Theory Online* 10, no. 3.

———. 2007. “Interactions of the Lamento Motif and Jazz Harmonies in György Ligeti’s *Arc-en-ciel*.” *Intégral* 21: 41–77.

Callender, Clifton, Ian Quinn, and Dmitri Tymoczko. 2008. “Generalized Voice-Leading Spaces.” *Science* 320, no. 5874: 346–48.

Caplin, William E. 1998. *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven.* New York: Oxford University Press.

———. 2004. “The Classical Cadence: Conceptions and Misconceptions.” *Journal of the American Musicological Society* 57, no. 1: 51–118.

Carpenter, Ellon D. 1983a. “The Contributions of Taneev, Catoire, Conus, Garbuzov, Mazel, and Tiulin.” In *Russian Theoretical Thought in Music*, ed. Gordon D. McQuere, 253–378. Ann Arbor: UMI Research Press. Reprint, Rochester: University of Rochester Press, 2009.

———. 1983b. “Russian Music Theory: A Conspectus.” In *Russian Theoretical Thought in Music*, ed. Gordon D. McQuere, 1–81. Ann Arbor: UMI Research Press. Reprint, Rochester: University of Rochester Press, 2009.

———. 1995. “Russian Theorists on Modality in Shostakovich’s Music.” In *Shostakovich Studies*, ed. David Fanning, 76–112. New York: Cambridge University Press.

Castro, David. 2005. “Sonata Form in the Music of Dmitri Shostakovich.” PhD diss., University of Oregon.

Childs, Adrian P. 1998. “Moving Beyond Neo-Riemannian Triads: Exploring a Transformational Model for Seventh Chords.” *Journal of Music Theory* 42, no. 2: 181–93.

Cizmic, Maria. 2012. *Performing Pain: Music and Trauma in Eastern Europe.* New York: Oxford University Press.

Clough, John. 2002. “Diatonic Trichords in Two Pieces from Kurtág’s *Kafka-Fragmente*: A Neo-Riemannian Approach.” *Studia Musicologica Academiae Scientarium Hungaricae* 43, nos. 3–4: 323–32.

Cohn, Richard. 1996. “Maximally Smooth Cycles, Hexatonic Systems, and the Analysis of Late-Romantic Triadic Progressions.” *Music Analysis* 15, no. 1: 9–40.

———. 1997. “Neo-Riemannian Operations, Parsimonious Trichords, and Their *Tonnetz* Representations.” *Journal of Music Theory* 41, no. 1: 1–66.

———. 1998. “Square Dances with Cubes.” *Journal of Music Theory* 42, no. 2: 283–96.

———. 1999. “As Wonderful as Star Clusters: Instruments for Gazing at Tonality in Schubert.” *19th-Century Music* 22, no. 3: 213–32.

———. 2004. “Uncanny Resemblances: Tonal Signification in the Freudian Age.” *Journal of the American Musicological Society* 57, no. 2: 285–323.

———. 2011. “Tonal Pitch Space and the (Neo-)Riemannian *Tonnetz*.” In *The Oxford Handbook of Neo-Riemannian Music Theories*, ed. Edward Gollin and Alexander Rehding, 322–48. New York: Oxford University Press.

———. 2012. *Audacious Euphony: Chromaticism and the Triad’s Second Nature.* New York: Oxford University Press.

Cook, Robert C. 2005. “Parsimony and Extravagance.” *Journal of Music Theory* 49, no. 1: 109–40.

Cook, Scott Alexander. 2009. “Moving Through Triadic Space: An Examination of Bryars’s Seemingly Haphazard Chord Progressions.” *Music Theory Online* 15, no. 1.

Damschroder, David. 2010a. *Harmony in Schubert.* New York: Cambridge University Press.

———. 2010b. “The Tonic 5–6 Shift: A Venue for Schubert’s Chromatic Exploits.” Presented at the annual meeting of the Music Theory Society for New York State, New York, NY.

Dernova, Varvara. 1968. *Garmoniya Skryabina* [The harmony of Scriabin]. Leningrad: Muzïka.

Dolzhanskiy, Aleksandr. 1947. “O ladovoy osnove sochineniy Shostakovicha” [On the modal basis of Shostakovich’s works]. *Sovetskaya muzïka*, 1947, no. 4: 65–74.

———. 1970. *24 prelyudii i fugi D. Shostakovicha* [Shostakovich’s 24 Preludes and Fugues]. 2nd ed. Leningrad: Sovetskiy kompozitor.

Douthett, Jack, and Peter Steinbach. 1998. “Parsimonious Graphs: A Study in Parsimony, Contextual Transformations, and Modes of Limited Transposition.” *Journal of Music Theory* 42, no. 2: 241–63.

Eisenhardt, Günther. 1999. “Fritz Reuters Engagement für die Harmonologik Karg-Elerts” [Fritz Reuter’s commitment to Karg-Elert’s *Harmonologik*]. In *Sigfrid Karg-Elert und seine Leipziger Schüler: Die Referate des Kolloquiums der Karg-Elert-Gesellschaft in Leipzig vom 1. bis 3. November 1996*, ed. Thomas Schinköth, 187–99. Hamburg: von Bockel.

Engebretsen, Nora. 2011. “Neo-Riemannian Perspectives on the *Harmonieschritte*, with a Translation of Riemann’s *Systematik der Harmonieschritte*.” In *The Oxford Handbook of Neo-Riemannian Music Theories*, ed. Edward Gollin and Alexander Rehding, 351–81. New York: Oxford University Press.

Ewell, Philip A. 2006. “Skryabin’s Dominant: The Evolution of a Harmonic Style.” *Journal of Schenkerian Studies* 1: 118–48.

———. 2012. “Rethinking Octatonicism: Views from Stravinsky’s Homeland.” *Music Theory Online* 18, no. 4.

Fanning, David. 2001. "Shostakovich: 'The Present-Day Master of the C Major Key.'" *Acta musicologica* 73, no. 2: 101–40.

Fay, Laurel E. 2000. *Shostakovich: A Life.* New York: Oxford University Press.

Gollin, Edward. 2000. "Representations of Space and Conceptions of Distance in Transformational Music Theories." PhD diss., Harvard University.

———. 2006. "Some Further Notes on the History of the *Tonnetz*." *Theoria* 13: 99–111.

Guenther, Roy J. 1983. "Varvara Dernova's System of Analysis of the Music of Skryabin." In *Russian Theoretical Thought in Music*, ed. Gordon D. McQuere, 165–216. Ann Arbor: UMI Research Press. Reprint, Rochester: University of Rochester Press, 2009.

Haas, David. 2008a. "The Rough Guide to Shostakovich's Harmonic Language." In *The Cambridge Companion to Shostakovich*, ed. Pauline Fairclough and David Fanning, 298–324. New York: Cambridge University Press.

———. 2008b. "Shostakovich and *Wozzeck's* Secret: Toward the Formation of a 'Shostakovich Mode.'" In *A Shostakovich Companion*, ed. Michael Mishra, 341–54. Westport, CT: Praeger.

Harrison, Daniel. 1994. *Harmonic Function in Chromatic Music: A Renewed Dualist Theory and an Account of Its Precedents.* Chicago: University of Chicago Press.

———. 1995. "Supplement to the Theory of Augmented-Sixth Chords." *Music Theory Spectrum* 17, no. 2: 170–95.

———. 2002. "Nonconformist Notions of Nineteenth-Century Enharmonicism." *Music Analysis* 21, no. 2: 115–60.

Heetderks, David. 2011a. "Semitone Progressions as Indicators of Harmonic Closure in Prokofiev." Presented at the annual meeting of the Society for Music Theory, Minneapolis, MN.

———. 2011b. "A Tonal Revolution in Fifths and Semitones: Aaron Copland's *Quiet City*." *Music Theory Online* 17, no. 2.

———. 2011c. "Transformed Triadic Networks: Hearing Harmonic Closure in Prokofiev, Copland, and Poulenc." PhD diss., University of Michigan.

Hepokoski, James, and Warren Darcy. 2006. *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata.* New York: Oxford University Press.

Hook, Julian. 2002. "Uniform Triadic Transformations." *Journal of Music Theory* 46, nos. 1–2: 57–126.

———. 2008. "Signature Transformations." In *Music Theory and Mathematics: Chords, Collections, and Transformations*, ed. Jack Douthett, Martha M. Hyde, and Charles J. Smith, 137–60. Rochester: University of Rochester Press.

Hughes, Bryn. 2009. "Out with the Old and In with the New—or—Out with the New and In with the Old: Voice-Leading Strategies in the First Movement of Alfred Schnittke's *Concerto for Choir*." Presented at the annual meeting of the Society for Music Theory, Montreal, QC.

Hyer, Brian. 1989. "Tonal Intuitions in 'Tristan und Isolde.'" PhD diss., Yale University.

Kalashnikova, Svetlana. 1999. "Universal'nost' i—lakonizm? Paradoksï i taynï zvukovïsotnogo pis'ma Al'freda Shnitke" [Versatility and… brevity? Paradoxes and mysteries in Alfred Schnittke's treatment of pitch]. *Muzïkal'naya akademiya*, 1999, no. 2: 84–90.

Kallis, Vasilis. 2008. "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period: The Piano Miniatures." *Music Theory Online* 14, no. 3.

Karg-Elert, Sigfrid. 1930. *Akustische Ton-, Klang- und Funktionsbestimmung: Die Polarität der Naturgegebenen Ton- und Klangproportionen; Ein Beitrag zu jeder Lehre von der Harmonik und musikalischen Akustik* [The acoustic determination of tones, triads, and functions: The polarity of naturally occurring tone and triad proportions; A contribution to any theory of harmony and musical acoustics]. Leipzig: Carl M. F. Rothe.

———. 1931. *Polaristische Klang- und Tonalitätslehre (Harmonologik)* [Polarity in the realm of triads and tonality (*Harmonologik*)]. Leipzig: F. E. C. Leuckart.

Khannanov, Ildar. 2009. "Revisiting Russian Music Theory: Victor Bobrovsky's Functional Foundations of Musical Form (1978)." *Theoria* 16: 39–58.

Kholopov, Yuriy. 1995. "Form in Shostakovich's Instrumental Works." Trans. John Cornish and David Fanning. In *Shostakovich Studies*, ed. David Fanning, 57–75. New York: Cambridge University Press.

———. 2003. *Garmoniya: Teoretischeskiy kurs* [Harmony: A theoretical course]. 2nd ed. Saint Petersburg: Lan'.

Kholopova, Valentina. 2002. "Alfred Schnittke's Works: A New Theory of Musical Content." In *Seeking the Soul: The Music of Alfred Schnittke*, comp. George Odam, 38–44. London: Guildhall School of Music & Drama.

Kholopova, Valentina, and Yevgeniya Chigaryova. 1990. *Al'fred Shnitke: Ocherk zhizni i tvorchestva* [Alfred Schnittke: Life and works]. Moscow: Sovetskiy kompozitor.

Kopp, David. 2002. *Chromatic Transformations in Nineteenth-Century Music.* New York: Cambridge University Press.

Kremer, Gidon. 2002. “Gidon Kremer on Schnittke.” In *A Schnittke Reader*, by Alfred Schnittke, ed. Alexander Ivashkin, trans. John Goodliffe, 231–35. Bloomington and Indianapolis: Indiana University Press.

Kuhn, Judith. 2010. *Shostakovich in Dialogue: Form, Imagery and Ideas in Quartets 1–7.* Burlington, VT: Ashgate.

Lehman, Frank. 2011. “SLIDE: Illuminating a Shadow Progression.” Presented at the annual meeting of the Society for Music Theory, Minneapolis, MN.

Lewin, David. 1987. *Generalized Musical Intervals and Transformations.* New Haven: Yale University Press. Reprint, New York: Oxford University Press, 2007.

———. 1996. “Cohn Functions.” *Journal of Music Theory* 40, no. 2: 181–216.

Lofthouse, Charity. 2012. “Arches or Circles? Reverse Recapitulations vs. Double-Rotational Structures in Shostakovich’s Fourth and Fifth Symphonies.” Presented at the annual meeting of the Music Theory Society of New York State, New York, NY.

Lowinsky, Edward E. 1961. *Tonality and Atonality in Sixteenth-Century Music.* Berkeley and Los Angeles: University of California Press.

Lubotsky, Mark. 2002. “Schnittke as Remembered by Mark Lubotsky.” In *A Schnittke Reader*, by Alfred Schnittke, ed. Alexander Ivashkin, trans. John Goodliffe, 248–56. Bloomington and Indianapolis: Indiana University Press.

Mazel’, Leo. 1957. “O rasshirenii ponyatiya odnoimyonnoy tonal’nosti” [On expanding the concept of parallel keys]. *Sovetskaya muzïka*, 1957, no. 2: 141–45.

———. 1962. “K diskussii o sovremennoy garmonii” [Toward a discussion of contemporary harmony]. *Sovetskaya muzïka*, 1962, no. 5: 52–61.

———. 1972. *Problemï klassicheskoy garmonii* [Problems of classical harmony]. Moscow: Muzïka.

———. 1982. *Stat’i po teorii i analizu muzïki* [Essays on music theory and analysis]. Moscow: Sovetskiy kompozitor.

Mazullo, Mark. 2010. *Shostakovich’s Preludes and Fugues: Contexts, Style, Performance.* New Haven: Yale University Press.

McCreless, Patrick. 1995. “The Cycle of Structure and the Cycle of Meaning: The Piano Trio in E Minor, Op. 67.” In *Shostakovich Studies*, ed. David Fanning, 113–36. New York: Cambridge University Press.

———. 2009. “Dmitri Shostakovich: The String Quartets.” In *Intimate Voices: The Twentieth-Century String Quartet*, ed. Evan Jones, 2:3–40. Rochester: University of Rochester Press.

McQuere, Gordon D. 1983a. “Boris Asafiev and *Musical Form as a Process*.” In *Russian Theoretical Thought in Music*, ed. Gordon D. McQuere, 217–52. Ann Arbor: UMI Research Press. Reprint, Rochester: University of Rochester Press, 2009.

———. 1983b. “The Theories of Boleslav Yavorsky.” In *Russian Theoretical Thought in Music*, ed. Gordon D. McQuere, 109–64. Ann Arbor: UMI Research Press. Reprint, Rochester: University of Rochester Press, 2009.

Medich, Ivana [Ivana Medić]. 2011. “Katalog nabroskov Al’freda Shnitke iz sobraniya rukopisey Dzhul’yardskoy shkolï muzïki (N’yu-York): Sostavleniye kataloga i predisloviye I. Medich” [Catalogue of Alfred Schnittke’s sketches from the Juilliard School of Music Manuscript Collection (New York): Compilation and foreword by I. Medić]. In *Al’fredu Shnitke posvyashchayetsya*, ed. A. V. Bogdanova and Ye. B. Dolinskaya, 8:109–57. Moscow: Kompozitor.

Morris, Robert D. 1998. “Voice-Leading Spaces.” *Music Theory Spectrum* 20, no. 2: 175–208.

Orfeyev, Serafim. 1970. “Odnovïsotnïye trezvuchiya i tonal’nosti” [Common-tone triads and keys]. In *Voprosï teorii muzïki*, ed. Yu. N. Tyulin, 2:54–85. Moscow: Muzïka.

Palisca, Claude V. 1994. *Studies in the History of Italian Music and Music Theory.* New York: Oxford University Press.

Peterson, Kirsten. 2000. “Structural Threads in the Patchwork Quilt: Polystylistics and Motivic Unity in Selected Works by Alfred Schnittke.” PhD diss., University of Connecticut.

Pople, Anthony. 1983. “Skryabin’s Prelude Opus 67, No. 1: Sets and Structure.” *Music Analysis* 2, no. 2: 151–73.

Randall, J. K. 1964. Review of *Convertible Counterpoint in the Strict Style*, by Serge Ivanovitch Taneiev, trans. G. Ackley Brower. *Journal of Music Theory* 8, no. 2: 279–99.

Reichardt, Sarah. 2008. *Composing the Modern Subject: Four String Quartets by Dmitri Shostakovich.* Burlington, VT: Ashgate.

Reuter, Fritz. 1952. *Praktische Harmonik des 20. Jahrhunderts: Konsonanz- und Dissonanzlehre nach dem System von Sigfrid Karg-Elert mit Aufgaben von Fritz Reuter* [A practical approach to 20th-century harmony: Consonance and dissonance according to the system of Sigfrid Karg-Elert, with exercises by Fritz Reuter]. Halle: Mitteldeutscher Verlag Halle (Saale).

Rifkin, Deborah. 2006. “Making It Modern: Chromaticism and Phrase Structure in Twentieth-Century Tonal Music.” *Theory and Practice* 31: 133–58.

Rings, Steven. 2006. “Tonality and Transformation.” PhD diss., Yale University.

———. 2011. *Tonality and Transformation.* New York: Oxford University Press.

Roeder, John. 2011. "Transformational Aspects of Arvo Pärt's Tintinnabuli Music." *Journal of Music Theory* 55, no. 1: 1–41.

Roeder, John, and Scott Alexander Cook. 2006. "Triadic Transformation and Parsimonious Voice Leading in Some Interesting Passages by Gavin Bryars." *Intégral* 20: 43–67.

Rothstein, William. 1989. *Phrase Rhythm in Tonal Music.* New York: Schirmer. Reprint, Ann Arbor: Musicalia Press, 2007.

Rupprecht, Philip. 2001. *Britten's Musical Language.* New York: Cambridge University Press.

Sadie, Stanley, ed. 1980. *The New Grove Dictionary of Music and Musicians.* 20 vols. London: Macmillan.

Sargeant, Lynn M. 2011. *Harmony & Discord: Music and the Transformation of Russian Cultural Life.* New York: Oxford University Press.

Schick, Hartmut. 2002. "Musikalische Konstruktion als musikhistorische Reflexion in der Postmoderne: Zum 3. Streichquartett von Alfred Schnittke" [Musical construction as historical reflection in the postmodern era: On Alfred Schnittke's String Quartet No. 3]. *Archiv für Musikwissenschaft* 59, no. 4: 245–66.

Schidlovsky, Nicolas. 1983. "Sources of Russian Chant Theory." In *Russian Theoretical Thought in Music*, ed. Gordon D. McQuere, 83–108. Ann Arbor: UMI Research Press. Reprint, Rochester: University of Rochester Press, 2009.

Schmelz, Peter J. 2009a. "A Genealogy of Polystylism: Alfred Schnittke and the Late Soviet Culture of Collage." Presented at the annual meeting of the American Musicological Society, Philadelphia, PA.

———. 2009b. *Such Freedom, If Only Musical: Unofficial Soviet Music During the Thaw.* New York: Oxford University Press.

Schnittke, Alfred. 1994. "Systematisch-Chronologische Werkübersicht" [Comprehensive survey of works]. In *Alfred Schnittke zum 60. Geburtstag: Eine Festschrift*, 77–134. Hamburg: Sikorski.

———. 2002a. "Polystylistic Tendencies in Modern Music." In *A Schnittke Reader*, by Alfred Schnittke, ed. Alexander Ivashkin, trans. John Goodliffe, 87–90. Bloomington and Indianapolis: Indiana University Press.

———. 2002b. "The Third Movement of Berio's *Sinfonia*: Stylistic Counterpoint, Thematic and Formal Unity in Context of Polystylistics, Broadening the Concept of Thematicism." In *A Schnittke Reader*, by Alfred Schnittke, ed. Alexander Ivashkin, trans. John Goodliffe, 216–24. Bloomington and Indianapolis: Indiana University Press.

Schnittke, Alfred, and Joachim Hansberger. 1982. “Alfred Schnittke im Gespräch über sein Klavierquintett und andere Kompositionen” [Alfred Schnittke discusses his Piano Quintet and other compositions]. *Zeitschrift für Musikpädagogik* 7: 44–50.

Schnittke, Alfred, and Alexander Ivashkin. 2002. “From Schnittke’s Conversations with Alexander Ivashkin.” In *A Schnittke Reader*, by Alfred Schnittke, ed. Alexander Ivashkin, trans. John Goodliffe, 3–37. Bloomington and Indianapolis: Indiana University Press.

Scott, Dale. 2005. “Some Graphical and Pitch Structural Implications of Toroidal 12-Tonnetze.” Presented at the John Clough Memorial Conference, Chicago, IL.

Segall, Christopher. 2013. “*Klingende Buchstaben*: Principles of Alfred Schnittke’s Monogram Technique.” *Journal of Musicology* 30, no. 2: 252–86.

Shaffer, Kris. 2011. “‘Neither Tonal nor Atonal’?: A Statistical Root-Motion Analysis of Ligeti’s Late Triadic Works.” Presented at the annual meeting of the Music Theory Society of New York State, Buffalo, NY.

Shnitke, Al’fred [Alfred Schnittke]. 1990. “Polistilisticheskiye tendentsii v sovremennoy muzïke” [Polystylistic tendencies in contemporary music]. In *Al’fred Shnitke: Ocherk zhizni i tvorchestva*, by Valentina Kholopova and Yevgeniya Chigaryova, 327–31. Moscow: Sovetskiy kompozitor.

———. 1994. “Polistilisticheskiye tendentsii sovremennoy muzïki” [The polystylistic tendencies of contemporary music]. In *Besedï s Al’fredom Shnitke*, by Al’fred Shnitke and Aleksandr Ivashkin, 143–46. Moscow: Kul’tura.

———. 2004. “Beskonechnost’ dukhovnoy zhizni” [The endlessness of spiritual life]. In *Stat’i o muzïke*, by Al’fred Shnitke, ed. Aleksandr Ivashkin, 185–87. Moscow: Kompozitor.

Shnitke, Al’fred [Alfred Schnittke], and Aleksandr Ivashkin. 1994. *Besedï s Al’fredom Shnitke* [Conversations with Alfred Schnittke]. Moscow: Kul’tura.

Shnitke, Al’fred [Alfred Schnittke], and Dmitriy Shul’gin. 1993. *Godï neizvestnosti Al’freda Shnitke: Besedï s kompozitorom* [Alfred Schnittke’s years of obscurity: Conversations with the composer]. Moscow: Delovaya Liga.

Smirnov, Dmitri. 2002. “Marginalia quasi una Fantasia: On the Second Violin Sonata by Alfred Schnittke.” Ed. Guy Stockton. *Tempo*, no. 220: 2–10.

Straus, Joseph N. 2003. “Uniformity, Balance, and Smoothness in Atonal Voice Leading.” *Music Theory Spectrum* 25, no. 2: 305–52.

———. 2005a. *Introduction to Post-Tonal Theory*. 3rd ed. Upper Saddle River, NJ: Pearson Prentice Hall.

———. 2005b. “Voice Leading in Set-Class Space.” *Journal of Music Theory* 49, no. 1: 45–108.

———. 2011. "Contextual-Inversion Spaces." *Journal of Music Theory* 55, no. 1: 43–88.

Sullivan, Tim. 2010. "Structural Layers in Alfred Schnittke's Concerto Grosso No. 3." *Perspectives of New Music* 48, no. 2: 21–46.

Swinden, Kevin J. 2005. "When Functions Collide: Aspects of Plural Function in Chromatic Music." *Music Theory Spectrum* 27, no. 2: 249–82.

Tamar, Eliyahu. 2000. "Polystylism and Coherence in Alfred Schnittke's Viola Concerto and Six Rilke Songs for High Voice and Piano (Original Composition)." PhD diss., University of Pittsburgh.

Taneiev, Serge Ivanovitch [Sergey Ivanovich Taneyev]. 1962. *Convertible Counterpoint in the Strict Style.* Trans. G. Ackley Brower. Boston: Bruce Humphries. Reprint, Boston: Branden, 2007.

Taneyev, Sergey. 1909. *Podvizhnoy kontrapunkt strogago pis'ma* [Movable counterpoint in the strict style]. Moscow: P. Yurgenson [Jurgenson].

Taruskin, Richard. 1993. *Musorgsky: Eight Essays and an Epilogue.* Princeton: Princeton University Press.

———. 1997. *Defining Russia Musically: Historical and Hermeneutical Essays.* Princeton: Princeton University Press.

———. 2009. *On Russian Music.* Berkeley and Los Angeles: University of California Press.

Tiftikidi, Nikolay. 1970. "Teoriya odnotertsovoy i tonal'noy khromaticheskoy sistem" [A theory of common third and tonal chromatic systems]. In *Voprosï teorii muzïki*, ed. Yu. N. Tyulin, 2:22–53. Moscow: Muzïka.

Tremblay, Jean-Benoît. 2007. "Polystylism and Narrative Potential in the Music of Alfred Schnittke." PhD diss., University of British Columbia.

Tymoczko, Dmitri. 2008. "Scale Theory, Serial Theory and Voice Leading." *Music Analysis* 27, no. 1: 1–49.

———. 2009. "Three Conceptions of Musical Distance." In *Mathematics and Computation in Music*, ed. Elaine Chew, Adrian Childs, and Ching-Hua Chuan, 258–73. Heidelberg: Springer.

———. 2011a. "Dualism and the Beholder's Eye: Inversional Symmetry in Chromatic Tonal Music." In *The Oxford Handbook of Neo-Riemannian Music Theories*, ed. Edward Gollin and Alexander Rehding, 246–67. New York: Oxford University Press.

———. 2011b. *A Geometry of Music: Harmony and Counterpoint in the Extended Common Practice.* New York: Oxford University Press.

Weinberg, Jacob. 1958. "Sergei Ivanovitch Taneiev." *Musical Quarterly* 44, no. 1: 19–31.

Weitzman, Ronald. 1992. Liner notes to *Alfred Schnittke: Cello Concerto No. 2; Concerto Grosso No. 2*, with Torleif Thedéen, Oleh Krysa, Malmö Symphony Orchestra, and Lev Markiz. BIS CD 567.

Yunek, Jeff. 2012. "Bridging the Tritone Divide: The Role of Invariance on the Transpositional Structure in Alexander Scriabin's Post-Tonal Music." Presented at the annual meeting of the South Central Society for Music Theory, Lafayette, LA.