SERGEI PROKOFIEV'S PIANO SONATA NO. 8, OP. 84 AND SYMPHONY
NO. 5, OP. 100: NEO-RIEMANNIAN AND KHOLOPOVIAN PERSPECTIVES

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# Contents

List of Examples .................................................................................................................. 3

List of Figures ......................................................................................................................... 8

Abstract .................................................................................................................................. 10

Declaration ................................................................................................................................. 11

Copyright Statement ............................................................................................................... 11

Conventions and Abbreviations ............................................................................................ 12

Acknowledgements ................................................................................................................ 13

Introduction ............................................................................................................................. 14

1 Wrong Notes and Right Notes: Four Analytical Approaches to Prokofiev’s Music .......... 17

2 Neo-Riemannian and Kholopovian Perspectives ................................................................. 63

3 Form and Thematic Layout ................................................................................................. 111

4 Dissonance and Polyharmony ............................................................................................. 182

5 Form and Harmonic Structure .......................................................................................... 221

6 Concealed Structures ......................................................................................................... 281

7 Conclusion ............................................................................................................................ 317

Bibliography ........................................................................................................................... 327

Word count: 79,208
List of Examples

Ex. 1.1: Piano Sonata No. 6/I, polyharmonic de-layering of a complex chord. ................................................................. 23
Ex. 1.2: Piano Sonata No. 4/II, simple instance of linear harmony. ................................................................. 24
Ex. 1.3: Piano Sonata No. 8/III, illustration of Kholopov’s analysis of the opening eight-bar phrase .............................................................................................................................. 27
Ex. 1.4: Piano Sonata No. 8/III, II in a dominant role. ............................................................................... 28
Ex. 1.5: Piano Sonata No. 8/III, unstable harmonies in the first episode. ........................................ 29
Ex. 1.6: Piano Sonata No. 8/III, secondary group in B major ........................................................................... 29
Ex. 1.7: Piano Sonata No. 8/III, exposition, closing section ................................................................... 30
Ex. 1.8: Bass’s analysis of Prokofiev’s Piano Concerto No. 2/I, bb. 5-12 ................................................ 36
Ex. 1.9: Piano Sonata No. 8/II, opening .................................................................................................. 38
Ex. 1.10: Bass’s analysis of Piano Sonata No. 8/II, bb. 1-17 ........................................................................ 39
Ex. 1.11: Symphony No. 5/I, bb. 1-13, annotations of Minturn’s analysis ........................................ 44
Ex. 1.12: The structural set in Symphony No. 5/I, first subject .............................................................. 45
Ex. 1.13: The structural set in Symphony No. 5/I, second subject .......................................................... 46
Ex. 1.14: Symphony No. 5/I, structural set developed as chromatic neighbouring motions. .. 46
Ex. 1.15: The structural set in Symphony No. 5/I, the final cadence, reduction ........................................ 48
Ex. 1.16: A true and false systemic motif ........................................................................................................ 52
Ex. 1.17: Rifkin’s analysis of a pitch class functional motif in ‘The Young Juliet’ from Romeo and Juliet, Op. 75, No. 4, bb. 1-2 ........................................................................................................ 54
Ex. 1.18: Violin Concerto No. 2/I, reduction, bb. 1-20 ............................................................................. 56
Ex. 1.19: Rifkin’s middleground reduction of Violin Concerto No. 2/I, bb. 1-17 ............................................ 57
Ex. 1.20: Rifkin’s analysis of Violin Concerto No. 2/I, bb. 92-182 ........................................................................ 58
Ex. 2.1: Relative voice-leading distance in semitones between G-C and e-C .................................................. 66
Ex. 2.2: Piano Sonata No. 8/II, a neo-Riemannian analysis of the opening key shifts. ...................... 70
Ex. 2.3: Violin Concerto No. 2/I, a neo-Riemannian analysis of harmonic connections between the exposition and development ..................................................................................................................... 71
Ex. 2.4: Piano Sonata No. 8/III, semitonal voice leading ........................................................................... 71
Ex. 2.5: *Peter and the Wolf*, a reduction of Peter’s Theme, bb. 1-20. .............................................. 85
Ex. 2.6: Perfect cadences in C with note G as the dominant *base*. ..................................................... 92
Ex. 2.7: Different types of *accompaniments* to a dominant-tonic *discharge*. .................................. 97
Ex. 2.8: Some common *projections* ..................................................................................................... 97
Ex. 2.9: Piano Sonata No. 8/III, bb. 1-4, a Harrisonian analysis............................................................. 98
Ex. 2.10: Piano Sonata No. 8/III, SD/DS functional mixture in bb. 7-8 and 30-32. ...................... 101
Ex. 2.11: S, H and T as cadential transformations in both modes....................................................... 106
Ex. 2.12: SP/PS, HP and TP transformations in a cadential context .................................................. 108
Ex. 3.1: Symphony No. 5, harmonic pillars......................................................................................... 117
Ex. 3.2: Symphony No. 5/I, middleground. ....................................................................................... 120
Ex. 3.3: Symphony No. 5/I, the transformation of theme *A*. ............................................................. 121
Ex. 3.4: Symphony No. 5/I, a fragment from theme *B* in the exposition, b. 31. ......................... 125
Ex. 3.5: Symphony No. 5/I, harmonic template for coda, bb. 229-236. ........................................... 126
Ex. 3.6: Symphony No. 5/II, middleground.......................................................................................... 129
Ex. 3.7: Symphony No. 5/II, Theme *A*: /a reduction, and /b harmonic analysis........................ 130
Ex. 3.8: Symphony No. 5/II, bb. 11-22: /a reduction, and /b harmonic analysis............................ 132
Ex. 3.9: Symphony No. 5/II, hypothetical progression for bb. 15-22................................................. 133
Ex. 3.10: Symphony No. 5/II, themes *C*, *D*, and *E*, first eight bars........................................... 134
Ex. 3.11: Symphony No. 5/II, rhythmic motif in themes *C* and *B*. ................................................. 135
Ex. 3.12: Symphony No. 5/II, theme *A* increasing role of ♯ in the final section......................... 136
Ex. 3.13: Symphony No. 5/III, middleground ................................................................................... 138
Ex. 3.14: Symphony No. 5/III, theme *A*, bb. 4-17. ....................................................................... 139
Ex. 3.15: Symphony No. 5/III, C-E overlapping voice leading in bb. 16-17....................................... 141
Ex. 3.16: Symphony No. 5/IV, middleground .................................................................................... 145
Ex. 3.17: Symphony No. 5/IV, theme *A* ......................................................................................... 147
Ex. 3.18: Symphony No. 5/IV, theme *C₂*, bb. 63-65, and Symphony No. 5/II, theme *C*, bb. 114-115. ........................................................................................................ 148
Ex. 3.19: Symphony No. 5/IV, themes $a_s$, bb. 210-211, and Symphony No. 5/II, theme $A$, bb. 3-4. 

Ex. 3.20: Symphony No. 5/IV, theme $E$, bb. 37-38, and Symphony No. 5/II, theme $E$, bb. 219-220.

Ex. 3.21: Symphony No. 5/IV, end of the development section and beginning of recapitulation, bb. 217-232.

Ex. 3.22: Symphony No. 5/IV, harmonic pattern underpinning bb. 217-232.

Ex. 3.23: Piano Sonata No. 8, harmonic pillars.

Ex. 3.24: Piano Sonata No. 8/I, middleground.

Ex. 3.25: Piano Sonata No. 8/I, opening of the second subject, theme $C$.

Ex. 3.26: Piano Sonata No. 8/I, theme $C$ in the development.

Ex. 3.27: Piano Sonata No. 8/I, end of the development section.

Ex. 3.28: Prokofiev Piano Sonata No. 8/I, $b_7-E$ clashes in the coda.

Ex. 3.29: Piano Sonata No. 8/II, middleground.

Ex. 3.30: Piano Sonata No. 8/II, opening bars of /a theme $A$, and /b theme $C$.

Ex. 3.31: Piano Sonata No. 8/III, middleground.

Ex. 3.32: Piano Sonata No. 8, a comparison of themes.

Ex. 3.33: Piano Sonata No. 8/III, central episode, start of theme $E$.

Ex. 3.34: Piano Sonata No. 8/III, central episode, recurrences of $5-\#4-5$ motif.

Ex. 3.35: Piano Sonata No. 8/III, central episode, harmonic intensification.

Ex. 3.36: Piano Sonata No. 8/III, crucial theme-$E$ mutation.

Ex. 3.37: Piano Sonata No. 8/III, central episode, $5-\#4$ motif in $A_\flat$ minor.

Ex. 3.38: Piano Sonata No. 8/III, extracts from the retransition.

Ex. 3.39: Piano Sonata No. 8/III, recapitulation, first episode entry.

Ex. 4.1: Symphony No. 5/II, bb. 19-24, basic polyharmony.

Ex. 4.2: Piano Sonata No. 8/I, bb. 59-60, basic instance of linear harmony.

Ex. 4.3: Symphony No. 5/I, reduction of theme $D$ in the development, bb. 106-110.

Ex. 4.4: Symphony No. 5/I, theme $D$ in the development, bb. 106-110.
Ex. 4.5: Symphony No. 5/I, bb. 106-110, counterfactual analysis .............................................. 189
Ex. 4.6: Symphony No. 5/I, Theme D cadential harmonies, bb. 109-110................................. 191
Ex. 4.7: Symphony No. 5/IV, Theme B, bb. 58-59.................................................................... 195
Ex. 4.8: Symphony No. 5/IV, Theme B, bb. 58-59: ................................................................. 196
Ex. 4.9: Piano Sonata No. 8/III, functional intensification in the final cadence ..................... 200
Ex. 4.10: Piano Sonata No. 8, three distinctive transformations .................................................. 201
Ex. 4.11: Piano Sonata No. 8/III, beginning of the first episode..................................................... 202
Ex. 4.12: Piano Sonata No. 8/III, complex harmonies in the final cadence............................. 203
Ex. 4.13: Piano Sonata No. 8/I, first movement coda, surface S-shifts ........................................ 204
Ex. 4.14: Piano Sonata No. 8/III, bb. 1-10: /a score /b harmonic analysis .................................. 205
Ex. 4.15: Piano Sonata No. 8/III, S in the second subject, bb. 48-49........................................... 206
Ex. 4.16: Piano Sonata No. 8/III, recapitulation, B and E subject tonics ..................................... 206
Ex. 4.17: Piano Sonata No. 8/III, coda, B-E oscillations .............................................................. 207
Ex. 4.18: Piano Sonata No. 8/III, bb. 488-489, Harrisonian analysis ......................................... 208
Ex. 4.19: Piano Sonata No. 8/I, final cadence, bb. 293-297.......................................................... 211
Ex. 4.20: Piano Sonata No. 8/I, reproduction of Brown’s analysis of the final cadence............. 212
Ex. 4.21: Piano Sonata No. 8/I final cadence, neo-Riemannian/polyharmonic analysis .......... 213
Ex. 4.22: Piano Sonata No. 8/I, final cadence ............................................................................. 215
Ex. 4.23: Piano Sonata No. 8/I, final cadence, half-diminished seventh chords .................... 218
Ex. 5.1: Symphony No. 5/I, reduction of the exposition bb. 1-7, 12-17 and 28-29..................... 224
Ex. 5.2: Symphony No. 5/I, the main harmonies from bb. 29-52 of the exposition ................... 226
Ex. 5.3: Symphony No. 5/I, reduction from the recapitulation, bb. 186-192 ............................ 228
Ex. 5.4: Symphony No. 5/I, recapitulation, bb. 194-205, harmonic analysis ............................ 232
Ex. 5.5: Symphony No. 5/II, octatonic and hexatonic cycles in the middleground.................. 238
Ex. 5.6: Symphony No. 5/II, foreground completion of like-modeled triads of the tonic
octatonic cycle, bb. 305-308 ........................................................................................................ 240
Ex. 5.7: Symphony No. 5/III, middle section, leading-note hexatonic cycle, bb. 55-107 ....... 241
Ex. 5.8: Symphony No. 5/IV, octatonic cycle in the tonic zone connecting the exposition and development. ........................................................................................................................................................................ 243

Ex. 5.9: Symphony No. 5/IV, development section, hexatonic cycle elaborating the ♯♭ tonal centre, E. ........................................................................................................................................................................................................ 244

Ex. 5.10: Piano Sonata No. 8, background octatonic cycle. ................................................................................................................................. 247

Ex. 5.11: Piano Sonata No. 8/I, extracts from two stages of thematic development. .......... 257

Ex. 5.12: Piano Sonata No. 8/I, exposition-development, middleground tonal centres. ...... 259

Ex. 5.13: Piano Sonata No. 8/I, development, a and E tonal centres. .............................. 261

Ex. 5.14: Piano Sonata No. 8/I, development, tonal centres in bb. 140-168. .................... 262

Ex. 5.15: Piano Sonata No. 8/I, development, G♯-B♯ dyad. .................................................. 263

Ex. 5.16: Piano Sonata No. 8/I, development, athematic section, bb. 183-186. ................. 267

Ex. 5.17: Piano Sonata No. 8/III, octatonic progression of dyads, bb. 363-367. .............. 273

Ex. 5.18: Piano Sonata No. 8/III, L-S-PR progression, retransition, bb. 452-454. ............ 274

Ex. 5.19: Piano Sonata No. 8/III, exposition second subject, bb. 42-46. .......................... 276

Ex. 5.20: Piano Sonata No. 8/III, exposition second subject, bb. 46-55. .......................... 278

Ex. 6.1: Symphony No. 5/I, bb. 44-53, transition. ............................................................... 283

Ex. 6.2: Symphony No. 5/III, coda, harmonic and voice-leading analysis. ..................... 289

Ex. 6.3: Symphony No. 5/III, cadence in bb. 190-191. ....................................................... 293

Ex. 6.4: Piano Sonata No. 8/III, retransition. ................................................................. 295

Ex. 6.5: Piano Sonata No. 8/III, retransition, bb. 343-345, alternative labelling. .......... 297

Ex. 6.6: Piano Sonata No. 8/III, major-thirds pattern ...................................................... 299

Ex. 6.7: Piano Sonata No. 8/III, major-third patterns in the retransition....................... 300

Ex. 6.8: Piano Sonata No. 8/III, whole-tone structure of the retransition....................... 301

Ex. 6.9: Piano Sonata No. 8/III, retransition, French-sixth structure ......................... 303

Ex. 6.10: Piano Sonata No. 8/I, exposition codetta, bb. 83-89. ........................................ 305

Ex. 6.11: Piano Sonata No. 8/I, exposition codetta, bb. 83-89, functional analysis. ........ 307

Ex. 6.12: Piano Sonata No. 8/I, retransition. ................................................................. 311

Ex. 6.13: Piano Sonata No. 8/I, retransition analysis ...................................................... 312
List of Figures

Fig. 1.1: Piano Sonata No. 8/III, Kholopov’s formal layout.

Fig. 1.2: Harrison’s re-conceptualisation of scale-degree functions.

Fig. 2.1: Basic neo-Riemannian transformations to be used in the present study.

Fig. 2.2: Complex neo-Riemannian transformations to be used in the present study.

Fig. 2.3: Tonnetz representations of the seven basic neo-Riemannian transformations.

Fig. 2.4: The PL cycle in three alternative depictions: /a stave, /b circle, c/Tonnetz.

Fig. 2.5: Comparative readings of triadic voice-leading distance of C–A and C–E.

Fig. 2.6: Cohn’s Clock Face, mapping voice-leading distance between diatonic triads.

Fig. 2.7: The octatonic cycle.

Fig. 2.8: Cohn’s analysis of Peter’s Theme, Peter and the Wolf, bb. 1–20.

Fig. 2.9: Harrison’s ‘disassembly of submediant’.

Fig. 2.10: Harrison’s ‘disassembly of the diminished seventh’.

Fig. 2.11: Harrison’s normative discharges from agents.

Fig. 3.1: Adapted notation for large-scale tonal analysis in this dissertation.

Fig. 3.2: Notation for thematic layout.

Fig. 5.1: Symphony No. 5/I, theme A, harmonic transformations, bb. 1–29.

Fig. 5.2: Symphony No. 5/I, theme B and transition harmonic shifts, bb. 29–54.

Fig. 5.3: Symphony No. 5/I, harmonic transformations of themes A and B in the recapitulation, bb. 165–204.

Fig. 5.4: Symphony No. 5/I, theme A, harmonic transformations, bb. 29–54.

Fig. 5.5: Symphony No. 5/II, octatonic and hexatonic thirds cycles in the tonic and major-tonic zones.

Fig. 5.6: Symphony No. 5/III, hexatonic cycle in the leading-note zone, bb. 55–103.

Fig. 5.7: Symphony No. 5/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.8: Piano Sonata No. 8, octatonic cycle on the Tonnetz.

Fig. 5.9: Piano Sonata No. 8/I, development, tritone-tone pattern of tonal centres.

Fig. 5.10: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.11: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.12: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.13: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.14: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.15: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.16: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.17: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.18: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.19: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.20: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.21: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.22: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.23: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.24: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.25: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.26: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.27: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.

Fig. 5.28: Piano Sonata No. 8/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27–219.
Fig. 5.10: Piano Sonata No. 8/I, development, extended middleground progressions. 267
Fig. 5.11: Piano Sonata No. 8/I, bb. 1-186, harmonic structure. 269
Fig. 5.12: Piano Sonata No. 8/II, middle-section harmonies. 270
Fig. 5.13: Piano Sonata No. 8/III, octatonic progression of dyads, bb. 363-367. 274
Fig. 5.14: Piano Sonata No. 8/III, L-S-PR progression, retransition, bb. 452-454. 275
Fig. 5.15: Piano Sonata No. 8/III, exposition second subject, bb. 42-46. 277
Fig. 5.16: Piano Sonata No. 8/III, exposition second subject, bb. 46-55. 278
Fig. 6.1: Symphony No. 5/I, harmonies connected through the transition, bb. 44-53. 285
Fig. 6.2: Symphony No. 5/I, surface progressions in bb. 46-47 of the transition. 287
Fig. 6.3: Symphony No. 5/III, voice-leading distance pattern of harmonic progressions in bb. 171-175 and 181-185. 291
Abstract

Sergei Prokofiev is among the ranks of early-twentieth century composers whose music endures in the concert hall and whose life has attracted much musicological research. Fewer studies, however, have undertaken an analytical investigation into his music, and the body of scholarly work on the musical-theoretical issues raised by his compositions does not rival that exploring the music of such major contemporaries as Igor Stravinsky and Béla Bartók.

Existing Anglo-American contributions to the field of Prokofiev theory have mostly employed the tools of common-practice musical analysis, many of them using Schenkerian methods, with the more recent accounts of Richard Bass and Deborah Rifkin expanding these to incorporate the chromatic features of Prokofiev’s music in more sophisticated ways. A notable exception is Neil Minturn, who proposes an analytical approach informed by pitch-class set theory; his methodology, however, has not been developed in any further research.

This thesis aims to make a contribution to Prokofiev analysis by applying recent developments in neo-Riemannian theories and the work of the noted Russian musicologist, Yuri Kholopov, whose early monograph on Prokofiev’s harmony has not been engaged with in English-language accounts to date. Neo-Riemannian theories are well suited to this task due to the correspondence between their remit and the diatonic-chromatic aspect of Prokofiev’s music. This thesis also introduces and explores the potential of Kholopov’s theoretical concepts regarding the nature of twentieth-century music, and in particular processes such as polyharmony, in original analytical applications.

Prokofiev’s Symphony No. 5 and Piano Sonata No. 8 have been selected as focal works as they are acknowledged masterworks on an ambitious scale and arguably represent a shift in Prokofiev’s compositional thinking towards more abstract music in his later period. Existing analyses of extracts from these two works also offer the opportunity of making comparative observations. By focusing on harmony and large-scale tonal design in these two works, this thesis hopes to demonstrate that a dialogue between the theoretical perspectives of Kholopov and those of neo-Riemannian theories may contribute valuable insights into Prokofiev’s music, at both surface and deep structural levels.
Declaration

No portion of the work referred to in the thesis has been submitted in support of another application for another degree or qualification of this or any other university or other institute of learning.

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**Conventions and Abbreviations**

Some idiosyncratic analytical terminology will be italicised for clarity.

Special notation, such as Helmholtz, will not be used to designate pitch register, to avoid confusion with figured-bass notation and footnote numbers. Where a specific pitch rather than a pitch class needs to be specified, the text will indicate this.

Major triads will be indicated by their capital letter-name, and minor triads by their lower-case letter-name in most instances; where this risks obscuring the clarity of meaning, the mode of triads will be indicated by their capital letter-name followed by the word ‘major’ or ‘minor’.

‘Triads’ will be used to mean diatonic, augmented and diminished three-note sonorities; ‘trichords’ will refer to all other three-note sonorities.

Successive notes or chords will be separated by a dash (A-d), while notes or chords comprising a single harmonic entity will be written without spacing (Ad).

For Harrisonian analysis of functionally mixed sonorities, inferior expressivity of any given function – Tonic (T), Dominant (D), and Subdominant (S) – will be indicated by secondary chronological placement: for example DT indicates a dominant-tonic sonority in which the tonic function has inferior expressivity. Where a function’s expressivity within a mixed sonority is greatly inferior, this will be indicated by brackets around that function, for example D(T).

As this thesis proposes that Sergei Prokofiev’s music, including the two focal compositions, stands at a distance from common-practice tonality, the analyses will assume enharmonic equivalence. Therefore note-spelling will not influence analytical identifications, unless otherwise stated.

Listed pieces are compositions of Sergei Prokofiev, unless otherwise stated.

English translations from Russian are the author’s, unless otherwise stated.
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Introduction

It is curious to ponder what the self-declared rebel Sergei Prokofiev would have thought of the body of academic literature his life and music have inspired. Would the absorption of much of his work into the scholarly sphere prompt a response of ‘mock horror’, similar to the one elicited when the Academy of Saint Cecilia conferred an honorary diploma on him in 1934? He would probably have been pleased with the attention dedicated to his theatrical and operatic works, especially those that did not meet with much critical success during his lifetime. And whatever he might have thought of the content of biographical accounts that detail his successes and failures, their wealth might at least assure him that his place in the ranks of great early-twentieth-century composers is secure. As to his thoughts on the analytical literature treating his music, one can imagine that he might react either with indifferent or perhaps with some amusement. For a composer who sought to establish a unique personal style and claimed to have no pre-compositional system, the diversity of existing analytical endeavours to explain his music might provoke a reaction of smug triumph. Whether the recurring discussions of ‘wrong notes’ in his music would contribute to this reaction or simply cause offense is within the realm of pure guesswork.

The published analytical literature on Prokofiev’s music is as notable for its scarcity as for its diversity. Many theory-based enquiries are confined to doctoral dissertations, and consequently have had minimal impact in the wider musicological field. Also, there is yet to be formed a dialogue between Anglo-American and Slavonic traditions in the field of Prokofiev analysis. Admittedly, analytical contributions dedicated to the composer’s music are not abundant in Slavonic musicology either.

3 Carlo Bianchi is suspicious of this claim, as was Reinhold Glière, quoted in the former’s ‘Sizing Up Prokofiev’s Music: Some Remarks on a Neo-Tonal Language’, Musicorum 8 (2010) 161.
In this thesis, I aim to take a step towards a comprehensive approach to Prokofiev analysis by developing a methodology that draws together different strands of research, and applying it to two monumental works from the composer’s late output – Piano Sonata No. 8, Op. 84 (1939-1944) and Symphony No. 5, Op. 100 (1944). My analyses will tackle aspects of small-, medium-, and large-scale structures in the two compositions, seeking to answer two broad questions: what is the essence of Prokofiev’s mature harmonic language, and what is his approach to large-scale tonal design in the two pieces selected for analysis? My choice of analysing harmony and form in the two pieces does not reflect the view that these are the only features illuminating Prokofiev’s musical language; the exploration of genre, his use of instrumentation, the music’s textural aspects and non-analytical factors such as reception can all contribute perspectives on the subject. By narrowing the focus of this thesis to considerations of harmony and form, I wish to tackle one of the more challenging perspectives in greater depth than an all-encompassing study would allow.

There are a number of features apart from chronological proximity that make Piano Sonata No. 8 and Symphony No. 5 particularly suitable for this type of study. Simon Morrison documents that Prokofiev completed both the Sonata and the piano score of the Symphony during summer stays at the Union of Soviet Composers country retreat outside Ivanovo (250km northeast of Moscow); he suggests they were both products of a shift in Prokofiev’s compositional thinking, prompted by the relaxed creative atmosphere of his surroundings, that turned his attention away from theatrical works and towards abstract ones.4 That both the sonata and the symphony exhibit formal schemes established during the eighteenth and nineteenth centuries provides an opportunity to observe the ways in which Prokofiev deals with the functional requirements of common-practice tonality while employing chromatic idiosyncrasies associated with his style. Finally, extracts from both works have received attention in existing analytical literature, increasing the scope for making comparative analytical observations. That Piano Sonata No. 8 and Symphony No. 5 are both in the key of B♭ will also facilitate the comparison of harmonic relationships within the two works.

The methodology for this thesis will draw on the work of three scholars: Yuri Kholopov, a prominent Russian musicologist less well-known in the West, and two leading neo-Riemannian theorists, Richard Cohn and Daniel Harrison. As Anglo-American Prokofiev theorists have not engaged with Kholopov’s theory of the composer’s music, this dissertation aims to act both as an introduction and an exploration of his ideas with regard to the two focus works. I will also argue that the neo-Riemannian theories of Cohn and Harrison provide essential tools for both presenting and expanding on Kholopov’s ideas, as well as offering analytical solutions in their own right to some issues encountered in existing Anglo-American accounts of Prokofiev’s music. These accounts will provide a context for the present study and serve to highlight some of the advantages of adopting the proposed methodology.

Chapter 1 presents and evaluates four analytical approaches to Prokofiev’s music: those of Kholopov and three Western scholars. Chapter 2 examines the potential of neo-Riemannian theories, previously not considered by Prokofiev theorists with regard to his output, to provide an illuminating perspective on his music and to be combined with Kholopov’s theory into a single methodology. Chapters 3-6 form the main body of the dissertation, presenting analyses of formal structures and musical processes in both local and large-scale contexts. Chapter 7 concludes the present study with a summary of analytical findings, reflections on their impact on the field of Prokofiev analysis, and suggestions for further research.

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1 Wrong Notes and Right Notes: Four Analytical Approaches to Prokofiev’s Music

The four analytical approaches to Prokofiev’s music that will be discussed here derive from the available published Anglo-American literature and a Russian publication largely unknown to Anglo-American musicologists. While these sources do not exhaust the list of valuable writing on the subject of Prokofiev’s music, they have been chosen for the originality of their perspectives and the astuteness of their analytical observations. The Russian, Yuri Kholopov, in his 1967 monograph *Modern Traits in Prokofiev’s Harmony*, provides a thorough account of the types of chords and musical processes frequently encountered in Prokofiev’s works as well as discussing the nature of his harmonic language, with the overarching aim of situating him within the ranks of twentieth-century composers. Richard Bass, in a 1988 article, develops a limited analytical framework based on expanded Schenkerian theory for the discussion of chromatic displacements in Prokofiev’s music. Neil Minturn’s monograph *The Music of Sergei Prokofiev* argues that Prokofiev’s music is based on non-tonal principles accessible via aspects of pitch-class set theory. Lastly, Deborah Rifkin, in an article on ‘structural motifs’ in Prokofiev’s music, builds on expanded Schenkerian principles, yet also employs certain neo-Riemannian concepts of voice-leading in the development of her theory.

The variety of analytical perspectives apparent in the writings of the above scholars raises an important consideration. That Prokofiev’s music has invited the application of principles from as many as three diverse branches of theory – devised for tonal functional, tonal non-functional and atonal music – is intriguing, being suggestive of a degree of eclecticism in Prokofiev’s composition higher than any one author submits. The following discussion will evaluate the four analytical approaches in turn, considering their theoretical strategies for incorporating the diverse musical elements of Prokofiev’s music. This will serve as a basis for

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2 Ibid.
some preliminary observations about Prokofiev’s music from which the rest of this dissertation will proceed.

1.1 Kholopov: Undiscovered Treasures

Kholopov’s account of Prokofiev’s music is largely unreferenced by Anglo-American theorists. The reason for this seeming omission is most likely the language barrier: none of the other three scholars make any use of Russian-language sources. Yet Kholopov’s book is one of the more extensive and detailed contributions to Prokofiev analysis. He seeks to demonstrate that Prokofiev belongs in the ranks of great twentieth-century composers by highlighting features of his music which, according to him, exhibit wider trends. He dedicates half of his 453-page book to a study of the composer’s chords and chordal progressions, and half to enquiries relating to tonality and larger-scale harmonic organisation.

Kholopov’s theories are rooted in the ultimate importance of harmony, and of ‘the chord as the fundamental category of harmonic verticality’. His definition of harmony as a ‘system of pitch organisation’ (звуковысотная система) is rather broad and covers a wide historical time-span, ranging from Josquin to the dodecaphonists. Kholopov emphasises that the nature of harmony varies for different musical styles, genres, composers, even compositions. He highlights two main differences between ‘old’ (up to the common practice period) and ‘new’ (twentieth-century) harmony. One difference is the latter’s ‘twelve-step property’ (двенадцатистепенность), meaning the free association of all twelve pitch classes. The other difference is the use of the dissonance not only as a discordant (неблагозвучный) but also as a harmonious (благоозвучный) sound, not requiring resolution. According to Kholopov, twentieth-century music extends the practices of earlier periods by reinterpreting, sometimes radically, the manifestations of chords and musical functions, yet preserving their essence.

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6 Kholopov, Современные черты гармонии Прокофьева, 1967, 15.
7 Ibid., 428.
8 Discussed extensively in chapter 9, ‘Хроматическая Тональность’ (Chromatic Tonality), ibid., 229-237.
9 Ibid., 430.
Kholopov views tonality as the product of composers’ creation of diverse chordal relationships, not as an abstract entity from which composers derive chords and progressions.\textsuperscript{10} This view is somewhat similar to the Schenkerian conception of tonality, ‘envisioned … in terms of prototypes and recursive transformations’ as opposed to diatonic scales, that is, abstract entities.\textsuperscript{11} Kholopov’s conception, however, is broader than Schenker’s, as he does not limit the range of available prototypes required for forming tonality. He accounts for the diversity of distinct harmonic practices in the twentieth century by positing that, due to the expansive possibilities offered by the availability of all twelve pitch classes, each composer works out his own tonal system, and composes according to its unique properties. He emphasises that:

Having rejected classical tonality, modern music has not rejected the tonal system. While music is concerned with the tone, the musical sound, and while sounds are related to one another, music has some sort of system – a tonal system. There is a tonal system in Hindemith, and in Bartók, and in Honegger, and in Myaskovsky … and in the composers of the new Viennese School. However, the tonal system in each case is different. … An individual law acts within each system, according to which material is welded into larger sections, constructions and unity is given to the whole.\textsuperscript{12}

Kholopov’s conception overcomes the inherent generality of the term ‘tonal’ (even in Western usage) by asking: ‘tonal’ according to what kind of system? This question is central to his analytical enquiry into Prokofiev’s music. In Part I of his book, Kholopov proceeds by categorising different chords that occur in Prokofiev’s music with extensive commentary. This is followed by the description of musical processes in which such chords participate. In Part II, Kholopov discusses how these processes interact and combine with other musical elements in the formation of Prokofiev’s individual tonal system.

\textsuperscript{10} A recent theory based on a similar premise is laid out in Dmitri Tymoczko, \textit{A Geometry of Music}, Oxford, 2011. However, Tymoczko’s tonality-forming features are more elemental than chords, (see chpt. 1, ‘Five Components of Tonalitv’, 3-27).


\textsuperscript{12} Kholopov, \textit{Sovremennye cherty garmonii Prokofieva}, 1967, 434. (Emphases appear in the original.) Kholopov dedicates a chapter (11) to discussing the nature of atonality as a tonal system, see ibid., 325-352.
1.1.1 Chords, Functions, and Processes in Prokofiev’s Music

Kholopov goes beyond mere taxonomy to describe chordal attributes, character, expressive properties, possible origins, and interactions in specific musical contexts. For instance, he argues that the major-minor chord is not a product of modal mixture, but of mode combination, which is one step further in harmonic thought, adding that ‘in its ideal version it does not have a tertian structure and is neither major nor minor’.  

According to his theory, the implication of these statements is that Kholopov views the major-minor chord as an elaboration – or, to use Kholopov’s term, *complication* – of a 0,3,4 or 0,1,4 triad, thereby locating its origin in twentieth-century harmony. This is deliberate, especially in light of his subsequent discussion of the chord’s different manifestations in Prokofiev’s music. Kholopov notes that the major-minor chord often occurs where its tertian sub-chord (0,3,7 or 0,4,7) may be expected, giving a list of examples where it substitutes for common-practice chords of particular tonal functions. As will be seen in due course, the multiple divisions of a complex chord into sub-chords of different properties also lies at the core of Minturn’s later theory of the structural set, although Minturn does not cite Kholopov’s work.

By emphasising the major-minor chord’s non-tertian status and, by implication, its twentieth-century origin, Kholopov argues that it does not merely perform a common-practice tonal function, but that it also re-interprets it. In other words, the major/minor dualism central to common practice music is undermined and replaced by a modern principle which, underpinned by the twelve-step property, elevates chords of a non-tertian structure to the same status enjoyed by tertian chords in common practice music.

Kholopov’s views on the re-interpretation of musical functions are clarified in a later paragraph:

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From our point of view, the key to modern harmony lies in its relationship to form. In relationship to form, harmony plays a subservient role. Specific representatives of functions are only servants, the agents [ispolniteli] of particular duties. It is the duties themselves that are the functions of harmony. In each new epoch, the servants change according to the new fashion, so as not to fall behind their century or, at least, they are re-garbed. On the other hand, even if duties do change, it is not so systematically nor so radically. And the change of the representatives of function must not be equated with the change of the functions themselves. (Italics original.)

It may sound as though Kholopov’s ideas of musical functions entail Roman-numeral-assigning analyses of Prokofiev’s music, such as have been produced by William Austin and Felix Salzer. Yet, while Kholopov does present musical examples annotated with Roman numerals, his usage of them varies significantly from that of Austin and Salzer. In Kholopov’s discussion of Prokofiev’s music (and, more generally, in his conception of twentieth-century music), Roman numerals do not denote the function of a chord, merely its position in relation to a tonic or tonal centre, where either of the latter is applicable. For example, chord V is not necessarily the dominant; in fact any chord can perform any function in particular circumstances. In Kholopov’s words: ‘thanks to the diversity of modern chord-structures (akkordika) and, especially, the diversity of the sound-contents of complex tonics, virtually every sound and every interval can relate in principle to any function’. The definition of function as ‘the particular character of the relationship of some single element of a [tonal] system to another, primarily to the fundamental one’ is suitably flexible to accommodate the complex and other non-tertian chords that occur in Prokofiev’s music, alongside the more familiar tertian chords.

A final point about Kholopov’s ideas of function concerns his observation that while new representatives of functions (for example tonic and dominant functions) may appear similar to their older counterparts, the likeness is not always strong enough to constitute a direct relationship between them. In such cases, Kholopov considers it prudent to adopt a ‘twofold

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16 Kholopov, Sovremennye cherty garmonii Prokofieva, 1967, 441.
19 Kholopov, Sovremennye cherty garmonii Prokofieva, 1967, 437.
20 Ibid., 438.
determination of function’, implying that as well as interpreting the new representatives of function according to the old (tonic/dominant) functions that they substitute for, they should also be interpreted according to the new functions they perform as chords in their own right.\footnote{Ibid., 438.}

This idea is central to Bass’s subsequent theory of ‘chromatic displacement’ in Prokofiev’s music, as will be seen later.\footnote{Bass, ‘Prokofiev’s Technique of Chromatic Displacement’, 1988.}

The most penetrating and informative part of Kholopov’s text details the various processes he observes in Prokofiev’s music. By linking these processes to the properties of chords painstakingly laid out in his earlier discussion, Kholopov moves beyond expanded taxonomy (of which he may be accused mistakenly at first glance).

One of the most basic processes Kholopov identifies in Prokofiev’s music is a type of chord substitution whereby a complex chord performs the task of its fundamental triad. This process can lead to polyharmony, which Kholopov defines as ‘the de-layering of a complex chord into relatively independent parts’.\footnote{Kholopov, Sovremennye cherty garmonii Prokofieva, 1967, 98. For varieties of de-layering, see ibid. 107-108.} Example 1.1 shows a reproduction of Kholopov’s example of this process in a short extract from Prokofiev’s Piano Sonata No. 6/I. The first stave presents the score; the first bar of the second stave shows the complex chord in compressed form, and the last bar, Kholopov’s analysis of the de-layering into a pedal-chord in the top voices, together with a bass melody where passing notes, which do not form part of the complex chord, are indicated as black note-heads.
In the analytical lower stave, second bar, Kholopov re-spells enharmonically some of the notes from the score, presumably to reflect certain intervallic regularities.) Essentially, *polyharmony* occurs when a complex chord begins to sound like its fundamental triad with added notes, rather than a unified chord. This idea is echoed in Minturn’s concept of a *structural set* (for Kholopov, the complex chord) being presented in the music in a way which emphasises one of its subsets. It will become especially important for Minturn’s notions of the tonal interpreter subset, which will be discussed in Section 1.3, below.

The notion of ‘expressivity’ (*vyrazitel’nost’*), which Kholopov introduces previously as one of the features inherent in the chords he describes, plays an important part in creating varied forms of *polyharmony*. For Kholopov, ‘the individuality of a complex *polyharmonic* chord is constructed from the sum and the interaction of the expressive properties of its constituent parts’ (emphasis added). The distinction between the expressive properties of a *polyharmonic* chord’s constituent parts and the parts themselves is significant, as the properties derive not only from their sonority’s harmonic content, but also from its specific intervallic distribution. Kholopov states explicitly that intervallic properties and registral spacing play at least as important a role in determining the individuality and function of a chord as does its harmonic

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content. This contributes to another manifestation of polyharmony, where the interaction between a polyharmonic chord’s constituent sounds is weakened by widening their registral distribution.

Another process Kholopov identifies in Prokofiev’s music is that of linear harmony, which is perceived largely as a development of the suspension-resolution paradigm and, like polyharmony, has a number of different manifestations. At its most basic, linear harmony is evident in the resolution of a chord of greater dissonance to a chord of lesser dissonance. Kholopov demonstrates an instance from Prokofiev’s Piano Sonata No. 4/II, reproduced in Example 1.2, where a seven-note chord labelled (1) resolves by stepwise outward contrary motion to a five-note chord (excluding doublings) labelled (2), which then further resolves onto a simple triad at the end.

**Ex. 1.2: Piano Sonata No. 4/II, simple instance of linear harmony.**

One particularly characteristic way in which Prokofiev achieves what Kholopov terms linear harmony is by holding over a note or notes from the chord preceding the resolution harmony into the resolution itself; this is the case with the notes C at (2) in Example 1.2, above, which Kholopov considers as the root, doubled, at (1) and as the added seventh in the melody and the pedal point at (2). In a similar fashion, Prokofiev can also add a note from the chord of

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26 Ibid., 61, 85.
27 Ibid., 103.
28 Ibid., 119.
29 Ibid., example 58, p. 118. Kholopov mistakenly attributes this passage to the first movement of Piano Sonata No. 4. The harmonic annotations below the score are original to this thesis.
30 Ibid., 120.
resolution to its preceding ‘chord of suspension’,\textsuperscript{31} causing a clash with that note’s voice-leading precursor. In some cases the added note is held over into the chord of resolution, and in others it is altered within the resolution chord.\textsuperscript{32}

While Kholopov’s text is frequently illustrated by very short score examples taken from a wide range of Prokofiev pieces, the few large-scale analyses he presents towards the end of his monograph focus less on contextualising processes such as \textit{polyharmony} and \textit{linear harmony}, and more on harmonic relationships according to his definitions of twentieth-century function (see earlier discussion). These he relates mostly without score or analytical illustrations. The following section will present one such analysis of the last movement of Prokofiev’s Piano Sonata No. 8 – one of the pieces that forms the focus of this thesis.

1.1.2 Piano Sonata No. 8/III: An Analysis

Kholopov identifies the form of the movement as a sonata-rondo and gives the following summary of the layout (see Figure 1.1):

**Fig. 1.1: Piano Sonata No. 8/III, Kholopov’s formal layout.\textsuperscript{33}**

<table>
<thead>
<tr>
<th>Primary Group</th>
<th>connective section</th>
<th>Secondary Group</th>
<th>closing section &amp; transition</th>
<th>Primary Group &amp; transition</th>
<th>central episode &amp; transition</th>
<th>Primary Group</th>
<th>Secondary Group</th>
<th>closing section &amp; transition</th>
<th>Coda</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>10</td>
<td>29</td>
<td>8+6</td>
<td>16+6</td>
<td>252+8</td>
<td>37</td>
<td>29</td>
<td>8+8</td>
<td>41</td>
</tr>
<tr>
<td>1-31</td>
<td>32-41</td>
<td>42-70</td>
<td>71-78</td>
<td>85-100</td>
<td>107-358</td>
<td>367-403</td>
<td>404-432</td>
<td>433-440</td>
<td>449-489</td>
</tr>
</tbody>
</table>

The numbers in the first row, provided in Kholopov’s original illustration, indicate the total number of bars in each section, while the bar-number ranges of each respective section are added as a second row in the present study to facilitate score comparisons. Proceeding from a detailed analysis of the opening eight-bar period, Kholopov demonstrates the structural

\textsuperscript{31} Ibid., 117-118.
\textsuperscript{32} Ibid., 127.
\textsuperscript{33} Ibid., 419.
significance of Ⅱ in the exposition, arguing that it substitutes for the conventional dominant, and becomes one of the movement’s characteristic unstable harmonies. The following discussion will use annotated illustrations to summarise Kholopov’s main points since he offers no further illustrations of his own.

Example 1.3, below, shows the opening eight-bar period, that introduces Ⅱ as an unstable harmony. The first bar foreshadows Ⅱ as one of the two auxiliary harmonies that quickly depart and return to the B♭ triad, with which they retain a connection by virtue of the consistency of their major third intervals (see Example 1.3, above, ossia staff). While both the auxiliary harmonies are subsumed by B♭’s tonic function, the first two bars sow the seeds for many harmonic developments to follow. The first such development occurs within the cadential phrase in bb. 7-8, where an arpeggiated C♭⁶ initiates a cycle of triads a minor third apart.
Ex. 1.3: Piano Sonata No. 8/III, illustration of Kholopov’s analysis of the opening eight-bar phrase.\textsuperscript{39}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure}
\caption{Ex. 1.3: Piano Sonata No. 8/III, illustration of Kholopov’s analysis of the opening eight-bar phrase.\textsuperscript{39}}
\end{figure}

\textsuperscript{39} Ibid., 418-423.
Kholopov draws attention to the fact that b. 7 is bounded by the notes C#, roots of Ⅲ, that the conventional dominant – F major – forms part of the minor-thirds cycle, and that the progression appears in the formal space traditionally occupied by the dominant. These features, he argues, encourage the acknowledgement that Ⅲ performs a dominant function with regard to the B♭ tonic. ⁴⁰ Ⅲ performs a similar function at the close of the primary group, which exits via a B♭⁷ chord into A minor at the start of the connective section. Example 1.4 shows the extract in question.

Ex. 1.4: Piano Sonata No. 8/III, Ⅲ in a dominant role.

Kholopov argues that B♭’s former tonic status is destroyed in this passage, partly by the e harmony with which it oscillates in bb. 28-29. e’s instability resides in its intrinsic property as B♭’s tritone relation as well as its contextual role as a prominent harmony in the preceding episode, the beginning of which is given in Example 1.5, below.

⁴⁰ Ibid., 420.
Ex. 1.5: Piano Sonata No. 8/III, unstable harmonies in the first episode.\textsuperscript{41}

The original manifestation of $\flat\text{II} - C\flat$ (enharmonically, B) – is also active within this passage of unstable harmonies, its root note B connecting e and g\# as their common note.

The developments that $\flat\text{II}$ undergoes, which are detailed above, are reflected on the large scale with the opening of the secondary group, whose main B major tonality stands in $\flat\text{II}$ relationship with the primary group’s $B\flat$. Example 1.6 shows the beginning of the secondary group.

Ex. 1.6: Piano Sonata No. 8/III, secondary group in B major.

At this point, rather than pursuing his former stress on $\flat\text{II}$ as the carrier of specifically dominant function, Kholopov relaxes it, in favour of establishing $\flat\text{II}$ as a characteristic

\textsuperscript{41}Ibid., 422.
unstable harmony of a particular flavour within this movement. He argues that, as C♭/B is the main representative of instability in the context of this movement’s B♮ major, the secondary group’s B tonality can be said to originate from the instability within the middle of the primary group (the first episode, shown in Example 1.5, above).

Kholopov makes the further observations that the closing section’s C major stands in ♯II relationship to the preceding second group’s B major, and, within itself, its harmonic structure articulates the shift C-B, as shown in Example 1.7, below.

Ex. 1.7: Piano Sonata No. 8/III, exposition, closing section.

This leads him to the observation that the fundamental key scheme of the exposition – B♭-B-C-B♭ – mirrors the very first harmonic gesture of the movement’s opening theme in b. 1 (see Example 1.3, ‘Larger Structure’, above). This statement and the analyses contributing to it form the justification for his claim that, while this movement is characterised by simple chords on the surface, its harmonic structure is not conventional. Kholopov’s analysis of Piano Sonata No. 8’s finale serves to demonstrate his concept of harmonic functions in twentieth-century music, which shifts perspective away from conventional relationships with a

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given tonic, and toward the specific roles harmonies perform within a musical context (see section 1.1.1, above). By arguing that IV acts similarly to a dominant in the Sonata’s finale, Kholopov side-steps the problematic abstract issue of its conventional functional role as a pre-dominant harmony. At the same time, his choice not to force the comparison allows him to highlight large-scale semitonal patterns, such as the one discussed immediately above, without burdening himself with the need to justify each subsequent IV as a dominant, where the analogy would be questionable at best.

Kholopov’s analysis of the rest of the movement is much less detailed, focusing on salient points of large-scale structure that are better reserved for the main analyses in this thesis. Consequently, the present discussion will proceed with a reflection of his overall contribution to the analysis of Prokofiev’s music.

1.1.3 Kholopov’s Contribution to Prokofiev Analysis

The wealth of Kholopov’s musico-theoretical concepts, both regarding Prokofiev’s compositions specifically and twentieth-century practices more generally, is impossible to contain within a short summary. Nevertheless, his contribution can be appreciated by observing some of the conclusions that his theories allow him to draw, beginning with his general statement about Prokofiev’s music:

Prokofiev does not belong in the ranks of those composers whose music exhibits all the traits of modern harmony in a full and concentrated manner. Nevertheless, it is impossible to understand his harmony without an account of new laws specific to the music of our century. … The general principle of Prokofiev’s harmony lies in the usage of the new possibilities offered by modern harmony, while maintaining a firm foothold on the most core ideas of classical harmony and the preservation of its specific fundamental forms. The distinctive peculiarity of Prokofiev’s harmony derives from his characteristic mixing of the principles of old and new tonalities, of old and new functionality.43

43 Ibid., 443. (Emphasis original.)
The most significant feature of this ‘characteristic mixture’ for Kholopov is Prokofiev’s use of the dissonance sometimes as a discord requiring resolution (according to the principles of ‘old’ harmony), sometimes as a harmonious sound, and sometimes as both simultaneously.\textsuperscript{44}

Reflecting that Prokofiev’s music exhibits virtually no inclination towards dodecaphony or free atonality, Kholopov concludes that:

\textit{The general basis of Prokofiev’s tonal thought lies in chromatic tonality. The specifics of its construction [here Kholopov is referring to Prokofiev’s individual tonal system] consists in its formation from a common major or minor. While Prokofiev’s music may exhibit the disappearance of a particular modal hue (major-ness or minor-ness), usually his chromatic tonality appears as a major or minor [mode] with the addition of virtually any non-diatonic chord, including those most distant from the tonic (incidentally, Prokofiev likes these distant steps very much).}\textsuperscript{45}

Kholopov argues that this description of Prokofiev’s music explains many facets of his harmonic thought, such as the co-existence in his music of various types of diatonic and chromatic features, the ease with which transition is made from one to the other, mode mixture within the confines of one tonality, polytonality and instances of atonal writing.\textsuperscript{46}

Ultimately, Kholopov sees Prokofiev’s use of chromaticism as being a continuation of the practices of late nineteenth- and early twentieth-century composers, but marking a qualitative leap forward in the evolution of those practices. The latter is evident in the fact that non-diatonic chords that start to appear in nineteenth century music as exotic harmonic entities are commonplace in Prokofiev’s music.\textsuperscript{47} Kholopov is insistent in his assertion that Prokofiev’s tonality is not merely a colouristic treatment of old formulas, but a classical functional tonality developed in new (twentieth century) conditions, representing a ‘rebirth of function’.\textsuperscript{48}

Levon Hakobian may indeed be close to the truth when he refers to Kholopov’s \textit{Sovremenniye cherty garmonii Prokofieva as an ‘exhaustive analysis of Prokofiev’s harmonic language’}.\textsuperscript{49} It is

\textsuperscript{44} Ibid., 444.
\textsuperscript{45} Ibid., 447. (Emphasis original.)
\textsuperscript{46} Ibid.
\textsuperscript{47} Ibid., 448.
\textsuperscript{48} Ibid., 449.
then all the more urgent that Anglo-American musicologists analysing the music of Prokofiev engage with this text, as there is one thing which is lacking conspicuously in Kholopov’s book: detailed analyses demonstrating the interaction of the musical features discussed in larger sections of Prokofiev’s pieces. Evidence of this can be seen in the preceding section, which presented only a part of Kholopov’s large-scale analysis of Piano Sonata No. 8/III, but in which all examples apart from Figure 1.1 are original to this thesis. The examples that Kholopov does provide usually cover no more than a few bars at a time, demonstrating a single feature of Prokofiev’s composition. While this does not undermine his analyses, it leaves much room for the depiction and further exploration of how diverse features combine to create particular structural and dramatic effects in Prokofiev’s music. The need for such studies is echoed in Bass’s concluding comment to his own extract-based analytical enquiry, when he suggests that ‘further investigation might be concerned with the inter-relationships between … seemingly extraneous elements within complete, cohesive structures’.\(^{50}\) Of the leading contributors to Prokofiev analysis selected in this study, only Minturn and Rifkin have engaged in such studies, and their work does not cite Kholopov.

\section*{1.2 Bass: Seeking New Terminologies}

At the root of the motivation for Bass’s analytical enquiry lies a dissatisfaction with the findings of existing texts. Perceiving that Prokofiev’s music resides in the indeterminate space between functional-tonal practice and twentieth-century atonality, he criticises previous scholars’ lack of subtlety in attempting to account for the music within a predominantly tonal framework. Bass cites two examples from William Austin and one from Malcolm Hamrick Brown that demonstrate this point.\(^{51}\) The problem he identifies with their analyses is that they flounder when trying to carry through the functional implications of their Roman-numeral annotations.

\textsuperscript{50} Bass, 1988, 211.
\textsuperscript{51} See Bass, 1988, 197-198.
Had Bass been aware of Kholopov’s earlier work concerning the re-interpretation of functions in twentieth-century repertoire, in particular with regard to Prokofiev, he might have applied the same concept in his own study. Instead, he proposes his own way around the problem. The greatest obstacle Bass identifies in previous analytical enquiries into Prokofiev’s music is ‘the lack of an established terminology capable of revealing the essence or significance of the chromatic substitutions that pervade so much of [Prokofiev’s] music’. Consequently, he dedicates his study to the development of terminology specifically geared towards describing chromatic substitutions, which he terms chromatic displacements.

1.2.1 Chromatic Displacements and Shadow Structures

Bass’s description of his concept of chromatic displacement is as follows:

A chromatically displaced, or so-called ‘wrong’, note is also a kind of substitution, that is, it appears instead of, rather than in addition to, the notes of the chord. It does not function as an altered note, but represents a diatonic one; the diatonic note it represents is present as a ‘shadow’ cast by the displacement itself, and the result is a musical ‘synesis’ in which function is clear but terms in the diatonic syntax are not in strict agreement.

In Bass’s concept of chromatic displacement, ambiguity is central to the displacement’s creation of an ‘illusion’:

A displaced note is treated exactly as its diatonic counterpart would be – it is neither prepared nor resolved, and behaves as though nothing were ‘wrong’ with it in the first place. … At the same time, the displacement … generates implications of its own. The fact that it is perceived ambiguously enables the composer to use it motivically, to draw parallel relationships between it and other events in the voice-leading structure.

This description requires a clarification of Bass’s previous statement that the displacement does not function as an altered note. By using the word ‘function’ he invokes the tonal concept based on the hierarchy of the tonic, dominant and subdominant functions, and their subordinates. In so doing, he wishes to convey that the altered note is not a passing inflection, but that it performs the tonal function of the diatonic note (the displacement’s shadow) which it

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52 Ibid., 197.
53 Ibid., 199.
54 Ibid., 199-200.
represents. Yet, the displaced note also initiates processes which fall outside the tonal framework of its shadow note. This is what Bass means when he talks of displacements generating their own implications, (see the quotation directly above). So, in the broader context, where ‘function’ refers merely to the purpose that a note enacts, a chromatic displacement can be said to have a dual function: it represents its shadow note and, at the same time, it acts as a note in its own right. This dual functionality is what distinguishes Bass’s chromatic displacement from a simple substitution. Kholopov also talks of the ‘twofold interpretation of function’ in Prokofiev’s music (see section 1.1.1), which encourages a dual interpretation of a harmony’s function when a single one is too constricting, as for example, in his interpretation of II as both a dominant and not (necessarily) a dominant in Piano Sonata No. 8’s finale (see section 1.1.2, above). Unlike Bass, however, Kholopov’s theory does not require that a harmony’s perceived function be justified in terms of its conventional harmonic relationship with a specific tonic. For instance, Kholopov’s claim of dominant function for C major in the key of B does not rely on C’s role as the dominant of F major, something that would be necessary according to Bass’s theory.

Bass identifies the main merit of his concept of chromatic displacement in its being ‘subsumable into a larger theoretical system which can explain not only the fundamental diatonic structure of a piece, but also how the seemingly foreign elements assume both a tonal and a motivic role’. By stating that foreign elements, in other words displacements, assume a tonal role within diatonic structures, he is implying that their own implications create an alternative diatonic framework. In other words, the dual functionality of chromatic displacements consists in their ability to participate simultaneously in two separate diatonic frameworks. This is evident from Bass’s analyses, one of which is reproduced in Example 1.8 below.

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55 Ibid.
In this analysis, Bass locates two *chromatic displacements* within the opening of Prokofiev’s Piano Concerto No. 2 in G, Op. 16. The first is C♯ at b. 8, and the second is F♯ at b. 10. The bottom stave of Bass’s analytical graph shows that these *displacements* appear in the ‘Surface Structure’, which derives from the notes actually sounding. The ‘Diatonic Structure’ breaks the passage down into three different keys, the original tonic – G – and the two keys initiated by the action of the *chromatic displacements* – G♯ and F♯. These keys are determined by each respective displacement’s *second* property, that is its function within its own diatonic framework, not that of its *shadow*. This point merits some exploration.
The C♯ note shown in the Surface Structure performs a subdominant function, as indicated by the annotation ‘iv’ below the stave. However, subdominant function in g should be carried by the note C. According to Bass’s theory of displacement, this means that the C♯ in the score is a chromatic displacement of C. It appears in the stead of C, and represents it by casting the latter’s ‘shadow’ – an implication of C’s presence without its actually sounding. This shadow is illustrated graphically in the middle stave of the ‘Diatonic Structure’, where it is boxed off and annotated. This represents the first property of the chromatic displacement: acting as its shadow. According to the second property of the chromatic displacement, it acts as a note in its own right. In the case of the C♯, this means acting as the diatonic carrier of the subdominant function. The key in which C♯ performs this function is g♯. Therefore, by virtue of the note’s second property, it engenders its own diatonic framework in g♯.

In this way, one note, in this case C♯, performs the same subdominant function in two different diatonic frameworks, which are in the keys of g and g♯, respectively. The same process occurs at b. 10, where F♯ performs a tonic function in the keys of g and f♯, simultaneously. Two points concerning an earlier quotation from Bass (see section 1.2.1, second quotation) must be emphasised at this stage. Firstly, while the notes C♯ and F♯ are foreign in the context of the opening’s key of G natural minor, they gain a tonal role by performing diatonic functions, and are not to be perceived simply as chromatic inflections. Secondly, these displacements also perform a motivic role by participating as melodic members in the new keys which they engender, and thereby forging a link between these keys and the original key. Bass’s idea of ‘shadow structures’ allows for a representation of the processes occurring between the sounding and the non-sounding elements. The next section will present Bass’s short analysis of the opening of Piano Sonata No. 8’s second movement, and consider a criticism levelled against it by David James Heetderks.

56 Ibid., 205.
1.2.2 Piano Sonata No. 8/II: An Analysis

Bass describes the beginning of the movement, shown in Example 1.9 below, as a displacement that propels a new tonal area. The note that triggers the shift is the much repeated A♭ in the melody of the first eight bars, which becomes chromatically displaced to A on the approach to the next eight-bar phrase, causing a key shift of D♭-D.

Ex. 1.9: Piano Sonata No. 8/II, opening.

Bass explains that the shadow structure thus created does not influence voice-leading in the D♭ section, as the D section performs a full repeat of all its functions. He argues that perceiving A as a chromatic displacement of A♭ offers an unproblematic reading of how the ensuing F major key from b. 17 fits into the tonal scheme: ‘[t]he repetition of the opening material in the key of D serves the purpose of converting the structural melodic note from A♭ as 5 in D♭ to A as 3 in

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57 Ibid., 207.
F: A♭=♭5, A=♭5, A=♭5. Example 1.10 reproduces his supporting Schenkerian graph. He draws attention to the concentric motion of the notes G♭ and B♭ about A♭ in the D♭ major section, arguing that they single out A♭ as a structurally important note.\(^{59}\)

**Ex. 1.10: Bass’s analysis of Piano Sonata No. 8/II, bb. 1-17.**\(^{60}\)

This rather neat analysis of D as D♭’s chromatically displaced tonic has invited criticism from Heetderks, that ‘[a]n event that simultaneously represents motion and repetition within the parameter of harmony makes formal analysis difficult’.\(^{61}\) This rather neat analysis of D as D♭’s chromatically displaced tonic has invited criticism from Heetderks, that ‘[a]n event that simultaneously represents motion and repetition within the parameter of harmony makes formal analysis difficult’.\(^{62}\) This statement challenges the very premises of Bass’s theory, whereby a single function can be shared between two chromatically related notes within a given context. Heetderks’s criticism would pose less of an issue were Bass’s theory to have drawn on Kholopov’s concept of the re-interpretation of function in twentieth-century music, which explicitly liberates functions from the necessity of being attached to the harmonies that traditionally give rise to them (see section 1.1.1, above). Indeed, the later theoretical writings of Daniel Harrison, in which he independently arrives at a very similar re-conceptualisation of function, de-problematize the very crux on which Heetderks’s criticism of Bass’s theory rests

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\(^{58}\) Ibid., 207-208.

\(^{59}\) Ibid., 208.

\(^{60}\) Ex. 10 in *ibid.*, 209.


by stipulating that a succession of different harmonies can all represent the same tonal function.63

Nevertheless, there are other aspects of Bass’s theory that hinder its wider applicability to Prokofiev’s music. Carrying through the analytical implications of a chromatic displacement becomes problematic when it is hard to determine which diatonic note a displacement replaces within a given musical context. In the above Examples 1.8-1.10, quoted from Bass, this issue does not arise because the local harmonic and thematic contexts are sufficient to identify the replaced diatonic note. In the opening phrase of Piano Sonata No. 8/III, shown in Example 1.3, however, the context is less decisive: is the C in b. 1 a chromatic displacement of the preceding B or the following C#? A case can be made for either interpretation, and while the issue of C’s tonal function may be trivial in b. 1, it will have significant implications for later developments of this chromatic motion.64 Bass’s theory also runs the danger of engendering interpretations that are overly elaborate, when the chromatic features it addresses can be attributed to the more simple fact of modal mixture. In bb. 2-3 of Example 1.3, for instance, the roots of the major triads in the bass – A and G – arguably displace the diatonic notes A and G, 7 and 6 of B major. Should they be viewed as enharmonic agents of A major, hinting at the presence of its shadow structure in this phrase? Perhaps; however, they can just as easily be interpreted as elements of modal mixture hinting at the influence of B minor, thus questioning the necessity of positing an additional tonal structure.

1.2.3 Bass’s Contribution to Prokofiev Analysis

Bass’s analytical enquiry into Prokofiev’s music suggests that, in essence, he is in agreement with the basic assessment of Kholopov with regard to the presence and significance of harmonic functions in Prokofiev’s music, albeit in a non-conventional way. Both scholars conceive of functions being represented by new, sometimes unusual harmonies, although Kholopov’s theory does not rely on as strong a connection with conventional functional

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64 For Kholopov’s analysis of how this chromatic feature develops, see section 1.1.2, above.
processes as does Bass’s. Nevertheless, the two scholars evidently articulate a very specific phenomenon which they had separately observed in Prokofiev’s music.

Given the problematic aspects of Bass’s theory as outlined at the end of section 1.2.2, however, it is perhaps understandable why other scholars have chosen not to apply it in their analyses of Prokofiev’s music: either they found the theory’s premises regarding tonal function to be incongruous, similarly to Heetderks, or they simply conceived of better ways to address or circumvent the other issues it presents. Of course, some of these scholars reject Bass’s theory on the grounds that it pre-supposes a greater level of diatonicism in Prokofiev’s music than they themselves are willing to concede. The discussion will proceed by looking at one such scholar, Neil Minturn, whose search for analytical tools beyond the context of functional diatonic music has produced a radically different approach to Prokofiev analysis.

1.3 Minturn: False Assumptions

Neil Minturn’s analytical study of Prokofiev’s music is motivated by a desire to redress the bias he perceives in earlier tonal-functional accounts, such as those of William Austin and Felix Salzer. While he sympathises with their wish to base analytical claims about Prokofiev’s music on the firm foundation of a well-established theoretical methodology, such as Schenkerian analysis, he contends that this approach tends to produce impoverished analyses. For example, he argues convincingly that Salzer’s analysis of the opening phrases of Prokofiev’s Piano Sonata No. 8 requires an extreme degree of dilution of Schenkerian theory, undermining some of its basic tenets, such as contrapuntal principles that forbid consecutive

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octaves.\textsuperscript{69} He argues additionally that, in their search for fundamental sub-surface structures that would place Prokofiev’s music in a direct continuum with eighteenth- to nineteenth-century common practice, such analytical accounts side-line the very features that make the music distinctive – namely what scholars refer to as ‘wrong notes’ – and thus discredit the methodologies that underpin them.\textsuperscript{70}

In response to this, Minturn offers to ‘rescu[e] the wrong notes from the maw of traditional consonance and dissonance’ – a goal he can be said to share with Kholopov – ‘and sho[w] their large-scale impact as well as their local distinctiveness’.\textsuperscript{71} Minturn proposes that coherence in Prokofiev’s pieces is most aptly demonstrated by examining their pitch structure using the tools of pitch-class set theory. This sets his approach apart from Kholopov’s, whose conception of the twelve-note sound-world of twentieth-century music is one where composers can privilege collections that retain functional and tonal attributes – features that pitch-class set theory does not recognise. The following section sets out his theory.

\textbf{1.3.1 Structural Sets and their Interpreters}

A preliminary analysis of a selection of Prokofiev’s music leads Minturn to draw five conclusions, which serve as seeds for his theory.\textsuperscript{72} Three of these conclusions distance the surface of Prokofiev’s music from that of the common-practice period, while two form the basis of his methodology. The latter are quoted below, with their original numbering:

\begin{enumerate}
\item 3. The individuality of a given piece is usually defined by a small number of set classes, which occur often and prominently and which include non-triadic collections.
\item 5. Some single structure or some single process often drives different aspects of the music. … The set which generates such processes I will refer to as a structural set.\textsuperscript{73}
\end{enumerate}

\textsuperscript{70} Ibid., 18-20.
\textsuperscript{71} Ibid., 23.
\textsuperscript{72} Minturn, \textit{The Music of Sergei Prokofiev}, 1997, 54-55.
\textsuperscript{73} Ibid.
In short, the development of the *structural set* throughout a Prokofiev piece defines its musical parameters. According to Minturn’s discussion following his above-mentioned conclusions, this set must be present throughout the piece and appear in at least the middle- and foregrounds. It can be expressed simply as itself or by any of its *descendants*; these can be subsets, supersets, complements, or sets derived by fragmentation, whereby the *structural set’s* subsets are re-ordered in such a way as to form a new, distinct set. The application of this model to Prokofiev’s overtly non-tonal pieces such as the *Sarcasms*, Op. 17 is not particularly controversial. More interesting is Minturn’s methodology for encapsulating the tonal aspects of Prokofiev’s music, which promotes the view that ‘wrong notes’ are a deliberate play on the listener’s tonal expectations.

Minturn proposes that one type of *structural set* contains a subset with strong tonal allusions: this can be ‘a harmonic triad, a diatonic scale segment, or a functional bass segment or progression whenever such a set is heard to organize pitches around it into a locally tonal scheme’. This subset is called the ‘tonal interpreter’, as its role is to create the illusion of diatonic context within a non-functional piece. In the context of such an illusion, notes which do not belong to the *tonal interpreter* appear as ‘wrong’ to the tonally-expectant listener, although in actual fact, they are remaining members of the *structural set* or one of its *descendants*. Minturn argues that as the *structural set* with a *tonal interpreter* develops throughout a piece, the listener begins to re-contextualise the initial impression that some of its notes are ‘wrong’ until s/he perceives that they form an integral part of the harmonic and structural fabric. Minturn sees this process of unveiling as the main tension-building feature in Prokofiev’s music, as the listener moves from ignorance to understanding, while the structural framework of the piece remains intact throughout. To demonstrate how Minturn envisages this process in action, the following section will summarise the pertinent points from his analysis of the first movement of Symphony No. 5 – one of the two works that form the focus of this thesis. The discussion

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will use a mixture of original examples and those reproduced from Minturn’s monograph to illustrate his points,\textsuperscript{78} with corrections of any small typos such as have been commented on by his reviewers.\textsuperscript{79} Some issues arising from this analysis will be considered in conclusion.

1.3.2 Symphony No. 5/I: An Analysis

Minturn locates the first instance of the \textit{structural set} [016] in the notes B\(_4\)-E-F in the lower parts at the opening of the movement, which introduce the first instance of both accompaniment and chromaticism, namely the E\(_4\) in b. 3. Example 1.11 shows the opening fourteen bars of the movement and circles the place where Minturn identifies the \textit{structural set}.

Ex. 1.11: Symphony No. 5/I, bb. 1-13, annotations of Minturn’s analysis.

\textsuperscript{78} Minturn, \textit{The Music of Sergei Prokofiev}, 1997, 111-120.
According to his theory, the fifth formed by B♭-F is the *tonal interpreter*, while the E♭ is the apparently ‘wrong’ note, whose membership of the *structural set* will be unveiled gradually through the movement, although Minturn does not elaborate these details. The first development of the *structural set* occurs in bb. 11-13 where it is represented by its *descendant*, set [015], achieved by fragmenting the *structural set* into the intervals of a fifth and a semitone, and hooking the latter on the outside of the former (in its initial form, B♭-E-F, the semitone is on the inside). Example 1.11 above indicates [015] with a bracket. Minturn points out that this set achieves the modulation into A major via a dominant-tonic motion, in which the E♭ of the opening is promoted to the status of a chordal root (of the dominant). He then proceeds to show that the following modulations leading to the second theme of the first subject are articulated by a chain of overlapping [015] sets, illuminating the major-third-related harmonic layout F-A-D♭-F, as shown by the reproduction of his illustration in Example 1.12.

**Ex. 1.12: The *structural set* in Symphony No. 5/I, first subject.**

Minturn perceives a similar [015] structure in the second subject’s first theme, formed of the notes C-B-E in the bass, E now being the *tonal interpreter*, in the guise of a local tonic, as shown in the reproduction of his analysis in Example 1.13, below. With the bracket above the stave in b. 3, Minturn isolates a portion of the melody that imitates the descending bass in bb. 1-3 at a third, to show how the B harmony in b. 4 is reached.

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Ex. 1.13: The *structural set* in Symphony No. 5/I, second subject.\textsuperscript{81}

Minturn argues further (though this is only apparent in retrospect) that the semitone within the *structural set* is developed in the music as a chromatic neighbouring motion: from the second theme of the first subject (see Example 1.14/a, below), to the exposition’s closing theme (Example 1.14/b), to its expansion in the development (Example 1.14/c), to the E and G\textsubscript{$\natural$} notes directly preceding and within the recapitulation’s first theme (Example 1.14/d). His discussion strongly suggests that the ‘inversional balance’ of E and G\textsubscript{$\natural$} about F is the goal of all preceding chromatic slip developments.\textsuperscript{82}

Ex. 1.14: Symphony No. 5/I, *structural set* developed as chromatic neighbouring motions.

/a: Exposition, first subject second theme neighbouring motions.\textsuperscript{83}

\textsuperscript{81} Ex. 5.7 in Minturn, *The Music of Sergei Prokofiev*, 1997, 115.
\textsuperscript{83} Examples 1.14/a-c are reproductions of Minturn’s Examples 5.6, 5.8, and 5.10a, respectively; see Minturn, *The Music of Sergei Prokofiev*, 1997, 114, 116, 118.
/b: Exposition, second subject final theme, neighbouring motions.\footnote{The asterisk marks a misprint: Minturn has a B here instead of a D\textsubscript{♭}, which affects his analysis, as will be discussed below.}

\begin{center}
\includegraphics[width=\textwidth]{example1}
\end{center}

\setcounter{footnote}{0}

/c: Development, B and D\textsubscript{♭} inversionally balancing neighbours about C.

\begin{center}
\includegraphics[width=\textwidth]{example2}
\end{center}

/d: Development-recapitulation, E and G\textsubscript{♭}/(F\textsubscript{♯}) as inversionally balancing neighbours about F.

\begin{center}
\includegraphics[width=\textwidth]{example3}
\end{center}

To bolster his argument, Minturn also discusses the presence of semitonal relations in the development and recapitulation, closing with the observation that the melodic motion of E-F over B\textsubscript{♭} ends the movement, as shown by the bracket in Example 1.15 – a final expression of the \textit{structural set}.
To summarise Minturn’s argument: the *structural set* [016] comes to permeate the first movement of Symphony No. 5 in a variety of guises, both harmonically and melodically, introducing chromatic developments in the form of semitonal enrichments inversionally balancing notes of the *structural set*. That most of the elements he draws out are present in the music is beyond question; however, his interpretation of the processes that connect them raises a number of significant issues.

Minturn’s analysis of the *structural set’s descendant* [015] organising harmonic relationships in the exposition’s first subject (see Example 1.12, above) is forced. While the notes in the first two instances of the descendant describe harmonic entities, the last is purely melodic and does not lead to the dominant of B, as Minturn’s marking of V below the F suggests. The melodic F that it leads to in fact initiates an arpeggiation of the B tonic triad, as can be seen at the beginning of Example 1.14/a, above (a score reduction of the approach to R3 is also shown in Ex 5.1 bb. 28, below). Consequently, the modulatory chain of [015] descendents does not achieve a dominant-to-dominant progression in the exposition’s first subject, but characterises a smaller section of major-third-related harmonies.

In the development, Minturn’s argument concerning the evolution of inversionally balanced chromatic neighbour notes is based on a misreading of the score at R9 (b. 83). According to his illustrations, which are corrected in Examples 1.14/b-c, above, a D neighbour-note to C

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85 Arnold Whittall’s reduction of these bars faithfully reproduces all octave doublings, including the G♯-A-B♯ projected into the top line: see Ex 7.5 in, *Musical Composition in the Twentieth Century*, Oxford, 1999, 145. These doublings have been excluded in the present study to depict clearly the presence of the *structural set*, according to Minturn’s analysis of these bars.
appears in the latter as a development of the B neighbour-note illustrated in the former example; however, the D♯ is actually already present in the score in the exact same place within the theme (marked by an asterisk in Example 1.14/b). The music, therefore, does not reflect the process of evolution that Minturn describes, nor is it clear in what way the structural set is active in these two extracts. This weakens Minturn’s reading of the significance of the inversionally balanced chromatic neighbours in the recapitulation (see Example 1.14/d, above), by removing the only other step in the proposed process of evolution. Without this connection, Minturn’s analysis has much less reason to single out the G♯-F chromatic motion above any others.

Lastly, and most significantly, Minturn does not explain how the processes the structural set undergoes re-interpret its apparently ‘wrong’ note to the listener, according to his model set out in section 1.3.1 above. Arguably, the E♮ in the last instance of the structural set, shown in Example 1.15 above, still sounds ‘wrong’ at the end, being emphasised registrally and melodically at the head of a complex chord that resolves onto a simple B♭ triad with F at the top. In the presence of such strong tonal signifiers as unchromaticised tonic triads, it is unclear how inversional balance or any other feature described in Minturn’s analysis would encourage the listener to abandon their tonal expectations in this suspension-resolution paradigm.

1.3.3 Minturn’s Contribution to Prokofiev Analysis

Despite the shortcomings in Minturn’s pitch-class set analysis highlighted in the preceding section, his work marks an important point in the field of theoretical enquiries into Prokofiev’s music. It makes the first attempts in Anglo-American music theory to show large-scale processes in Prokofiev’s music. The underlying goal of presenting Prokofiev as a twentieth-century composer, evident from his choice of pitch-class set theoretical tools of analysis, marks him out from the theorists championing Schenkerian-based approaches, including Bass and Rifkin. His insistence that the apparently ‘wrong’ notes in Prokofiev’s music are in fact ‘right’ when conceptualised in the appropriate way, while unsupported by his analyses, reflects a similar precept to the one expounded by Kholopov (see section 1.1, above):
namely that Prokofiev’s music is founded in the twentieth-century practice of the free association of all twelve pitch classes, even if diatonic collections are frequently highlighted within these.

Nevertheless, the theory Minturn proposes contains significant obstacles. He leaves himself open to the same criticism of theoretical dilution that he levels against the Schenkerian approach of Salzer (see the beginning of section 1.3), by failing to establish the parameters of his pitch-class set approach. This questions the intrinsic significance that Minturn places on features such as inversionsal balance in Prokofiev’s music. The lack of explicit theoretical contextualisation of certain analytical phenomena also creates a problem with accessibility: while the use of specialist theoretical terminology and labelling (from pitch-class set theory) is not in itself a problem, taking for granted that the meaning they signify is readily apparent frequently makes Minturn’s analyses hard to follow. For instance, in Example 1.14/b, above, it is unclear what relationship set 5-16 has to the structural set. Such absent information is slightly ameliorated by the list of selected set relations in the appendix, but this does not illuminate consistently the set relations presented in Minturn’s analyses throughout his monograph.86 This and the mistakes contained in Minturn’s analyses, as commented upon by his reviewers87 and briefly illustrated in Example 1.14/b, above, is likely the reason that Minturn’s book is not generally viewed as an authoritative text on Prokofiev’s music.

One final issue with Minturn’s theory is that his idea of ‘listening to wrong-note music’ – central to his concept of how the structural set functions in tonal contexts – makes the assumption that any Prokofiev listener expects to hear a common-practice musical surface. Even if Minturn were describing the experience of a listener well-versed in the idioms of Western Art music, there is no reason that s/he should expect to hear conventionally-tonal music from a twentieth-century composer, instead of music where chromatic features are commonplace.

87 See n. 79, above.
1.4 Rifkin: Chromatic Connections

Deborah Rifkin’s approach to the analysis of Prokofiev’s music shares a few common aspects with that of Richard Bass (see section 1.2); both scholars favour extended Schenkerian analysis and both focus on the chromatic elements in the music. In contrast with Bass, Rifkin does not believe that significant modifications to extended Schenkerian principles are necessary to account for Prokofiev’s chromaticisms. However, she claims that such analyses are insufficient to provide an adequate explanation of what role chromaticisms perform in the music. Her theory, therefore, adds an additional layer to an extended Schenkerian analysis, connecting chromatic features on the large-, medium-, and small-scale via structural motifs. Depending on the nature of particular motifs, they can reflect the background structure (as do conventional structural motifs in Schenkerian analysis), explain the presence of apparently ‘wrong’ notes within otherwise unproblematic musical contexts, articulate functionally unconventional modulations, and create tonal allusions. The following section sets out Rifkin’s theory in detail.

1.4.1 Structural Motifs

Rifkin proposes that the purpose of chromaticisms in Prokofiev’s music can be explained in terms of three kinds of motif: systemic, functional pitch class and non-functional pitch class.88 They have a structural status by virtue of articulating musical phenomena in the middle- or background of a composition, with foreground paralellisms.89 Her description of a systemic motif draws on Schenkerian descriptions of Cadwallader and Pastille, which ‘argue that [motifs] are diminutions of middleground linear patterns … [that link] the pitches of a [motif] to tonal functions’.90 Example 1.16 demonstrates her point by presenting a true systemic motif in the first two bars, and a false one in the following two, using scale degrees to depict harmonic function.

89 Ibid., 266.
90 Ibid., 267.
Rifkin notes that due to its particular nature, a *systemic* motif occurs primarily in the deepest level of the middleground and has the closest connection to tonal structure. As such, it tends to be the least descriptive of a piece’s chromatic events. However, Rifkin notes that different kinds of motifs can coincide temporally to articulate a particular chromatic event.\(^91\) Subsequently, a *systemic* motif can be understood as a supportive framework through which *pitch class* motifs can interact with the tonal structure.

The two types of *pitch class* motif differ from the *systemic* one in that both the *functional* and *non-functional* types are defined by the repetition of specific pitch classes. According to Rifkin’s theory, they embody no true tonal function and are concerned predominantly with associating chromatic events. As with *systemic motifs*, Rifkin stipulates that they must appear within the middle- and foreground levels and that their occurrences must be perceptible in the music.\(^92\)

Conceptually, the simplest kind of *pitch class* motif is *non-functional*. It is defined solely by the repetition of its pitch classes, a feature that gives it the freedom of having varied harmonic support between repetitions, thus empowering it to engender a variety of new key areas. Rifkin’s discussion implies that this kind of motif can most commonly be found stretching across a section of music that undergoes some unexpected changes of key, as will be demonstrated in section 1.4.2, below.

Rifkin differentiates a *pitch class functional* motif from the *non-functional* type by specifying that certain notes of the former imitate tonal-functional voice leading.\(^93\) This part of her theory

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draws on Daniel Harrison’s ideas of scale-degree functions in chromatic music, namely his re-conceptualisation of the roots, thirds and fifths of the three primary tonal triads (tonic, dominant and subdominant) as *bases, agents* and *associates*, respectively. Figure 1.2 reproduces Harrison’s summary of these, which Rifkin also quotes in her work.

**Fig. 1.2: Harrison’s re-conceptualisation of scale-degree functions.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th>associates</th>
<th>←</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>2</td>
<td><em>agents</em></td>
<td>←</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>7</td>
<td><em>bases</em></td>
<td>←</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subdominant  Tonic  Dominant

As Harrison’s ideas of function in chromatic music will also form part of the methodology of this dissertation, their detailed description will be provided in the following chapter under section 2.3. For the purposes of introducing Rifkin’s concept of a *functional pitchclass motif*, two summative explanations of the scale degrees in Figure 1.2 will suffice:

1. A scale degree carries the function detailed below it in the diagram. This function is unequivocal in the case of all three *agents*, the subdominant base, 4, and the dominant associate, 2, because they only ever represent a single function. In the case of the scale degrees 1 and 5, function is ambiguous and must be determined contextually, as they perform two roles – as either a *base*, or an *associate* of a different function.

2. Each scale degree manifests a function in isolation from the remaining members of its triad, but whether its nature is ambiguous or not, and whether it is supported by any other members of its triad will affect the strength with which it manifests its function. *Agents* tend to embody function most strongly, because not only are they functionally unambiguous, but they also identify the mode of their triad. *Associates*, on the other hand, tend to embody function most weakly: with the exception of 2, they are functionally ambiguous and identify neither the mode nor the root of their triad.

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95 Fig. 2.1 in *ibid.*, 45.
However, their presence can support the functional impact of a base or agent of the same triad.

Rifkin draws on this aspect of Harrison’s theory for its capacity to assign tonal functions to melodic phenomena without the necessary presence of all the notes of the harmony conventionally associated with the relevant function. Example 1.17 demonstrates this with an extract from one of Rifkin’s analyses of Prokofiev’s *Romeo and Juliet.*

**Ex. 1.17:** Rifkin’s analysis of a *pitch class functional* motif in ‘The Young Juliet’ from *Romeo and Juliet*, Op. 75, No. 4, bb. 1-2.

Within the unmistakable C major context, Rifkin can analyse the cadential motion as a dominant-to-tonic resolution despite the presence of a major-third bass progression instead of a cadence containing a G major triad. Being the dominant agent, $\overline{7}$, B strongly manifests its function and is unperturbed by harmonisation with the notes E and G#. However, as this harmonisation creates a chromaticised musical context rather than a conventional diatonic one, Rifkin determines that the dominant-to-tonic resolution makes a tonal allusion, rather than a fully-fledged tonal gesture. By employing a strong representative of the dominant function, $\overline{7}$, the music refers to the ‘true’ dominant, the V chord, yet its absence from the

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See examples 8 and 9a in *ibid*, 275 and 277.
music defines a chromatic context. The capacity to create tonal allusions of this nature is the essence of Rifkin’s *pitch class functional* motif. She employs it for the discussion of passages that have a distinctive tonal ‘feel’, yet are not functional in the same way as music from the common-practice period, because of their use of unusual harmonic support.

Having introduced Rifkin’s three structural motifs – the *systemic, pitch class non-functional and pitch class functional* – the discussion will now demonstrate how she applies one of these in a large-scale analysis of Prokofiev’s Violin Concerto No. 2/I.

### 1.4.2 Violin Concerto No. 2/I: An Analysis

Rifkin proposes that the unusual key shift from G minor to B minor in the opening of Prokofiev’s Violin Concerto No. 2/I can be explained by the presence of a *pitch class non-functional* motif, namely B♭-B-C. In her reduction of the score of the first twenty bars of the piece, reproduced in Example 1.18 below, she draws attention to three harmonically significant points: the opening G minor, the unexpected shift to B minor in b. 9 and a dominant chord of G minor in b. 17 that closes a passage of ‘chromatic manipulations’ in bb. 9-16 and in which the note C is prominent in the bass. She argues that these points are connected by the three notes of the *pitch class non-functional* motif and that the motif engenders the harmonic shift g-b in bb. 1-9. She points out that ‘[a]lthough [B minor] can be integrated into the middleground as a modally-mixed mediant chord (Ⅲi), this structural interpretation does not explain why [the] B-minor harmony appears’.

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100 *Ibid.*
Ex. 1.18: Violin Concerto No. 2/1, reduction, bb. 1-20.
She displays the action of the B♭-B-C motif in a middleground reduction, reproduced in Example 1.19, below.

**Ex. 1.19: Rifkin’s middleground reduction of Violin Concerto No. 2/I, bb. 1-17.**

![Middleground reduction of Violin Concerto No. 2/I, bb. 1-17.](image)

The motivic notes are beamed in the bass stave and annotated below the score. Rifkin points out that even though the increased chromatic movement occurring between the initial B minor at b. 9 and the dominant chord in b. 17 have an ‘obscuring effect’, the motivic note B is brought to the fore in the outer parts of b. 16, highlighting the B-C portion of the motif.

Most interestingly, Rifkin proceeds to identify the same B♭-B-C motif in the background of the concerto’s development section, arguing that it articulates the three main key areas: B♭ major, B minor and C minor. Example 1.20 below reproduces her large-scale analysis of the relevant section.

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**101** Example 6a in *ibid*, 273.
Ex. 1.20: Rifkin’s analysis of Violin Concerto No. 2/I, bb. 92-182.

The non-functional aspect of the motif is apparent in the alteration of the harmonies it supports in the development: the notes B♭-B-C now support III, iii and iv, while in the exposition they supported i, iii and V7 (compare Examples 1.20 and 1.19, above). Through the motif, Rifkin argues, these seemingly isolated harmonic points can be perceived as structurally connected. Altogether, her analysis is coherent and provides a convincing explanation for both the conventionally tonal and the deviant chromatic elements in the large-scale structure of the movement.

1.4.3 Rifkin’s Contribution to Prokofiev Analysis

Of the Anglo-American scholars reviewed here so far, Rifkin is the first to offer an analytical approach that recognises instances of both tonally functional and non-functional musical aspects (with regard to the common-practice period) as contributing to structure in Prokofiev’s compositions. This differs from both Bass’s and Minturn’s theories: the former proposes that even unusual chromaticisms are conventionally functional, although in shadow structures semitonoally-related to the sounding music, and the latter argues that any seemingly functional aspects of the music are no more than allusions. Rifkin’s theory, on the other hand, offers a more nuanced approach, with the flexibility to observe that, in some instances, tonal functional features play a more prominent role in the music – as in the extract from Romeo and

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Example 6b in *ibid.*
Juliet (see Example 1.17, above) – and in others, non-functional chromatic elements form the structural parameters of the music, as in the Violin Concerto No. 2/I (see Example 1.19 and 1.20, above). Rifkin’s understanding of Prokofiev’s music is that it develops elements of eighteenth- to nineteenth-century musical practices in a chromatic environment, a view similar to the one expressed by Kholopov (see section 1.1.3, above). Her concept of the *pitch class functional motif* in particular provides a coherent way of describing what Kholopov terms the ‘re-interpretation of function’, whereby familiar functions can be performed by harmonies not commonly associated with them.

At the same time, there is an element of inefficiency at the heart of Rifkin’s theory, manifested in the need for an additional explanatory layer of *structural motifs*, which suggests that an alternative analytical approach may have more explanatory power. The impetus behind her development of the concept of structural motifs is neatly summarised in her own words: ‘[a]lthough Schenkerian theory can account for the idiosyncratic chromatic slides in Prokofiev’s music, it does not adequately explain why the chromaticism is there’.103 In other words, Schenkerian designations do not convey sufficient meaning for an understanding of how chromatic aspects interact contextually with non-chromatic ones in Prokofiev’s music. Rifkin’s response to the diminished explanatory power of Schenkerian theory in application to Prokofiev’s music is to propose an additional layer that covers the gaps in meaning – the concept of *structural motifs*. Yet it may be that a more efficient approach would be to adopt a theory whose harmonic labels convey meaning in all contexts, without the necessity for an additional explanatory layer.

A clue as to what this theory might be can be found in the very passages that Rifkin problematizes: in both ‘The Young Juliet’ and the Violin Concerto No. 2/I extracts, the music is characterised by third-relations between adjacent harmonies or harmonic blocks. The same observation applies to passages analysed by other scholars, including Bass and Minturn (see Examples 1.9 and 1.12, respectively). The analysis of third-relations in tonal music has been

103 See abstract in *ibid.*, 265.
prominent in neo-Riemannian theories. These primarily seek to establish the existence of a practice in nineteenth-century music, whereby chromatic voice leading rather than (or, more commonly, as well as) the conventional hierarchy of functions based on the cycle of fifths produces harmonic relationships of structural significance.\(^{104}\) Chapter 2 will argue for the suitability of such theories for Prokofiev’s music. But first, the following section will summarise and reflect on the theoretical literature reviewed above.

### 1.5 Summary and Reflection

A review of the most substantial musico-theoretical contributions to Prokofiev studies reveals one point on which there is general agreement: that this music exhibits some combination of nineteenth-century common practice styles and twentieth-century chromatic experimentation. However, opinions differ as to which aspect is generative. Bass’s and Rifkin’s approaches lean towards the common practice side, their choice of Schenkerian-based methodologies indicating a belief that Prokofiev’s music is ultimately grounded in a conventional tonal hierarchy, which he disturbs in idiosyncratic ways that can be analysed with the concepts of shadow structures or structural motifs. Of the two, Rifkin’s work suggests that chromatic elements play a more profound role in Prokofiev’s music, as her pitch class non-functional motif sheds all associations with rules of harmonic progression. Bass’s concept of chromatic displacement, on the other hand, relies on conventional functional associations to be heard strongly enough that their action can be perceived across semitonally neighbouring keys.

Minturn’s approach to the analysis of Prokofiev’s music leans towards the side of twentieth-century chromatic experimentation, as is evident from his choice of pitch-class set methodologies, which assume no prior hierarchies between harmonies or even pitches. His theory is therefore more adept at treating Prokofiev’s complex harmonies, such as non-triadic or multi-note sonorities; even if some pitch-class set occurring in the music includes

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constituent triads, there is no compulsion on the analyst to show that the overall harmony originates from them, which can be problematic when paths to more than one potential triad suggest themselves with equal weight. At the same time, when tonal features present themselves strongly and repetitively in the music, as was the case in Symphony No. 5/I (see section 1.3.2, above), it is odd to demote them analytically to the level of allusion, as Minturn’s theory proposes. While his approach provides useful tools for analysing complex and non-tonal collections in Prokofiev’s music, it does not cater as well for tonal elements, thereby making a balanced view of their interaction hard to achieve.

Kholopov’s work on Prokofiev is exceptional in that it is based on a set of wider theoretical principles concerning music in the twentieth century that encapsulate not only dodecaphonic styles, but also those that contain elements of tonality. Kholopov does not perceive the latter as remnants of common practice styles that bend or break some rules of their associated musical conventions while retaining an essential grip on the fundamental ones. Instead, he sees them as qualitative developments manifesting the next progressional stage of older styles, drawing selectively on the greatly expanded universe of compositional opportunities available within a twelve-note soundworld. In other words, twentieth-century compositions that exhibit elements of tonality should not be expected to follow the standard conventions of common practice styles, according to Kholopov, but rather those of twentieth-century music, namely, the free association of all twelve pitch classes. His position may sound very similar to Minturn’s, yet there is a crucial difference: Kholopov’s theory has the capacity to treat tonal and chromatic elements equally, while Minturn’s does not. This flexibility allows it to trace the fluctuations of both tonal and chromatic musical elements without the necessity of retrospective justification showing that the two were always contained in an unchanging structural hierarchy.

In conclusion, Kholopov’s theory has the greatest potential for further application to the analysis of Prokofiev’s music. The present thesis will explore its potential in Piano Sonata No. 8 and Symphony No. 5. As Kholopov’s own work on Prokofiev does not develop a toolkit of
illustrative analytical instruments, this thesis will borrow, and in some cases adapt, those of neo-Riemannian theories, which have been elaborated in abundance in Anglo-American music theory of the last few decades. Two of these theories – the works of Richard Cohn and Daniel Harrison – will be introduced in the following chapter. It will be argued that the many intersections between some of the basic premises of Kholopov’s and these neo-Riemannian theories make them compatible within a single analytical methodology. This will also provide an opportunity of exploring the extent to which the conceptual analytical instruments of these neo-Riemannian theories can illuminate musical processes in the two focal works of this dissertation. Their potential to exploit third-related tonal progressions as well as other non-functional harmonic patterns will be tested in analyses of both small- and large-scale structures.
2 Neo-Riemannian and Kholopovian Perspectives

Having introduced the theories of Yuri Kholopov in the previous chapter (see section 1.1), the present discussion will focus on exploring the potential of applying neo-Riemannian theories to the analysis of Prokofiev’s music. The ultimate goal of this chapter will be to develop the methodology for this thesis, based on the work of three scholars: Kholopov, Richard Cohn and Daniel Harrison. But first, the suitability of adopting neo-Riemannian approaches will be considered, beginning with a number of potential advantages:

1. Neo-Riemannian theories are unified by a close set of foundational principles, in contrast to the theories of existing Prokofiev analysts.

2. Many of Prokofiev’s compositions, including the two selected as the focus of this study, fall under the category of ‘chromatic music that is triadic but not altogether tonally unified’ that neo-Riemannian theories were specifically developed to address.\(^\text{105}\)

3. Neo-Riemannian theories share some basic principles with Kholopov’s theory of twentieth-century music, and therefore offer scope for integrating their approaches with his in the search for a combined methodology.

The advantage of employing theories that share a close set of foundational principles resides in the common ground that this provides for the integration of analyses from different perspectives. For example, it is difficult to create a unified picture of musical processes in a Prokofiev composition by observing the interaction between Bass’s dually-functioning displaced notes, Minturn’s \textit{structural pitch-class sets}, and Rifkin’s \textit{structural motifs}, because in delineating these features each theory prioritises different musical phenomena. Neo-Riemannian theories, on the other hand, prioritise similar basic phenomena, namely semitonal voice leading and a triadic conception of harmony. On this basis, analyses of extracts and larger units can be integrated into a cogent interpretation of large-scale musical processes.

While existing theoretical accounts of Prokofiev’s music vary, sometimes drastically, in their interpretations, they all agree on one fundamental point: that the essence of his music lies in a characteristic mixture of diatonic and chromatic elements (see section 1.5, above). The specific nature of this mixture is the point of contention between different accounts. While the origins of neo-Riemannian theories lie in nineteenth-century mainly German treatises on harmony,106 linked to the music of that century, the more general impetus was to understand chromatic incursions into seemingly diatonic contexts. Building on this, twentieth- and twenty-first-century manifestations of these theories were developed in order to understand tonal music that replaces conventional harmonic functionality with certain chromatic principles. This understanding encompasses a broad category of music including compositions of both the nineteenth and early-twentieth centuries, including many by Prokofiev. Since Schenkerian and pitch-class set theories were conceived for musical styles different from those of Prokofiev, applying them in analyses of his music produces interpretations that emphasise deviation or departure from these styles. While this may facilitate comparisons between Prokofiev’s compositional practice and that of the tonal-functional and atonal styles, the perspective is biased towards those benchmarks. Conversely, adopting a neo-Riemannian approach advances a more direct perspective on Prokofiev’s music.

The basis of Kholopov’s theoretical work on Prokofiev contains many implicit cross-references with facets of neo-Riemannian theories. To the extent that the latter seek to isolate and legitimise distinct practises in early-twentieth century tonal music, they coincide with Kholopov’s views that such distinct practices exist and are worthy of analysis. Both Kholopov’s theory and neo-Riemannian theories identify the adoption of chromatic principles and retention of tonal entities such as triads as central features of early-twentieth century tonal practices. Additionally, while Kholopov’s work on Prokofiev is ‘theory-heavy’, it does not explicitly set out an analytical method, thereby hindering further application of his theory to

106 These are considered in some detail by David Kopp in Chromatic Transformations in Nineteenth-Century Music, Cambridge, 2002 (see especially chapters 3, 4 and 6) and by Harrison in ‘A Historical Account of Harmonic Function and Dualism’ Part 2 in Harmonic Function in Chromatic Music, 1994.
Prokofiev’s music. With their multiple developed analytical methodologies, neo-Riemannian theories provide helpful tools with which to expand on Kholopov’s work.

One of the points on which neo-Riemannian theories diverge is whether they prioritise root motion, common-note retention or voice-leading distance in chordal transformations. The present study will utilise theories that prioritise voice-leading distance – namely those of Richard Cohn and Daniel Harrison – on the basis of their capacity for integration with each other and with Kholopov’s theories. Their capacity for integration proceeds from the fact that Cohn’s and Harrison’s theories take the movement of one voice by a semitone as their most fundamental unit of voice-leading motion. This collates well with the observation made in most accounts of Prokofiev’s music that semitonal movement or displacement is a crucial element of his musical style. Furthermore, Cohn and Harrison’s fundamental concern with semitonal movement integrates well with Kholopov’s theoretical ideas, as the latter are based on a ‘twelve-step’ conception of twentieth century music (see section 1.1).

The following sections of this chapter will introduce the concepts and tools of neo-Riemannian theories informing the analytical approach employed in this thesis, namely those of Cohn and Harrison. The utility of adopting Cohnian methods of triadic analysis will be demonstrated by exploring an excerpt of his original analysis of Prokofiev’s Peter and the Wolf in section 2.2.3. The suitability of Harrison’s theories will be highlighted by demonstrating the many intersections between his ideas on harmonic function and those advocated by Kholopov in relation to Prokofiev’s music. Their analytical approaches will be placed in a direct dialogue by adopting a Harrisonian perspective on Kholopov’s analysis of passages from Piano Sonata No. 8/III, which was presented in section 1.1.3, above. Lastly, the neo-Riemannian and Kholopovian concepts thus introduced will be incorporated into the analytical methodology for the ensuing chapters.
2.1 Neo-Riemannian Theory and Harmonic Proximity

Richard Cohn’s strand of neo-Riemannian (or transformational)\textsuperscript{107} theory is primarily concerned with diatonic triads and parsimonious, or minimal, voice leading between chordal transformations. His theory provides an alternative interpretation of harmonic proximity to that of tonal functional harmony by measuring it in terms of voice-leading distance, where a semitone is the least and six semitones the greatest possible distance between two triads. How this affects the conception of harmonic proximity is readily illustrated by comparing the relative weight of the transformations of the triads G-C and e-C. Functional harmony sees the former as a relationship of greater harmonic proximity as G is C’s functional dominant, while e is the weaker-functioning mediant. In terms of distance along the cycle of fifths, upon which functional harmony is based, G is only one step away from C, while e is four steps distant, and modally mixed as well (as the cycle of fifths only connects triads of the same mode). In a neo-Riemannian interpretation, however, e-C is the relationship of greater harmonic proximity as the two triads are separated by only one semitone shift, while C and G are distant by three shifts, as illustrated in Example 2.1.

Ex. 2.1: Relative voice-leading distance in semitones between G-C and e-C.

This non-functional interpretation of harmonic proximity is shared by all neo-Riemannian theories. However, by its observance of the semitone as the minimal unit of voice-leading distance, Cohn’s system refines some of their fundamental principles. For instance, a list of basic neo-Riemannian transformations, depending on the system, can include the Parallel, Dominant, Mediant and other transformations, seemingly giving them the same theoretical

\textsuperscript{107} Cohn consciously avoids the former term ‘neo-Riemannian’ in his book as he does not agree with all the varied principles associated with it; see \textit{Audacious Euphony: Chromaticism and the Consonant Triad’s Second Nature}, Oxford, 2012, xiii-xiv.
Cohn categorises such transformations on the basis of their voice-leading distance, such that their harmonic proximity becomes an indicator of theoretical weight. This allows for a greater level of differentiation in analytical application and an understanding of the peculiarities of different harmonic relationships. Accordingly, the present study organises neo-Riemannian transformations into a hierarchy of voice-leading distance, whereby harmonies separated by fewer semitonal shifts are considered as being close, and those separated by more semitonal shifts, remote. Seven ‘basic’ and sixteen ‘complex’ transformations are identified, together describing all the 23 possible shifts that take one diatonic triad to another. The hypothetical 24th transformation – the Identity-shift, I – that maps a triad back onto itself, is omitted on the basis of its negligible practical use. The seven basic transformations are set out in Figure 2.1.

**Fig. 2.1: Basic neo-Riemannian transformations to be used in the present study.**

<table>
<thead>
<tr>
<th>Transformation</th>
<th>Abbreviation</th>
<th>Voice-Leading Distance (semitones)</th>
<th>Root Motion of Transformation</th>
<th>Examples of Transformations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parallel</td>
<td>P</td>
<td>1</td>
<td>0</td>
<td>C↔c</td>
</tr>
<tr>
<td>Leittonwechsel</td>
<td>L</td>
<td></td>
<td>Major 3rd</td>
<td>C↔c</td>
</tr>
<tr>
<td>Slide</td>
<td>S</td>
<td></td>
<td>Minor 2nd</td>
<td>C↔c♯</td>
</tr>
<tr>
<td>Relative</td>
<td>R</td>
<td>2</td>
<td>Minor 3rd</td>
<td>C↔a</td>
</tr>
<tr>
<td>Nebenverwandt</td>
<td>N</td>
<td></td>
<td>Perfect 5th</td>
<td>C↔f</td>
</tr>
<tr>
<td>Hexatonic Pole</td>
<td>H</td>
<td>3</td>
<td>Major 3rd</td>
<td>C↔a♭</td>
</tr>
<tr>
<td>Tritone/Octatonic Pole</td>
<td>T</td>
<td>6</td>
<td>Diminished 5th</td>
<td>C↔G♭</td>
</tr>
</tbody>
</table>

While many of these transformations are used in the works of numerous neo-Riemannian theorists, only Cohn’s work brings all of them together within the same theoretical framework. The hexatonic pole transformation, H, arises out of his own concept of polar triads in the

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**Footnote:** 108 For David Kopp’s comparison of his own system’s basic transformations with those of Lewin, Hyer and Cohn, see Kopp, *Chromatic Transformations in Nineteenth-Century Music*, Cambridge, 2002, 146.
closed cycle of P and L transformations, on which more will be said presently. The Tritone-transformation, T, will also be referred to as an octatonic pole to highlight the present study’s extension of Cohn’s idea of polar triad relations, the nature of which will also be explained in sections 2.2.1 and 2.2.2, below.

That the 23 possible transformations are split into ‘basic’ and ‘complex’ ones does not denote an extra hierarchy to that of voice-leading distance, but rather serves a heuristic purpose, namely, the ability to conceptualise certain complex transformations as being related to a combination of two or more basic ones. As such, complex transformations are labelled with two or three letters, corresponding to the basic transformations, as shown in Figure 2.2.

The complex transformations are not to be understood as compound shifts, involving an intermediate harmony, but as unitary shifts with a compound name. As Cohn points out, ‘[[a]]lthough there is heuristic value in the compound name, there is no necessary significance to it. The same is true in natural language, where words like breakfast and handicap autonomously accrue and shed meanings apart from their compound origins.’ (Italics appear in the original.) Similarly, it is for a heuristic purpose that the complex transformations PL and PR are not labelled as RS and LS (and their respective reverses, LP and RP not labelled as SR and SL), despite the fact that either of the corresponding labels describes the same unitary transformations. As will become evident in the following discussion, it will be more advantageous to highlight these transformations’ origins in the basic P, L and R shifts than in the alternatives.

Fig. 2.2: Complex neo-Riemannian transformations to be used in the present study.

<table>
<thead>
<tr>
<th>Transformation</th>
<th>Voice-Leading Distance</th>
<th>Root Motion of Transformation</th>
<th>Examples of Transformations</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL/ LP</td>
<td>2</td>
<td>Major 3rd</td>
<td>C→A, c→e</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C→E, c→a</td>
</tr>
<tr>
<td>PS/ SP</td>
<td></td>
<td>Minor 2nd</td>
<td>C→B, c→c♭</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C→C♭, c→b</td>
</tr>
<tr>
<td>PR/ RP</td>
<td>3</td>
<td>Minor 3rd</td>
<td>C→E♭, c→a</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C→A, c→e♭</td>
</tr>
<tr>
<td>PN/ NP</td>
<td></td>
<td>Perfect 5th</td>
<td>C→G, c→f</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C→F, c→g</td>
</tr>
<tr>
<td>TN</td>
<td>4</td>
<td>Minor 2nd</td>
<td>C↔b, c↔D♭</td>
</tr>
<tr>
<td>TR</td>
<td></td>
<td>Minor 3rd</td>
<td>C↔c♭, c↔A</td>
</tr>
<tr>
<td>TS</td>
<td></td>
<td>Perfect 5th</td>
<td>C↔g, c↔F</td>
</tr>
<tr>
<td>TL/ TH</td>
<td>5</td>
<td>Major 2nd</td>
<td>C↔b♭, c↔D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C↔d, c↔B♭</td>
</tr>
<tr>
<td>TP</td>
<td></td>
<td>Diminished 5th</td>
<td>C↔g♭, c↔G♭</td>
</tr>
<tr>
<td>LPT/ TPL</td>
<td>6</td>
<td>Major 2nd</td>
<td>C→B♭, c→d</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C→D, c→b♭</td>
</tr>
</tbody>
</table>

Applying this non-functional interpretation of harmonic closeness and remoteness to Prokofiev’s music has the advantages of greater clarity and simplicity over functional interpretations, such as those of Bass and Rifkin. For instance, Bass’s analysis of the opening of Piano Sonata No. 8/II, (see section 1.1.2, above) suggested that the D♭-D key shift is caused by the melodic A♭ becoming chromatically displaced to an A, thereby engendering the D tonic structure due to A’s function as scale degree 5. This, he argued, paves the way for the subsequent re-interpretation of A as scale degree 3, enabling the following key shift D-F. As was noted in the critique of his analysis in the same section, this interpretation suffers from
the contradictory implication that the $D\flat-D$ key shift both does and does not involve harmonic movement (the latter, because both are an expression of the tonic).

A neo-Riemannian analysis of the same passage avoids this issue and provides a simpler interpretation of the key shifts as two consecutive transformations: $D\flat \rightarrow (SP) \rightarrow D$ and $D \rightarrow (PR) \rightarrow F$. As the two new keys need not be justified via a functional connection to the tonic $D\flat$ in this interpretation, the analysis avoids Bass’s contradiction. It captures the non-functional transformations with reference only to the semitonal shifts between the three keys’ representative triads, without the need to posit an Urlinie that generates its own accompaniment. Additionally, the two consecutive P-portions of the neo-Riemannian analysis draw attention to the pendulum-like movement of the notes $F-F\sharp-F$ embodied in the succession of the key shifts $D\flat-D-F$, as illustrated in Example 2.2.

Ex. 2.2: Piano Sonata No. 8/II, a neo-Riemannian analysis of the opening key shifts.

This allows the observation that, in this extract, the tonic $D\flat$’s chordal third is first raised, and then lowered, providing a small reflection of the wider harmonic process of the movement that departs from the original tonic through $D$ and eventually returns to $D\flat$ (the movement’s full harmonic scheme is given in Example 3.29, below).

The analytical issue that propels Rifkin’s analysis of the Violin Concerto No. 2/I (see section 1.4.2, above) – namely, the shift $g-b$ between the first two phrases of the movement – likewise disappears in a neo-Riemannian analysis of the harmonies. It shows their connection via a PL transformation, withdrawing the need for the additional concept of a pitch class non-functional motif; the chromaticism of the $B\flat-B$ voice leading is already reflected in the PL shift. Furthermore, dropping the motif from the analysis does not hamper the latter’s ability to make connections to large-scale structure in the development (for Rifkin’s analysis of this
aspect of the Concerto, see Example 1.20, above). The B♭-b shift in bb. 92-110 and the g-b shift in bb. 1-9 share some voice-leading properties, as depicted in Example 2.3.

**Ex. 2.3: Violin Concerto No. 2/I, a neo-Riemannian analysis of harmonic connections between the exposition and development.**

As can be seen in the second bar of the above example, B♭-b are connected by an S transformation. Both S and PL have a voice-leading distance of two semitones (see Figures 2.1 and 2.2, above) and involve the motion of two voices by a semitone each (as opposed to one voice by two semitones, as occurs in an R shift). Thus the neo-Riemannian analysis is more informative than Rifkin’s, as it highlights that the key shifts g → (PL) → b in the exposition and B♭ → (S) → b in the development are connected by two aspects of semitonal voice leading, not only between the notes B♭-B, but also by their respective shifts about the note F♯: G-F♯ and F-F♯. Revealing the extent to which semitonal movement pervades these harmonic connections suggests that conventional tonal functional forces are at best weak in these passages. A similar harmonic pattern in the opening phrase of Piano Sonata No. 8/III (see Example 2.4, below) supports this observation.

**Ex. 2.4: Piano Sonata No. 8/III, semitonal voice leading.**

In this extract, the surface proximity of the triads e → (PL) → g♯ → (S) → G brings the semitonal voice leading connecting them to the forefront. The continued chromatic descent of
the two moving triadic voices in bb. 16-17 initiated by g♯ \(\rightarrow\) (S) \(\rightarrow\) G, and the harmonies’ resultant temporary departure from diatonic triads highlights the operative status of semitonal voice leading in this passage. In fact, the progression of harmonies in b. 16 can be said to mimic *slide-leading*, defined by Lehman as ‘the inversion of exterior intervals about a retained central tone such that the set-class is replicated’;\(^{111}\) the set-class is not replicated in this case (the first trichord is 3-9, while the second 3-5) but, under inversion such that the held B appears between the fifths-forming notes, the harmonies in b. 16 otherwise conform with Lehman’s definition. Perceiving chromatic voice leading rather than conventional tonal functional forces as being the driving process of passages such as these therefore seems to be a more realistic way of understanding them.

2.2 Cohn’s Transformational Cycles

The preceding section presented a list of neo-Riemannnian transformational labels (see Figures 2.1 and 2.2) and demonstrated their effectiveness in summarising harmonic connections in analyses of Prokofiev’s music. The next step will be to explore a range of patterns and relationships between some of these transformations, a process for which neo-Riemannian theories are particularly well suited, as they provide ample visual tools that help to conceptualise such patterns. Two tools in particular will be used to explore harmonic patterns in the following chapters: the Tonnetz and Cohn’s Clock Face.\(^{112}\) The former makes transformational sequences and common-note connections between triads visually apparent by representing triads as triangles in a lattice.\(^{113}\) Figure 2.3 gives Tonnetz representations of the seven basic neo-Riemannian transformations from Figure 2.1.

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\(^{112}\) Cohn cites the origins of the Tonnetz in *Audacious Euphony*, 2012, 27-28, n. 10.

Fig. 2.3: *Tonnetz* representations of the seven basic neo-Riemannian transformations.

Depicting harmonic transformations in this way effectively links the abstract concept of triadic distance to geometric patterns that are readily perceptible to the eye. This becomes especially useful when analysing transformational sequences, which may be less visually apparent from a score. Figure 2.4 demonstrates this by comparing three different depictions of a closed transformational sequence, the PL cycle: /a on a musical stave, /b around a circle, and c/ on the Tonnetz.
Fig. 2.4: The PL cycle in three alternative depictions: /a stave, /b circle, c/ Tonnetz.

The stave in Figure 2.4/a has the advantage of being presented in familiar notation, and the ties joining each pair of consecutive triads clearly indicate their common notes. However, this clarity depends on presenting some of the triads as inversions, which makes the nature of the triads less readily perceptible to the eye. The convention of reading such notation left-to-right also gives a misleading interpretation of the triads’ relative voice-leading distance, seemingly suggesting, for example, that the triads C and E are further apart than C and A♭, whereas they are actually equidistant.
The greatest advantage of the circle depiction in Figure 2.4/b lies in avoiding this misconception by connecting both ends of the cycle in one spot, and thereby depicting triadic voice-leading distance more precisely. The arrangement of the triads around the circle (represented by their upper- and lowercase roots for major and minor, respectively) makes it immediately apparent that C-E and C-A, and indeed E-A, are equidistant. At the same time, the circle depiction fails to illustrate any connections between the notes of the triads, which would allow the reader to observe common notes and verify the pattern.

The Tonnetz representation in Figure 2.4/c provides the greatest amount of information of the three depictions by displaying common-note connections as well as linking triadic voice-leading distance directly to distance on the page. It does share the stave’s disadvantage of requiring the cycle’s point of return (in this case, the C major triad) to be repeated at the other end, potentially suggesting misleading interpretations of triadic voice-leading distance. However, this is a lesser problem with the Tonnetz since, unlike with the stave, there is no convention of reading from left to right or, indeed, in any prescribed direction. As such, there is no barrier to reading triad distances by reference to opposite ends of the cycle and thereby perceiving their relationships correctly. Figure 2.5 illustrates this using arrows, comparing the relative voice-leading distances of the triads C-E and C-A on a conventional left-to-right reading on the stave with a reading from opposite ends of the cycle on the Tonnetz.
Fig. 2.5: Comparative readings of triadic voice-leading distance of C-A₃ and C-E.

The Tonnetz depiction of triadic patterns has the further advantage of being more easily transposed. As the pattern of note arrangement on a conventional Tonnetz never changes, an upward pointing triangle can represent any major triad, and a downward pointing one any minor triad. By extension, any of the transformational relationships depicted above can initiate from any diatonic triad of the corresponding mode, making them instantly recognisable, irrespective of the starting triad. This facilitates comparison of harmonic patterns across different keys.

The aptness of the Tonnetz for illustrating transformational cycles is pertinent to this dissertation because such cycles abound in the two pieces that will be analysed in the ensuing chapters. Two types of cycle in particular play a significant role in organising harmonic relationships in Piano Sonata No. 8 and Symphony No. 5 – the hexatonic and the octatonic cycles. The following subsections will introduce each one in turn.
2.2.1 The Hexatonic Cycle

The cycle of $\mathbf{P}$ and $\mathbf{L}$ transformations depicted above in Figures 2.4-2.5 has been extensively developed by Cohn under the label of ‘hexatonic cycle’. Its properties include a number of symmetries, which make it a highly versatile analytical tool. The most essential ones are summarised in the list below:

1. The cycle consists of six distinct triads, of which the initiating triad and its polar opposite together represent the six notes of a hexatonic scale (in Figures 2.4-5, the C and $g\sharp$ triads, producing the scale C-D$\sharp$-E-G-$G\sharp$-B).

2. Each transformation to an adjacent triad along the cycle traverses the minimal voice-leading distance of a semitone.

3. The cycle is characterised by major third root movement between its mode-equivalent triads, thereby evenly dividing the octave along an augmented chord (in Figures 2.4-5, the chord CEA$\sharp$C).

4. The triads of the cycle are ‘nearly-even’, such that moving one of their notes by a semitone can transform them into an augmented triad, which is fully even (in Figures 2.4-5, CEA$\sharp$ for the major triads and BE$\flat$G for the minor ones, represented on the Tonnetz along the left and right northwest-southeast diagonals bounding the cycle, respectively).

A special relationship exists between the originating triad of a hexatonic cycle and its pole chord, achieved by transformation $\mathbf{H}$ (see Figure 2.1, above), whose unique property resides in the fact that it moves all three triadic voices by one semitone each, representing the highest degree of chromaticism within the cycle. Cohn has written much on the $\mathbf{H}$ transformation, arguing that it can be linked to musical expressions of the uncanny or supernatural – especially in nineteenth century and film music – not only by locating multiple examples from

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115 Ibid.
the repertoire, but also via a direct analogy between altered harmonic and mental states. As the present study treats two works in abstract genres, such interpretations will not be pursued; nevertheless, the fact that Cohn establishes a direct analogy is highly relevant as it attributes the H transformation’s destabilising nature not to conventions in musical usage, but to its intrinsic chromatic properties. Observing this transformation in Prokofiev’s music can therefore crystallise our perception of some of his chromatic techniques, as well as divulging potential links to harmonic structure, primarily, to the hexatonic cycle. This will enable a contextualisation of such techniques within wider harmonic processes in his music on a firm theoretical basis.

2.2.1.1 Voice-Leading Zones

The implications of the symmetries detailed in the numbered list above entail that all diatonic triads can be arranged exhaustively into four hexatonic cycles and connected by the four possible augmented triads to produce a map that can trace the voice-leading distance between any set of these harmonies. This analytical tool is introduced as ‘Cube Dance’ by Douthett and Steinbach, and is later developed into Clock Face by Cohn, as illustrated in Figure 2.6. Diatonic triads are annotated according to their root, and their mode indicated by upper-case letters and a plus sign for major, and lower-case letters and a minus sign for minor. Augmented triads are designated by their three constituent notes, written in upper case. Each pair of adjacent augmented triads, for instance in zones 0 to 3, is connected by a group of six triads that form a hexatonic cycle, for instance in zones 1 and 2. The division into zones separates the major and minor triads of the cycle, so that zones 1, 4, 7 and 10 contain only minor triads from the four hexatonic cycles, and zones 2, 5, 8 and 11 all the major ones. Each system of two adjacent augmented triads and the hexatonic cycle that connects them, for instance zones 0 through 3, represents a ‘cube’ with extended corners emanating from the augmented triads. As the diagram shows, each augmented triad connects three triads each.

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119 Quoted from Figure 5.24 in Cohn, *Audacious Euphony*, 2012, 104.
from two different cubes,\textsuperscript{120} thereby allowing all triads to be inter-connected. Each line linking two triads represents the movement of one chordal voice by a semitone, such that the sum of the voice-leading distance between any pair of triads can be measured by counting the number of lines it takes to get from one to the other, along the shortest route.

**Fig. 2.6: Cohn’s Clock Face, mapping voice-leading distance between diatonic triads.**

This is the extent of Douthett’s Cube Dance, and it provides an already powerful tool for analysing harmonic relationships between diatonic triads in terms of voice-leading distance. Cohn’s addition to the diagram consists of the underlined numbers next to each augmented triad and outer point of the hexatonic cycles, and the encompassing circle, which turns the diagram into a clock face. These additions extend the applicability of Cube Dance to less tightly patterned musical contexts by introducing the concept of ‘voice-leading zones’, as

\textsuperscript{120} Cohn calls this seven-triad complex a Weitzmann Region in ‘Weitzmann's Regions, My Cycles, and Douthett’s Dancing Cubes’, *Music Theory Spectrum*, 22/1 (2000) 89-103, and later, more whimsically, the ‘water bug’ in *Audacious Euphony*, 2012, 85.
represented by each group of three triads along a radius in Cohn’s Clock Face, indicated by the underlined numbers.\textsuperscript{121} This concept arises out of the idea that triads related by major third transposition, namely mode-equivalent triads in a hexatonic cycle, can freely substitute for each other in the fulfilment of a voice-leading trajectory.\textsuperscript{122} Cohn notes that such substitutions are commonly found in the repertoire, where a composer may want to inject variety into a strict pattern, or skip to its completing triad, without disturbing its voice-leading consistency.\textsuperscript{123} Cohn’s Clock Face reflects this consistency by giving each set of mode-equivalent triads in a hexatonic cycle a number, such that any one of three triads can represent the same voice-leading zone. For example, in the transformation D$\flat$-b$\flat$, the voice-leading trajectory is a motion of two semitones upwards: A$\natural$-A and A-B$\flat$. This trajectory is also fulfilled when D$\sharp$ transforms to d, shifting D$\sharp$-D and A$\flat$-A, or to f$\natural$, shifting F-F$\natural$ and A$\natural$-A. Therefore, for the purposes of analysing the voice-leading distance and direction of triadic transformations, b$\flat$, d and f$\natural$ are equivalent and embody a single voice-leading zone, 4 on Cohn’s Clock Face. Consequently, in addition to observing how a harmonic pattern is altered, the reader can also perceive to what extent voice-leading coherence is maintained at the same time. The ability to do so will be invaluable in the analysis of disjunctive and ambiguous sections of Prokofiev’s Piano Sonata No. 8 and Symphony No. 5, which will be examined in chapter 6.

### 2.2.2 The Octatonic Cycle

One other cycle of transformations will be highlighted as a prominent harmonic pattern in the present study: that of R and P transformations, as illustrated in Figure 2.7, below. It will be called the ‘octatonic cycle’ by analogy with its hexatonic counterpart, highlighting certain similarities between the two.

\textsuperscript{121} Ibid., 102-106.  
\textsuperscript{122} Ibid., 95-101.  
\textsuperscript{123} Ibid., 95-101.
The main characteristics of the octatonic cycle are outlined below:

1. It consists of eight distinct triads, whose constituent notes combine into an octatonic scale (in Figure 2.7, the scale C-C♯-D♯-E-F♯-G-A-B♭).

2. Its adjacent triadic pairs alternate the voice-leading distance of one and two semitones.

3. It is characterised by minor third root movement between mode-equivalent triads, thereby dividing the octave evenly into a diminished seventh chord (in Figure 2.7, CAF♯D♯ left edge of the cycle and GEC♯A♯ along the right).

Cohn notes the presence of this type of cycle in Schubert’s Overture to Die Zauberharfe, and in a separate study refers to ‘the octatonic world of Stravinsky’s Petroushka’ with specific emphasis on the tritone relationship, which obtains between this cycle’s initiating triad (as specified, contextually) with its pole chord. While Cohn relates the cycle to the octatonic scale, he does not develop it by analogy with the hexatonic cycle as a paradigmatic triadic

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124 Ibid., 87.
126 Cohn, Audacious Euphony, 2012, 207.
voice-leading model. The only study that presents the above octatonic-cycle collection ‘in analogous fashion’ to the hexatonic-cycle collection is Julian Horton’s analysis of Bruckner’s Symphony No. 7/I.\textsuperscript{127} Nevertheless, triadic collections connecting tritone-related chords via intermediate minor-third steps are explicitly termed octatonic by other scholars, such as Murphy Scott and Kenneth Smith,\textsuperscript{128} while the cycle of P and R transformations specifically is termed octatonic by Frank Lehman.\textsuperscript{129} In the wider field of transformational theory, it is not the strongest analogy to the hexatonic cycle, as it does not share its pole chords’ scale-delineating characteristics; nor do its triads have the property of near-evenness with respect to the diminished seventh chords forming the backbone of the cycle. These comparative features are manifest in what Cohn calls the ‘Tristan Genus’ of seventh chords,\textsuperscript{130} which extends the analogy to a Clock Face mapping the voice-leading distances between all diminished, half-diminished and dominant seventh and French sixth chords.\textsuperscript{131} Nevertheless, there are significant advantages in recognising the concept of a triadic octatonic cycle in the present study:

1. In the discussion of tonalities and local tonics, analyses will sometimes use chords to represent scalar entities. Despite the frequently chromatic surface of Symphony No. 5 and Piano Sonata No. 8, such entities are more simply and aptly represented by a diatonic triad than by a seventh chord.

2. Conceiving of a triadic octatonic cycle allows the retention of the two-dimensional Tonnetz for illustrational purposes between a wider range of harmonic patterns.\textsuperscript{132} Furthermore, the Tonnetz’s limited capacity for depicting tetrachords (for example, by merging triangles or reading along lines) in addition to its triadic representations will


\textsuperscript{130} Cohn, \textit{Audacious Euphony}, 2012, 148-166.

\textsuperscript{131} Ibid., 158.

\textsuperscript{132} Edward Gollin develops a three-dimensional Tonnetz mapping seventh chords but, despite its theoretical viability, Cohn questions its practical value as an illustrational tool; see \textit{ibid.}, 141-142.
be fortuitous in local harmonic analyses of musical passages that shift between three- and four-note chords. This can, in principle, extend to dyads and richer harmonies as well.

3. In the triadic octatonic cycle, the pole chord is tritone-related to the initiating triad, a relationship that is special both in the theoretical sense that it describes the greatest possible voice-leading distance between two triads, and in the contextual sense that it has been highlighted as a prominent relation in Prokofiev’s music in numerous existing accounts. Employing the concept of an octatonic cycle provides a means of perceiving the tritone relation as a member of a coherent harmonic context, affording richer interpretations of Prokofiev’s music than those that perceive it solely as a chromatic perturbation of a perfect fourth or fifth.

For these reasons, the present study will adopt the octatonic cycle, as depicted in Figure 2.7 above, as an analogous harmonic pattern to the hexatonic cycle in all ways but one: the terminological abbreviation of its pole chord. Because Cohn already uses the term ‘octatonic pole’ to refer specifically to the relationship between maximally distant seventh chords in the Tristan Genus,\textsuperscript{133} the pole chord of the triadic octatonic cycle employed in this thesis will be described by its root interval of transformation – the tritone relation – abbreviated as $T$. This will avoid any unnecessary confusion between the two pole chords deriving from different octatonic collections.

Using the hexatonic and octatonic cycles introduced above will provide a theoretically grounded means of discussing and elaborating on the significance of previously noted phenomena in Prokofiev’s music, such as tritone and major-third related harmonies. An instance of the latter will be demonstrated with an extract from Cohn’s analysis of Peter and the Wolf in section 2.2.3, below, in which one final aspect regarding the two cycles’ properties as analytical tools will be introduced.

\textsuperscript{133} Cohn, Audacious Euphony, 2012, 155-156.
2.2.3 Tonal Zones

The concept of a tonal zone is distinct from the similarly termed ‘voice-leading zone’ related in section 2.2.1.1, above. It reflects the idea of *layered tonality* referred to by Ramon Satyendra and Patrick McCreless, which is distinct from Kholopovian concepts of layering that will be discussed in chapter 4; Cohn describes it as the contention that a musical work can be tonally functional in the classical sense on a global level, but non-functional on the local level. Cohn’s analyses of works such as Schubert’s Piano Sonata in B♭ major, D. 960 relate the hexatonic cycles emanating from the tonic, dominant and subdominant triads to their respective function. In this way, triads and key areas related by major third transposition to the original T, D and S chords can be understood as extending the T, D or S tonal zones. Analyses in ensuing chapters will apply this methodology and extend its application in two ways: by introducing passages that elaborate other functionally relevant degrees to the Tonic, such as the Leading-note zone, and by analysing passages organised in terms of minor third relations, considering the octatonic cycles that emanate from originating triads. But first, the concept will be demonstrated with an example selected from Cohn’s original analysis of *Peter and the Wolf*. Example 2.5 gives a reduction of the score of Peter’s theme, which opens the piece.

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135 Cohn, ‘As wonderful as star clusters: instruments for gazing at tonality in Schubert’ (Spring 1999) 213-232.
Ex. 2.5: *Peter and the Wolf*, a reduction of Peter's Theme, bb. 1-20.  

The object of Cohn’s overall analysis of the piece is to highlight harmonic patterns that, through their special tonal and/or chromatic properties, create the dramaturgical fabric of the piece, contributing to the narrative rather than simply embellishing it. He focuses specifically on hexatonic pole chords (H) and their propensity to create a sense of the uncanny. Cohn’s primary analysis of Peter’s theme, which shows how hexatonic poles are first introduced in the music, also describes how its chromatically achieved harmonies can be understood in terms of

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its conventional period phrase structure. Figure 2.8 reproduces Cohn’s Tonnetz analysis of the extract.

**Fig. 2.8**: Cohn’s analysis of Peter’s Theme, *Peter and the Wolf*, bb. 1-20. 139

The large black dot in the centre of the C major triangle indicates that it is the starting harmony, motion from which is depicted by successive arrowheads. The double-headed arrowhead between the Aₗ major and minor triads annotated with a question mark reflects the presence of both modes in bb. 3 and 11, the latter’s Cₗ appearing as its enharmonic equivalent, B, in the top voice (see Example 2.5, above). While the Cₗ minor harmony to which the consequent phrase steps out (bb. 7 and 15 in Example 2.5) does not appear in this enharmonic guise in the music, Cohn includes it towards the bottom of the Tonnetz to highlight a similarity of harmonic motion between this and the antecedent phrase. The dotted arrow then draws the path towards the actual B minor spelling of the triad.

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139 See Example 3 in *ibid.*, 55.
With this analysis, Cohn shows how three hexatonic poles, C$\hat{a}$, E$\flat$-c$\flat$/b and c$\flat$, which is the hexatonic pole of F, C’s subdominant chord, are introduced within the opening period, tenuously in the antecedent, with the a$\flat$ only hinted at by the upper-voice Bs in bb. 3 and 11 (see Example 2.5), then directly in the consequent, and finally onto c$\flat$ in the codetta, without recourse to the original triad of that hexatonic collection, F. He frames the harmonic patterns that engender the three pole chords within the three tonal zones of Subdominant, Tonic and Dominant, indicated by the superimposed bold diagonal lines dividing the three adjacent hexatonic cycles in Figure 2.8, which include the C major chords associated with these functions (F, C and G). He comments on his analysis:

Until its last measure, harmonies of the antecedent phrase are contained within the ‘tonic’ alley, presenting all six tones of that hexatonic collection. To its right is the alley of the dominant, in which Peter’s consequent unfolds. To its left is the subdominant alley, traditional territory for a coda. Although C$\flat$ minor, the hexatonic pole of F major’s subdominant (sic.), would seem to have few subdominant credentials, the S-D-T cadential rhetoric of [bb.] 17-20 allows it to fill that role convincingly.\(^{140}\)

Essentially, Cohn’s analysis proposes that, despite the unusual modal mixtures and chromatic turns that the harmonies in the passage take, they are arranged in terms of an established formal scheme commensurate with the thematic and metric aspects of the periodic phrase. This serves as a demonstration of a point that Kholopov makes about twentieth-century music in general, and Prokofiev’s music in particular: that functional parameters are often observed by employing new harmonic schemes (see section 1.1.1 above for Kholopov’s discussion of the reinterpretation of functions).

Cohn’s concept of tonal zones, in which any triad of a specific hexatonic cycle can represent the tonic, dominant or subdominant function associated with one of its triads, presents one way of understanding harmonic progressions that are conventionally non-functional in terms of established formal schemes. It is based on the theoretical claim that major and minor harmonies third-related by root expand a functional area rather than representing a departure from it and, as will be seen in the analyses in chapter 5, this proves to be a useful analytical

\(^{140}\) Ibid., 55.
tool in approaching large-scale tonal structure in Prokofiev’s Piano Sonata No. 8 and Symphony No. 5. It is also pertinent to the present study as it provides a means of unpacking Kholopov’s concept of the reinterpretation of functions in twentieth-century music, which he saw as a necessary component for a theory of Prokofiev’s harmony.

However, there are other aspects of Kholopov’s theory, such as linear harmony and the analysis of complex and non-tertian sonorities, that cannot be served by the methods of triadic analysis presented in this and the preceding sections. The following section will introduce the neo-Riemannian theory of Daniel Harrison, the conceptual framework of which has some striking similarities to that of Kholopov’s theory. It will be argued that Harrison’s revamped ideas of functional scale degrees can be used to unpack those Kholopovian concepts that are not served by Cohn’s methods of triadic analysis, and subsequently can be added to the methodology of this thesis.

2.3 Harrison’s Harmonic Functions

At its heart, Harrison’s study of *Harmonic Functions in Chromatic Music* reflects the same perception that informs Kholopov’s ideas of the re-interpretation of functions in twentieth-century music: that such music does not abandon harmonic functions, but rather manifests them in unconventional ways, which can be observed with developments in theory and analysis. Harrison attributes this phenomenon to trends in twentieth- (and late nineteenth-) century composition:

> I argue that [the] techniques [of modernist music] result from an astounding discovery: fundamental sensations of harmonic tonality could be separated from the sounding entities that traditionally produced these sensations. In other words, the umbilical relationship between certain chords and harmonic tonality was, by the late nineteenth century, discovered to be withered and unnecessary.

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142 Ibid., 11.
Like Kholopov, Harrison proceeds to explore how fundamental sensations of harmonic tonality are produced by diverse sounding entities not traditionally associated with these sensations. Their approaches differ in one significant degree, which largely concerns the scope of their studies. Kholopov was working towards a versatile theory, which could apply to a broad range of contrasting twentieth-century musical styles, and therefore emphasises the importance of contextual analyses to determine harmonic function, and de-emphasises the attribution of specific labels to harmonies or processes, arguing that they may be too restrictive. This is evident in his reluctance to call $\text{II}$ a dominant in his analysis of Piano Sonata No. 8/III (see section 1.1.2, above), despite strongly implying that it performs the role associated with this function. By contrast, Harrison’s work develops a number of paradigms showing how specific harmonic functions – namely the tonic, dominant and subdominant – are expressed by sonorities not traditionally associated with them. The benefits of his approach include greater specificity in analyses and the outlining of a set of more generalised trends characteristic of late-nineteenth and twentieth century tonal styles. As he sets narrower parameters for the application of his theory than does Kholopov, there is less concern that Harrison’s specific terminology is too restrictive in its power to explain certain musical phenomena. As the present thesis is further limited to the analysis of two abstract works written within a few years of each other by a single composer, there are clear advantages to creating a dialogue between Kholopov’s and Harrison’s theories. Kholopov’s observations about various processes in Prokofiev’s music can be explored in analyses of much greater detail by using a toolkit of Harrison’s analytical concepts, as will be demonstrated in this chapter and ensuing analyses. The following section will introduce Harrison’s theory of harmonic functions and highlight some aspects of compatibility with relevant aspects of Kholopov’s theory.

2.3.1 The Constituents of Chords

Harrison introduces his theory by challenging the notion that harmonic function resides in chords as ‘real and analyzable entities in the music’, proposing instead that it is ‘the result of a
perceptual judgement on the part of the listener in response to hearing chords'. While at first this seems a mere technicality, this definition paves the way for a precept crucial to Harrison’s theory: that such judgements can be made without the presence of all chordal notes. Essentially, Harrison argues, judgements of harmonic functions can be activated by single notes. Demonstrating the point with an example from the end of Bach’s C major Sinfonia BWV 787, where harmonic function is clear despite the absence of some chordal roots, Harrison comments:

“This … suggests that the sense of harmonic function is triggered not by a chord heard as a unified whole but by members of a chord heard individually according to their relationship to the tonal center … . Harmonic function, then, may be a product not of chords but rather of the constituents of chords.”

Emphasis has been added to the above quotation to highlight the part of Harrison’s view that is essentially the same as one expounded by Kholopov, repeated here from chapter 1 for comparison: that function is ‘the particular character of the relationship of some single element of a [tonal] system to another, primarily to the fundamental one’. The mention of the character of the relationship refers to Kholopov’s idea that the clarity of a functional relationship can be highlighted or obscured by musical features such as register, intervallic spacing etc (see discussion of polyharmony in section 1.1.1, above). This view is also echoed in Harrison’s work when he cites ‘among other things, doubling, voicing, voice leading, and metric placement’ as factors that can affect functional clarity.

Having argued that single notes can express harmonic functions, Harrison’s theory proceeds to define how, and with what functional strength, the notes of the conventional tonic, dominant and subdominant triads – represented by scale degrees – do so, first theoretically and further contextually. This is where his re-conceptualisation of their root, third and fifth degrees as bases, agents and associates, depicted in a table shown in Figure 1.2, above, come into

143 Ibid., 38.
144 Ex. 1.6 in ibid., 41.
145 Ibid., 41.
146 Kholopov, Sovremennye cherty garmonii Prokofieva, 1967, 438.
147 Harrison, Harmonic Function in Chromatic Music, 1994, 55.
play. As they were only partially introduced in section 1.4.1 above, the following discussion will provide a fuller explanation of each one.

Harrison describes the three functional bases – 1, 5 and 4 – as ‘distillation[s] of a given function’. The bases are distinct from triadic roots in several ways all stemming from the bases’ allegiance to the Tonic, rather than the other triadic constituents sharing the same functions.

One of these concerns a base’s susceptibility to placement within a chord: while a root expresses its essence within any triadic inversion, a base tends to do so only in the lowest sounding part. On the basis of this distinction, analytical judgements can be made as to whether a scale degree with two possible functions (shown in Figure 1.2, above) is acting as a base or an associate (more on which will be said below). For example, in a root-position tonic triad the tonic base 1 overwhelms any dominant-ness of 5 which, by virtue of its upper-voice placement, cannot be the dominant base and must be treated as the tonic associate. The distinction between root and base is also observable in harmonic entities such as the cadential 6 in its commonly analysed manifestation as V6-5-3. The root of the 6 triad is 1 but, as the functional indication V suggests, the base is 5. (The Roman numeral is used in this instance according to the common practice in Western musical analysis whereby it indicates function – dominant, in this case – as opposed to Kholopov’s practice that will be used in most of the analyses in this thesis, where it only shows a harmony’s root relationship to a tonal centre with no functional claims – see section 1.1.1, above). The base also de-problematises the analysis of function in musical extracts with pedal notes; a pedal base can express its function throughout a passage in which the harmonic roots may change. The same capacity means it can support any number of harmonisations of a given cadential motion. Harrison offers some illustrations of this principle, which are quoted in Example 2.6. Each bar shows a variant of a perfect cadence by virtue of the base G’s strongly expressed dominant function in every case.

148 Ibid., 50.
149 Set out in section 2.1.1 of ibid., 45-49.
Ex. 2.6: Perfect cadences in C with note G as the dominant base.¹⁵⁰

According to Harrison, bases can express their given function in voice parts other than the lowest sounding one, albeit more weakly, when they are supported by the agent of the same function. The three agents of the tonic, dominant and subdominant functions – 3, 7 and 6, respectively – are the strongest bearers of these functions as, unlike the bases and associates 1 and 5, they only ever express one function.¹⁵¹ They are also unique in being the only chord constituents to express mode as well as function. According to the dualistic principles of Harrison’s theory, details of which will be spared as they have no direct bearing on the present study,¹⁵² agents express function most strongly in their optimal mode and less so in the opposite one, with the exception of tonic agent 3, which expresses function with equal strength in either mode. Dominant agent 7 is stronger in the major, as ♭ or ♯7, and subdominant agent 6, in the minor, as ♭ or ♯6.¹⁵³

The tonic, dominant and subdominant associates – 5, 2 and ¹, respectively – are the weakest bearers of these functions; most of their theoretic utility resides in describing a state whereby a note that would otherwise be labelled a base bears none of its characteristic functional strength (with the exception of 2, see note 44 above). Harrison comments that, due to its weakness, it does not contribute functional support when its stronger cousins, the base and agent of the same function, are already present in a chord, as ‘the essential character of that [functional] entity … is formed mostly by the base and agent.’¹⁵⁴ (Emphasis added.)

¹⁵⁰ See example 2.1 in ibid., 48.
¹⁵¹ While dominant associate 2 and subdominant base 4 are also functionally exclusive, Harrison argues that, for historical and contextual reasons, this property does not imbue them with a similar level of functional strength as it does the three agents. See Harrison, Harmonic Function in Chromatic Music, 1994, 55.
¹⁵² For this point, Harrison refers to table 1.1 in ibid., 27.
¹⁵³ Ibid., 52-53.
¹⁵⁴ Ibid., 55.
2.3.2 Forming Harmonies in Chromatic Music

Harrison proposes that the precise functional attributes of harmonies in tonal chromatic music can be described in terms of the combined forces of their constituent notes, interpreted as bases, agents, and associates according to Figure 1.2, above. He therefore treats many harmonies as exhibiting functional mixture. For instance, one of the secondary triads, the submediant, incorporates tonic and subdominant attributes, as illustrated in Figure 2.9, below.

Fig. 2.9: Harrison’s ‘[d]isassembly of submediant’, 155

\begin{center}
\begin{tabular}{llll}
\hline
\textbf{a} & base & agent & } Tonic \\
& $\downarrow$ & $\downarrow$ & \\
Submediant triad = \{6, 1, 3\} & \text{remaining scale degrees} \\
& $\uparrow$ & $\uparrow$ & \\
agent & associate & } Subdominant \\
\end{tabular}
\end{center}

\begin{center}
\begin{tabular}{llll}
\hline
\&1, 3\&3, 6\&1, 6\& remaining scale degrees \\
6 & 1 & 3 & lowest voice \\
$\uparrow$ & $\uparrow$ & $\uparrow$ & \\
strongly & strongly & strongly & \\
Subdominant & Tonic & Tonic & \\
\end{tabular}
\end{center}

Figure 2.9/a presents the submediant triad’s constituent scale degrees and indicates their functional allegiances, while Figure 2.9/b describes the overall functional impact of the triad in its three different inversions. In root position shown on the left-most side, subdominant function prevails as its strongest bearer, the agent $6$, is in the lowest voice, suggesting that $1$ acts as a subdominant associate rather than a tonic base in this instance, despite the presence of the tonic agent, $3$. In the submediant triad’s first inversion shown in the middle, tonic function prevails as the tonic base is in the lower voice, where it presents function strongly, and it is supported by the tonic agent. In second inversion shown on the right, the tonic is again the

155 See example 2.4 in ibid., 61.
strongest, as its *agent* is in the lower voice where it supports $\hat{1}$ as a tonic base rather than subdominant *associate*. Some other functionally mixed harmonies have greater balance between their different attributes, such as the diminished seventh, as shown in Figure 2.10, below.

**Fig. 2.10: Harrison’s ‘[d]issassembly of the diminished seventh’.**

\[
\begin{array}{c c c}
\text{agent} & \text{associate} & \text{Dominant} \\
\downarrow & \downarrow & \\
\end{array}
\]

\[
\text{Diminished-seventh chord} = \{7, 2, 4, 6\}
\]

\[
\begin{array}{c c c}
\uparrow & \uparrow & \\
\text{base} & \text{agent} & \text{Subdominant} \\
\end{array}
\]

Not only are the *agents* of both dominant and subdominant – $\hat{7}$ and $\hat{6}$, respectively – present, they are also both in their optimal modes, in which they express their function most strongly (see above discussion). The remaining scale degrees, $\hat{2}$ and $\hat{4}$, are also balanced in that they both share the exclusivity property of *agents*, expressing no other functions, irrespective of context. Harrison argues that the balanced nature of the diminished seventh’s functional attributes limits the power of parameters such as intervallic distribution to weaken one function in favour of the other, qualifying this by stating that ‘the chord can take a single functional label in the interests of analytic simplicity, [but] one need never lose sight of the functional conflict’.¹⁵⁷ Harmonies more complex than the submediant triad and diminished seventh can be analysed for their functional attributes in like manner, as ensuing analyses will demonstrate.

Of particular interest to the present study is Harrison’s concept of functional *discharge*, defined as ‘voice leading among scale degrees’ resulting in ‘a sense of movement of tonal energy among the different functional states’.¹⁵⁸ In combination with his theory’s capacity for describing the functional attributes of complex harmonies, the concept of *discharge* has the

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¹⁵⁶ See Figure 2.6 in *ibid.*, 65.
potential to engage directly with Kholopov’s theory of the processes of linear harmony, of which a primary manifestation is the resolution of harmonies of greater to lesser dissonance (see section 1.1.1). This is a prime example of where Harrison’s specific functional interpretations can enrich analyses exploring the action of one of Kholopov’s theoretical ideas in Prokofiev’s music.

Like static harmonies, discharges can be expressed in varying functional strengths and, as their essential characteristic is the ‘movement of tonal energy’ (see above), the more clearly an element of voice leading manifests a change in functions, the greater the strength of the discharge. This clarity is itself dependent on the capacity of the scale degrees involved in the discharge for communicating their respective functions, as laid out in the preceding section. Consequently, agents tend to participate in the strongest discharges, such as the dominant to tonic motion, 7-1, and associates, in the weakest ones, such as the subdominant to tonic shift, 1-1. As Harrison comments, in the latter case ‘there is no voice-leading motion between the two functions, just a change of functional attribute from Subdominant associate to Tonic base.’159 (Emphasis added.) Due to the superior functional strength of agents, Harrison assigns voice-leading motions initiated by them to a list of normative functional discharges, quoted in Figure 2.11, below.

159 Ibid, 91.
Voice-leading motions between other scale degrees that occur as part of the same shifts in harmony are labelled *accompaniments* by Harrison, who argues that due to their lesser functional strength, they provide a supporting role to *agent-inclusive discharges.*\(^{161}\) *Accompaniments* can be active or static; the former signifies that there is a change of scale degree, for example 5-4 (T-S), and the latter, that there is no change, as in 1-1 (S-T). Harrison states that *discharges* are strengthened by a higher number of active *accompaniments,*\(^{162}\) and weakened by a higher number of static ones, a principle that will be reconciled with Cohn’s ideas of harmonic proximity and smooth voice leading in the following section. Active *accompaniments* can move in parallel or contrary motion with the predominant *discharge,* and this motion can further be described as generic or specific. The former indicates that the interval by which the *accompaniment* moves shares the same ordinal number with that of the *discharge,* but does not share the same voice-leading distance. By contrast, the latter indicates a shared voice-leading distance. Example 2.7 illustrates different types of *accompaniments.*

\(^{160}\) See Figures 3.2 and 3.3 in *ibid.*, 92-93.

\(^{161}\) *Ibid.*, 104.

\(^{162}\) *Ibid.*
Ex. 2.7: Different types of *accompaniments* to a dominant-tonic *discharge*.

A special type of *accompaniment* that Harrison terms *projection* is particularly relevant to the present study for its capacity to account for chromatic notes participating in harmonic transformations that can be analysed as instances of *linear harmony*. A *projection* imitates a *discharge* from an *agent* by transposing or inverting it, resulting in a specific parallel or specific contrary *accompaniment*, respectively, involving chromatic notes – those not belonging to a diatonic scale emanating from the local tonal centre. Example 2.8 shows a number of common *projections*, indicated by black note-heads.

**Ex. 2.8: Some common *projections*.**

Usually, a *projection* such as the one shown in the first bar does not itself emanate a harmonic function, but rather reflects and multiplies that of the *agent* that initiates it, in this case the dominant $\hat{7}$ and its semitonal *discharge* onto the tonic. $\hat{2}$ and $\hat{4}$ are exceptions to this limitation, having some power to communicate function themselves. Harrison notes their privileged status in the repertoire as part of chromatic harmonies such as the dominant with a flattened fifth, the Neapolitan sixth and the augmented sixth, arguing that their functional independence from *agents* is due in part to historical practices. $\hat{2}$ and $\hat{4}$ are versatile in their powers of communication; as can be seen in bb. 2-5 of the above example, both the dominant *agent* $\hat{7}$ and the subdominant *agent* $\hat{6}$ can engender either of the *projected* scale degrees.

\[163\] Ibid., 107-126.

\[164\] Ibid., 115-116.
Determining the function of $\flat 2$ or $\sharp 4$ therefore relies on considering the presence of other harmonic constituents. The following section will demonstrate this by providing a Harrisonian perspective on the Kholopov analysis of the opening period of Piano Sonata No. 8/III presented in section 1.1.2, above (see Example 1.3).

### 2.3.3 Harrisonian Functional Analysis

As mentioned in section 2.3.1, above, Kholopov builds an argument linking occurrences of $\flat II$ in Piano Sonata No. 8/III to the dominant function, although he is ultimately reluctant to label it as such for fear of being imprecise and over-restrictive. A Harrisonian perspective on the opening eight-bar period gives credence to this fear by linking it rather to the subdominant, as the following analyses, all of which relate to the score in Example 1.3 above, will show. The first half of the phrase, shown in Example 2.9, is considered as a modulatory phrase – shifting from B$\flat$ to E$\flat$ – and, consequently, scale degrees are labelled for both keys at analytically relevant points, above and below the stave, respectively.

**Ex. 2.9: Piano Sonata No. 8/III, bb. 1-4, a Harrisonian analysis.**

As can be seen from the functional analysis in the top- and bottom-most parts of the example, the first appearance of $\flat II$ in b. 1 is associated with subdominant forces. Reading from the B$\flat$ line, it can be seen projected into the lower treble part by the normative discharge T-S from the
tonic agent, $\hat{3} \hat{4}$, which is strengthened by the supporting T-S motion of bases $\hat{1} \hat{4}$ in the lower-most part. The harmonic shift over the following bar-line reverses this motion. Analysis of the two intervening shifts is given from the E↓ perspective, as it shows regularity with the T-S S-T motion in B↓ that surrounds it, highlighting the extent to which the subdominant pervades the music. The E↓ functional discharges are not expressed as clearly as the ones in B↓ for three reasons: the absence of the strongest T-S expression, $\hat{3} \hat{4}$, the presence of the modally-mixed subdominant agent, $\hat{6}$, in both the harmonies labelled as tonic for analytic convenience, and the presence of a raised subdominant associate, $\hat{1}$, in the S-functioning chord. (The presence of the static accompaniment of dominant associate $\hat{2}$ also clouds the discharges, but does less to lessen its strength relative to the B↓ discharges as the latter are similarly clouded by the static accompaniment of tonic associate $\hat{5}$.) The purpose of emphasising the E↓ perspective on these functional relationships, which do not in themselves contain the primary object of analysis, $\hat{2}$, is to promote adopting the E↓ perspective in the analysis of the following bars, which do.

A B↓ perspective on the remaining harmonic shifts in bb. 2-4 is viable, but problematic. The accompaniments to the $\hat{4} \hat{3}$ discharge, which usually entails the reading S-T, create a significant degree of functional mixture. The harmony ending b. 2 contains the modally weaker form of dominant agent $\hat{7}$ supported by dominant associate $\hat{2}$, as well as the subdominant base $\hat{4}$, weakened by its middle-voice placement, with some reinforcement from subdominant associate $\hat{1}$. The succeeding harmony in b. 3 has some claim to tonic status by virtue of the doubled base $\hat{1}$ that is supported by the tonic agent $\hat{3}$; however, contextually the latter is weakened by appearing in alternative modal form with respect to the B↓ major tonic, giving weaker support to the bases, that require it by virtue of not appearing in the lowest voice. This gives subdominant agent $\hat{6}$ some power to ambigu ate $\hat{1}$ as a possible subdominant associate, thereby injecting functional mixture into the harmony. The following harmony, which ends b. 3, is functionally contentious: it has all three constituents of the dominant triad, with the base in its strong position in the lower voice; however, all three dominant scale degrees are
flattened. Not only does this weaken each one’s ability to convey dominant function, it also lessens their ability to support their cousin dominant constituents in doing so, most conspicuously the privileged projection, 2. Their sheer number against the weak, unsupported subdominant associate in the top part tips the balance decidedly in favour of dominant; however, it is necessary to qualify the D labelling of this harmony by noting its highly altered nature.

The Eb perspective on the same harmonic shifts in bb. 2-4 offers a less problematic reading by suggesting that they express function more clearly than the Bb perspective entails. The last chord in b. 2 presents as a clear, root position subdominant with all its constituent scale degrees – 4, 6, 1 – active, its functional clarity only mildly clouded by the tonic associate 5 in the top voice. It discharges via the normative S-T/S-D shift 6-5 onto the functionally mixed Gb chord containing both the resulting functions: that 5 is doubled does not tip the balance in favour of either T or D, as both their agents are present in equally diminished modally alternate form (3 and 7, respectively). This harmony’s functional mixture does not significantly detract from the clarity of the transformation that encompasses it, however, due to the presence of the normative discharge from the subdominant agent, 6-5 and the latter function’s strong expression in the preceding chord in b. 2. The transformation in bb. 3-4 is expressed with even greater clarity. The S-T normative discharge is repeated, but now in its optimal modal form, 6-5, strengthened by the S-T discharge from the subdominant base, 4-3. In combination, these obfuscate the power of 5 to communicate any dominant function, suggesting that the lower-voice 2-1 is projected from the subdominant discharge, 6-5, further bolstering its expressive force.

Adopting the Eb perspective for the harmonic progression in bb. 2-4 supports a reading of 2 as subdominant-functioning in the overall phrase by showing that it does so in more than one key; in b. 1 2 functions within the scope of Bb. This highlights a functional trend rather than a consistent pitch-class association with a particular function as, of course, 2 is represented by Cb in Bb major and Fb in Eb major. The object of this section, however, is not so much to
challenge Kholopov’s analysis as to show how Harrison’s theory can be used to refine it. As stressed in a number of places above, Kholopov was himself uncomfortable with associating \( \flat \)II unequivocally with the dominant function. So, if anything, the Harrisonian analysis of the opening four bars of Piano Sonata No. 8/III supports rather than undermined his analytical observation. Furthermore, analysis of other instances of \( \flat \)2-\( \flat \)1 motion in the exposition show the dominant creeping in to form functionally mixed SD chords. Two such instances are presented in Example 2.10, below. The first occurs in bb. 7-8, which close the opening period, and the second in bb. 30-32 on the approach to the retransition (see Examples 1.3 and 1.4 above, respectively). Example 2.10 presents both instances in harmonic reduction, excluding the two intervening harmonies between the triads bearing \( C_{\flat 8} \) (\( \flat \)2s) in b. 7.

Ex. 2.10: Piano Sonata No. 8/III, SD/DS functional mixture in bb. 7-8 and 30-32.

Only discharges from agents have been highlighted by solid connecting lines in the above example because the supportive power of the ST discharge \( 4 \rightarrow 3 \) is challenged in both cases by its middle-voice placement and the increasing presence of the ambiguously functioning \( \flat \)2-\( \flat \)1 projection. The dotted line highlighting this projection in bb. 30-32 serves merely to indicate that \( \flat \)2 converges on \( \flat \)1 with \( \flat \)7 and is not connected by voice leading to \( 3 \), instead. The brackets surrounding two accidentals in these bars caution that this is not how the respective chord constituents appear in the score (which is \( \flat 6 \) and \( \flat 1 \)). Instead, they indicate the modal and
functional aspect of their adjacent scale degrees (minor sixth, major seventh) for straightforward comparison with bb. 7-8.

Comparing the final harmonic transformation in Example 2.9 (E↓ perspective) and the two presented in Example 2.10, above, shows that all three are characterised by the strongly subdominant discharges 6-3 and 4-3, but also that the dominant forces ranged against these increase with each successive transformation. In the first transformation, the power of the static accompaniment 5-5 to communicate any dominant function is virtually nil. In the second transformation, however, the ambiguously functioning 5 is replaced by the unequivocally dominant agent 7, which performs a normative discharge to 1, albeit in its weaker modally altered form. The functional allegiance of projection 2-1 in the outer voices starts to come into question, although the three optimal mode subdominant discharges 6-5 and the doubled 4-3 – technically outweigh the one altered dominant discharge 7-1. In the third transformation, the dominant is strengthened by the change to its agent’s optimal mode, 7, while the subdominant is weakened by the disappearance of one of the 4-3 discharges. The close registral placement of projection 2-1 to dominant discharge 7-1, resulting in their convergence on the same note, leaves no doubt as to the former’s emanation from the latter. The inner-voice 2’s newly acquired dominant function is thereby reflected in its outer-voice doublings. In this final transformation, while functional mixture is still present, dominant forces outweigh the subdominant ones, and this is solely due to 2’s changed functional allegiance to dominant.

This analysis shows that, from the Harrisonian perspective, Kholopov was not wrong to liken ↓II to the dominant in the exposition of Piano Sonata No. 8/III, despite the preceding analysis of the opening phrase (see Ex. 2.9, above), which may have seemed to suggest otherwise. Rather it suggests that there are clear reasons for attributing ↓2 to dominant function in these passages, and likewise clear indications that it is not always appropriate to do so.

To conclude, this section will consider what can be treated as a summative observation by Kholopov on the functional role of ↓II in Piano Sonata No. 8/III in light of the above analyses in this section and 1.1.2: ‘Whether it is a dominant or a subdominant is not the point,
which [concerns] rather the actual existing connections in the given harmonic structure’. At face value, this comment seems dismissive of the kind of functional analysis carried out in this section, with its focus on observing precise mixtures of dominant and subdominant in harmonies containing $\tilde{2}$. However, it is much more likely to be a proscription against brute-force labelling than against the kind of subtle weighing of functional properties that a Harrisonian analysis involves. The second part of the above-quoted sentence advocates a contextual perspective on the music, which is exactly what the Harrisonian analyses in this section hinge on; in all cases, register, intervallic distribution and doublings have been preserved from the score, and they have significantly influenced interpretative decisions. It is therefore proposed that the application of Harrison’s methodology not only avoids contradicting Kholopov’s analytical principles, but actually complements them. Creating a dialogue between their respective theories thus promises to be a highly fruitful enterprise, with great potential for expanding the field of Prokofiev music theory. The following section summarises the neo-Riemannian theories introduced in this chapter and sets out the methodology for the present thesis.

2.4 Methodology

The preceding sections 2.2 and 2.3 have laid out in detail the crucial principles and analytical techniques of Cohn’s and Harrison’s neo-Riemannian theories, respectively. As specific attention has already been given to intersections between their work and that of Kholopov (see especially sections 2.2.3 and 2.3.3), what remains is to conduct a comparative discussion of the two neo-Riemannian theories. This will crystallize both the connections upon which this thesis seeks to integrate the two, and the divergences that optimise them for the pursuit of different analytical goals, before such goals are set for the following analysis chapters (3-6).

Both Cohn’s and Harrison’s theories give special attention to semitonal movement of chordal voices in harmonic transformations. This can be observed in Cohn’s hexatonic cycle of $\mathbf{P}$ and

165 Kholopov, Sovremennye cherty garmonii Prokofieva, 1967, 422. (Emphasis original.)
transformations, his Clock Face map of all diatonic triads, and Harrison’s normative
discharges from agents (see Figures 2.4, 2.6 and 2.11 above, respectively). For Cohn, the
movement of a single triadic voice by a semitone is the ultimate expression of harmonic
proximity and smooth voice leading, while for Harrison, functional discharges from agents
involving semitonal movement – $\tilde{3} \rightarrow \tilde{4}$, $\tilde{7} \rightarrow \tilde{1}$ and $\tilde{6} \rightarrow \tilde{5}$ – are the strongest ones.

The fundamental distinction between Cohn’s and Harrison’s theories is that the former is
more concerned with harmonic connectedness, the latter with harmonic centricity. This distinction
is concentrated in the two theories’ respective concepts of smooth voice leading and
functional discharge. A look back at the last transformation in Example 2.1 above – e-C – is
instructive here. Cohn’s analytical perspective would highlight the maximal smoothness with
which these two different triads, root-distant by a major third, are connected by the shift of
notes B-C. Harrison’s perspective, on the other hand, would point out that the two common
notes G and E act as static accompaniments that significantly weaken the discharge between notes
B-C, which could be interpreted as $\tilde{5} \rightarrow \tilde{6}$ in E minor or $\tilde{7} \rightarrow \tilde{1}$ in C major. Cohn’s perspective is
unconcerned about establishing one or the other (or indeed an entirely different harmony) as a
tonal centre, and views the two common notes as a positive force for the harmonic
connectedness of the two triads. Harrison’s perspective, on the other hand, seeks a tonic and
is inconvenienced by the static common notes’ abstention from the process of indicating it.
The decision to adopt one or the other analytical perspective would therefore depend largely
on whether the goal is to demonstrate harmonic connectedness or establish harmonic
centricity. In certain contexts, of course, Cohn’s theory can also engage with the question of
tonal centricity, most obviously through tonal zone analysis (see section 2.2.3, above).
Likewise, Harrison’s theory can show aspects of connectedness, for example that of $\tilde{2}$ with
the subdominant function in passages of the exposition of Piano Sonata No. 8/III where B$_b$
predominates as a tonal centre (see section 2.3.3, above). However, Cohn’s and Harrison’s
perspectives show different types of centricity and different types of connectedness, so that
musical context becomes a crucial factor in selecting the appropriate theory for a particular
analysis. Demonstrating tonal centricity within a highly modulatory passage of third-related triads or keys would be best served by Cohn’s tonal zone analysis, while in passages containing dyads, complex chords or non-triadic harmonies, Harrison’s functional analysis would fare best. Showing how harmonies connect to form patterns in sections of music that manifest or can be represented by triads calls for Cohnian analysis using transformational cycles and Clock Face, while tracing pitch-class and functional connections within and across musical passages is best served by Harrison’s theory.\(^{166}\)

While some passages of the Piano Sonata No. 8 and Symphony No. 5 analysed in the following chapters will call for a choice between Cohn’s and Harrison’s analytical approaches, others will require a direct combination of their ideas. A special case is presented by cadential passages that can be analysed in terms of neo-Riemannian triad transformations (see Figure 2.1 and 2.2, above), since a display of their connectedness through smooth voice leading alone leaves unanswered the question of how a particular triad is tonicised at the cadence. Harrison’s theory can be used in conjunction with Cohn’s to supply the answer in terms of characteristic functional discharges. Three transformations in particular have special cadential potential due to their high chromatic voice leading: the slide transformation, S, and the hexatonic and octatonic poles, H and T. Example 2.11 below presents them in a cadential situation, resolving on C and C minor to cover all possible directions of transformation. The former triads of all six transformation types are given in unusual enharmonic spellings to highlight specific voice leading motions in relation to Harrison’s functional discharges, although in this dissertation particular enharmonic spellings in the music will not affect analyses, on the whole.

\(^{166}\) Harrison calls the pursuit of the latter two connections ‘linking analysis’ and ‘accumulative analysis’, respectively; see Harmonic Function in Chromatic Music, 1994, 134-165.
Ex. 2.11: S, H and T as cadential transformations in both modes.

As can be seen from Example 2.11, each type of S, H and T transformation contains at least one of the normative agent discharges that resolve onto the tonic, thus exhibiting strong cadential properties. Of the three, only the H transformation does not change in functional content depending on the mode of the triad of resolution. This is due to the presence of optimal mode discharges from both the dominant and subdominant agents in either of the two types of H transformation. This gives it a functional balance similar to that of the diminished seventh (see Figure 2.10, above), but with less opportunity for contextual features to tip the balance either way because of the immutability of tonic agent 3/3. Its change of mode in the two types of H transformation, shown in Example 2.11 above, is not accompanied by a change in function, which is also why it does not contribute tonic-ness to the resolving triads in equal measure with the other two agents; unlike them, tonic agent 3/3 does not participate in a discharge; thus the resolving triads are labelled SD and not STD.

Unlike H, the S transformation does change its functional content from S-T to D-T depending on whether the mode of the triad of resolution is major or minor, respectively. This is due to the unchallenged presence of the optimal mode subdominant agent discharge 5-5 in the former type, and the dominant agent discharge 7-1 in the latter. In each case, the agents incline one of the two special projections 2 and 4 to their respective function, such that the resulting character of S is defined by its inherent parallel chromatic voice-leading motions.

The T transformation presents a particularly interesting case in terms of its functional properties. Technically it is subjected to a similar functional change as S, depending on the
mode of the triad of resolution, with the major transformation containing the dominant agent discharge $\mathfrak{7}\mathfrak{1}$, and the minor one the subdominant agent discharge $(\mathfrak{6}\mathfrak{5})$. However, two aspects relating to both types of the T transformation challenge these discharges’ ability to communicate strongly their respective functions. One aspect concerns the fact that the two agents both appear in their weaker non-optimal mode. This makes way for the contrary semitonal voice-leading motions $\mathfrak{4}\mathfrak{5}$ and $\mathfrak{2}\mathfrak{1}$, to make a more forceful impression, manifesting the second aspect. The way that the two projections $\mathfrak{2}$ and $\mathfrak{4}$ resolve on $\mathfrak{1}$ and $\mathfrak{5}$ strongly imitates the discharges from $\mathfrak{7}$ and $\mathfrak{6}$, as seen in the H transformation (see Example 2.11). This imitation suggests that the latter optimally-modeled agents give $\mathfrak{2}$ and $\mathfrak{4}$ their functional attributes despite not being present in the T transformations themselves, rather than the non-optimally modeled agents $\mathfrak{7}$ and $\mathfrak{6}$ that are present. This interpretation is consistent with Harrison’s theory, in which he states that, ‘[b]ecause of their unique properties among the various projections, $\mathfrak{2}$ and $\mathfrak{4}$ are often used independently of a projecting element’.

The implications of all this are that both types of the T transformation are characterised less by their inherent agent discharge and more by the contrary chromatic voice leading of their projection discharges. The cadential use of T therefore represents advanced chromatic thinking, a step beyond that which is seen in the cadential use of S and H, both of which rely on the presence of the primary functional carriers, $\mathfrak{7}$ and $\mathfrak{6}$. The T transformations, on the other hand, are properly understood as functionally mixed entities, where $\mathfrak{2}$ expresses dominant and $\mathfrak{4}$ subdominant functions, while the non-optimally-modeled agent discharges $\mathfrak{7}\mathfrak{1}$ and $(\mathfrak{6}\mathfrak{5})$ act more like accompaniments, and tip the balance slightly towards dominant and subdominant, respectively. This is reflected in the bracketed labelling of (D) and (S) functions of the resolving triads of the two T transformations in Example 2.11 above, respectively.

One final distinguishing feature of the T transformations in a cadential context is that their voice-leading motions technically discharge onto a dyad – $\mathfrak{1}, \mathfrak{5}$ – as the tonic agent $\mathfrak{3}/\mathfrak{3}$ does not participate in voice leading. It therefore has the status of an added note, something which is

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167 Ibid., 117. (Emphasis added.)
reflected in the fact that, were the two tonic agents in the last two bars of Example 2.11, above, to change places without any other alterations taking place, the functional properties of the two transformation types would not change; the former would still be (D)-functioned, and the latter (S)-functioned. Consequently, the mode-changing transformation TP would behave in the same way to T in a cadential context, save for the mode change itself. This is shown in bb. 5-6 of Example 2.12, below.

Ex. 2.12: SP/PS, HP and TP transformations in a cadential context.

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<tr>
<td>S</td>
<td>T</td>
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<td>6</td>
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The same is true for the H transformation (shown in bb. 3-4 of Example 2.11, above) where tonic agent 3/3 participates in voice leading but not in functional discharge. Swapping round the tonic agents in the two H transformations in Example 2.11 produces two mode-preserving HP, shown in Example 2.12, bb. 3-4, above. As unitary transformations, these are the same as RP from Figure 2.2, above; the label HP is used here to highlight their origination from H in the present context. As both the HP transformations shown in Example 2.12 are mode preserving, their two tonic agents act as static accompaniments; however, this does not alter the functional behaviours of these transformations from that of the H transformations in Example 2.12, bb. 3-4, above.

The case is different, however, for the S transformations, in which swapping round the differently-moded tonic agents to produce the transformations SP and PS results in a change of interpretation, strengthening the overall sense of discharge, as can be seen in bb. 1-2 of Example 2.12, above. Due to the fact that swapping round the tonic agents produces parallel voice-leading motions with the outer voices, the latter gain significant influence over the
former’s functional expressivity. Thus in b. 1 of Example 2.12, formerly tonic agent \( \hat{3} \) is reinterpreted as \( \hat{4} \), a lesser projection of subdominant agent \( \hat{6} \); likewise, in b. 2 of the same example, formerly tonic agent \( \hat{3} \) is reinterpreted as \( \hat{2} \), a lesser projection of dominant agent \( \hat{7} \). As the two entities \( \hat{4} \) and \( \hat{2} \) are not tonic-functioned, but instead emanate the respective functions expressed by the voices they accompany, they strengthen the overall sense of functional discharge of S-T and D-T.

Exploring transformations such as the ones shown in Examples 2.11 and 2.12, above, has the potential to benefit from the convergence of all three theories that this dissertation draws on. The benefits of combining Cohn’s and Harrison’s theories, as described above, reside in the ability to analyse how a non-functional harmonic progression can ‘switch on’ functional signifiers to establish a point of tonal centricity. On top of that, the increased functional and independent status of chromatic degrees \( \hat{2} \) and \( \hat{4} \) in the T and TP transformations can be understood as examples of what Kholopov terms the reinterpretation of functions in twentieth-century music. Contextual analyses of progressions involving complex harmonies that contain some of the paradigmatic elements explored in this section can also be interpreted in terms of Kholopov’s concept of linear harmony, which treats the resolution of more highly dissonant harmonies to ones that are less dissonant. These possibilities justify the intent of combining Cohn’s, Harrison’s and Kholopov’s theories in the methodology of this dissertation by showing the high degree to which they are compatible. They also represent a versatile analytical tool with the potential of supporting detailed, in-depth discussions of musical phenomena in the ensuing chapters.

The analyses in the following chapters are ordered in trajectories of increasing analytical complexity. Chapter 3 will introduce Symphony No. 5 and Piano Sonata No. 8 by presenting their tonal layouts and exploring some of the most salient features highlighted by their thematic processes. It will argue that tonal centricity is a useful concept for analysing large-scale structures in the two pieces, and outline some compositional devices associated with it, drawing mostly on aspects of Harrison’s and Kholopov’s theories. The tonal layouts
presented in this chapter will serve as reference maps for analyses in the subsequent chapters. Chapter 4 will analyse local harmonic progressions with a focus on demonstrating the processes of *polyharmony* and *linear harmony* as theorised by Kholopov, with the aid of analytical tools from Cohn’s and Harrison’s theories, where appropriate. Chapter 5 will then look at harmonic structures on a larger scale, adopting the format of chapter 3 to cover all the movements of the two pieces in sequence. This chapter will demonstrate how Cohnian analytical tools divulge harmonic patterns that operate in medium- to large-scale structures in the two pieces, although elements of Harrison’s and Kholopov’s theories will be brought to bear on analyses in appropriate contexts. Finally, chapter 6 will draw on all three theories to explore four analytically challenging passages – two each from the Symphony and Piano Sonata – where structural elements are obfuscated or concealed for formal and dramaturgic purposes. This will complete the main body of the thesis, after which the implications of the analyses presented will be discussed in the concluding chapter 7.
3 Form and Thematic Layout

Prokofiev has been noted in existing literature for employing established formal patterns. This observation is made with varying degrees of qualification. For example, Kholopov draws attention to the composer’s harmonic developments when he states that ‘the general principle of Prokofiev’s harmony is the use of new possibilities of modern harmony with a firm leaning on the most fundamental ideas of classical harmony and the preservation of its essential concrete forms’.

With regard to Prokofiev’s early attempts to cast himself as a ‘musical rebel’ at the St Petersburg Conservatory, Taruskin emphasises the latter feature, commenting that ‘[Prokofiev’s] music was as academic as could be when it came to “form”’, while de-emphasising the former by referring to it as ‘a veneer of harmonic daring’.

As will be argued in this dissertation, the same cannot be maintained with regard to Symphony No. 5 and especially Piano Sonata No. 8. Commenting on the outer movements of the former, Morrison already suggests the presence of greater formal complexity manifest in more elaborate thematic procedures, noting that ‘although [the outer movements] are cast in conventional forms … Prokofiev avoids traditional means of development’. This chapter will make the first step in this dissertation in further refining these observations by exploring the tonal and thematic layouts of Symphony No. 5 and Piano Sonata No. 8. The aim will be to introduce the two works in some detail, concentrating on form-generating parameters, thematic layout, and ‘tonal centricity’ as it relates to the theories of Kholopov, Cohn and Harrison. This will provide firm ground for a more detailed exploration of harmonic structures within the two works in chapter 5, which will propose that they also display some degree of departure from traditional forms.

The concept of tonal centricity arises out of the implications of a non-fully functional musical context. It is, perhaps, best explained through contrast with the concepts of tonal functionality and prolongation. The former relates to a functional hierarchy powered by the cycle of fifths.

168 Kholopov, Sovremenныe cherty garmonii Prokofieva, 1967, 443.
The latter derives from Schenkerian theory and describes the phenomenon whereby an important harmony’s function is understood as being extended, or prolonged, by subordinate harmonies that displace its presence in the music; for instance a phrase with the harmonic arch I-IV-V-I prolongs the tonic function, despite the fact that subordinate harmonies IV and V are not themselves tonic. Tonal centricity, on the other hand, interprets the intervening harmonies in this arch as departing from tonic function, which is only regained with the return of I. This concept becomes necessary in the analysis of music where tonal centres are not connected according to a hierarchy powered by the cycle of fifths, which is to say music that Kholopov’s, Cohn’s and Harrison’s theories are developed for. As can be seen from the analyses in sections 1.1.2, 2.2.3 and 2.3.3, above, each provides ways of interpreting chromatically achieved harmonic connections between given points of stability.

What is often taken for granted in these accounts (save for Harrison’s) is how tonic centricity itself is established, if not through the functional behaviours of subordinate harmonies, as occurs in prolongation. Normally, a particular harmony’s centric status may seem an obvious matter if, for example, it starts a composition and corresponds to the given key signature. Nevertheless, certain musical contexts may require explicit reasons for interpreting a harmony as a tonal centre, and others may engender richer analytical discussions if methods of establishing a tonal centre are taken into account. Harrison’s work provides a useful set of definitions for such methods, under the umbrella term of ‘position asserting’ techniques, whereby ‘tonic … is created by tonal behaviors within musical contexts’ (original emphasis). He contrasts this with ‘position finding’, a standard technique of establishing tonic in common practice music, whereby the rarity of intervals such as a tritone within a diatonic set helps locate the tonic by a process of elimination; for instance, the tritone F-B eliminates five out of seven possible tonics, leaving C major and G♯ major. Harrison points out that in tonal chromatic music there is ‘aesthetic value’ in using position finding techniques to subvert tonal expectations as well as establishing them, and suggests that position asserting techniques can

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171 See section 3.2 of Harrison, Harmonic Function in Chromatic Music, 1994, 75-90.
172 Ibid, 76.
173 See section 3.1 in ibid, 73-75.
therefore have more sway in locating the tonic.\textsuperscript{174} He lists four such techniques, terming them ‘rhetorical devices of Tonic’:\textsuperscript{175}

1. Tonic function ends a composition,
2. Tonic begins compositional sections,
3. Harmonic stasis and immobility attract Tonic function,
4. Thematic exposition is heard in a Tonic context.\textsuperscript{176}

Analyses in this and the ensuing chapters will draw on these definitions in discussions of tonic asserting features.

Presenting large-scale tonal processes in the context of tonal centricity will require connecting harmonies analytically in Symphony No. 5 and Piano Sonata No. 8 that are non-adjacent on the surface of the music, in a manner similar to Schenkerian analysis. As these processes will not relate to prolongation, the notational conventions employed in the ensuing analyses will now be laid out. Large-scale tonal processes will be described at three levels of hierarchy, corresponding partially to different levels of analytical reduction familiar from Schenkerian theory. Background tonal centres form the harmonic skeleton of the work, middleground tonal centres show the main intervening points of centricity, and middleground passing harmonies highlight significant harmonies traversed between points of centricity.

The adapted notation for expressing these levels of hierarchy is shown in Figure 3.1. The left-hand column of the table indicates different modes, which will be treated as having both a triadic and a scalic incarnation, depending on the purposes of the analysis in question. For instance, when discussing the neo-Riemannian relationship between two harmonic points of tonal centricity, such as B\textsubscript{♭} and G minor (see Example 3.19, below) they will be analysed according to their representative triads and their relationship described as a triadic neo-Riemannian transformation, in this case \textbf{R}. Such representation will be considered as an

\textsuperscript{174} Ibid., 75.
\textsuperscript{175} Ibid., 76.
\textsuperscript{176} All four quoted from \textit{ibid.}, 76-81.
analytical reduction, also borrowed from techniques of Schenkerian theory, where such reduction is commonplace.

**Fig. 3.1: Adapted notation for large-scale tonal analysis in this dissertation.**

<table>
<thead>
<tr>
<th></th>
<th>Background tonal centre</th>
<th>Middleground tonal centre</th>
<th>Middleground passing harmony</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Major notation" /></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minor</strong></td>
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<td></td>
<td><img src="image" alt="Minor notation" /></td>
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<tr>
<td><strong>Diminished</strong></td>
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<td></td>
<td><img src="image" alt="Diminished notation" /></td>
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</table>

As this chapter will explore the relationship of thematic layout to form, it will be necessary to indicate some basic differences in how themes are presented in Symphony No. 5 and Piano Sonata No. 8. In discussing large-scale processes, the present study will limit thematic distinction to two levels, contrasting firstly a main theme and a theme in a subordinate role and, secondly, layered and consecutive themes. Each of these four ‘statuses’ can apply freely to any theme (or may, in the case of the latter two, be inapplicable altogether). For instance, a main theme A may recur later in a movement as a subordinate theme, where it will be indicated as a, as in Example 3.2, bb. 1 and 33. Highlighting layered and consecutive themes describes two basic and frequently occurring forms of thematic development that combine more than one thematic idea, and thus do not apply to the individual presentations of single themes.

The notation used to express these thematic states is given in Figure 3.2. Two additional notational aspects indicate multiple variants of the same theme, where applicable, and also the original movement from which the theme derives if it is a quotation. Normally, the notated
themes will correspond afresh to the indicated movement, so theme $A$ in the first movement
and theme $A$ in the second movement are to be understood as different themes. Where a
theme is quoted from a different movement from the one under discussion, this will be
indicated by a subscript number and bold font, as shown in the fourth row of Figure 3.2.

**Fig. 3.2: Notation for thematic layout.**

<table>
<thead>
<tr>
<th></th>
<th>Layered</th>
<th>Consecutive</th>
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<tbody>
<tr>
<td>Theme</td>
<td>$AB$</td>
<td>$A,B$</td>
</tr>
<tr>
<td>Theme in a</td>
<td>$ab$</td>
<td>$a,b$</td>
</tr>
<tr>
<td>subordinate role</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theme in variant $x$</td>
<td>$A^xB^x$</td>
<td>$A^xB^x$</td>
</tr>
<tr>
<td>Theme from</td>
<td>$A_xB_x$</td>
<td>$A_xB_x$</td>
</tr>
<tr>
<td>movement $x$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As a hypothetical example, in the discussion of the third movement (of either piece), $BA^2$
would indicate the movement’s theme $B$ layered with the second variant of its theme $A$. $B,A_2$
would indicate the third movement theme $B$ followed by the second movement’s theme $A$.
Where a line extends from an indicated theme, this shows that it extends across the tonal
centres and passing harmonies encompassed by that line. Where a tonal centre or passing
harmony is shown with no theme indicated by a letter or a line extending from one, the
passage is considered to be athematic.

Finally, where Roman numerals are indicated under the score, they are to be understood as
expressing no more than the harmony’s root distance to the given tonic, following Kholopov’s
usage (see section 1.1.3 above). The basic tonal functions, where they are applicable, will be
indicated by their abbreviations – T, D and S for tonic, dominant and subdominant,
respectively – according to the convention adopted by Kholopov and Harrison.
3.1 Symphony No. 5: Overview

Symphony No. 5 is in four movements – Andante, Allegro marcato, Adagio, and Allegro giocoso. The first and last movements unfold in the conventional sonata and sonata-rondo forms, respectively. The two middle movements are both structured in ternary forms, with a contrasting middle section articulated by change of mode and the introduction of new thematic material. The broad sweep of the piece follows the heroic trope except for a few peculiarities. Rather than making a bold opening statement, the first movement begins with a quiet iteration of the main theme in B♭. This beginning winds up slowly and gradually. Brown notes that Prokofiev’s choice of a moderate tempo for this movement, and the manner in which the quiet main theme is geared towards a climactic return in the recapitulation mirrors a similar gesture in Shostakovich’s Symphony No. 5, whether consciously or not.¹⁷⁷ The scherzo-like second movement is also somewhat at odds with a heroic narrative. Its subsections are more like character pieces – William Austin likens the opening to ‘the most boisterous of Russian dances’ – and, beyond truncation and modulation, their themes undergo almost no development.¹⁷⁸

The third and fourth movements are more characteristic of a heroic symphony, with the Adagio presenting the peak of psychological tension and the Allegro giocoso an energetic conclusion incorporating a more stately fugal middle section. Example 3.1 represents the main harmonic pillars of the symphony.

¹⁷⁷ Ibid., 436-7.
The overall key scheme of the movements is fairly conventional, almost simplistic: the movement tonics progress in an upward arpeggiation of the B♭-major triad, as can be seen by reading down the staves in Example 3.1 above. Within the movements themselves, the main harmonic sections are mostly derived from traditional tonal patterns. The outer movements trace a broad T-D-S-T pattern. This is elaborated in the Allegro giocoso with a move to Ⅳ in the middle section, which then leads straight to I before IV is reached. As will be seen in many of the discussions below, the interval of a tritone, especially between the pitch classes B♭ and E, is a prominent feature of both Symphony No. 5 and Piano Sonata No. 8, from surface melodic appearances to fundamental aspects of their harmonic structure.

The tonal design of the Allegro marcato involves a chromatic shift from the minor to the major tonic and back, a pattern less strongly associated with functional harmony, but far from unusual. The Adagio is the only movement in the symphony that has a markedly non-functional harmonic skeleton. The opening tonic F gives way in the middle section to e,
and is re-established in the final section via $f$, tracing a pattern of two chromatic slips connected by a tone. The latter slip is a large-scale $S$ shift, a highly chromatic transformation whose presence has been noticed in Prokofiev’s music (although not specifically in this symphony), but given little analytical attention, by Minturn. Many analyses in the ensuing chapters will show that it plays a significant role in cadential progressions, harmonically shifting phrases and complex chords; however, this is the only instance of its presence within the background pillars of Symphony No. 5 and Piano Sonata No. 8 (the latter is given in Example 3.19, below).

In the first three movements of the Symphony, there is a process of increasing chromaticism in terms of the harmonic relationships of adjacent pivotal key areas. The final movement recalls the simpler diatonic framework of the Andante; however, the chromatic $\#IV$ is now incorporated into the background harmonic pattern, presenting one instance of the $B_{b}$-$E$ tritone’s being incorporated in the fundamental harmonic structure. Yet despite these chromatic incursions, there is no departure from diatonicism, as each key area is predominantly, if not wholly, triadic. In the fourth movement, the music largely sheds chromaticism between adjacent middleground key areas in favour of third- and fifth-relationships, as will be seen in Example 3.13. The background layout of the symphony, therefore, does not present any significant departures in tonal planning. Nevertheless, the layout shows clear evidence of large-scale harmonic organisation between the triad-delineating movement tonics and in the trajectory of increasing chromaticism of the first three movements.

### 3.1.1 Symphony No. 5/I: Andante

The first movement of the Symphony, in $B_{b}$ major, is in a clearly defined sonata form, as can be seen from Example 3.3 below. The background harmonic structure shown by the stemmed notes corresponds to a simple version of the form. In the exposition the music starts on the tonic $B_{b}$ in the first subject and moves to the dominant $F$ for the second subject. In the

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recapitulation both subjects appear in the tonic, which is then reinforced in the coda. The
development emphasises the subdominant step, which serves as a point of return for the
wandering keys in this section.

The layout of the themes, shown in letters below the stave, corresponds with the
middleground tonal plan. The themes are presented sequentially in the exposition and later
recapitulated with a compression achieved by layering the first subject themes $A$ and $B$ at b.
165 and omitting the transition. Meanwhile the development opens with a return to the
primary first subject theme, $A$, and then treats the secondary themes of the exposition, $B$ and
$D$, in reverse order. Between them there is a brief passage of ten bars where the opening
theme, $A$, is layered with the closing theme, $E$. After this, theme $A$ disappears until the start
of the recapitulation, and theme $E$ is used to develop theme $B$ at b. 121, before becoming
more prominent when these two themes are layered in b. 125. Theme $B$ is then relegated to a
subordinate role as theme $C$ is re-introduced at b. 137, after which its development extends
through to the retransition at b. 163. Both the transition and retransition are athematic.
Ex. 3.2: Symphony No. 5/I, middleground.

Bars: 1 7 13 17 29 33 34 38 45 50 54 57 64

Themes:  
1st subject  
Transition  
2nd subject

Exposition

Retransition  
1st subject  
2nd subject

Development

Recapitulation

Coda
One notable feature of the thematic layout is the prominence of theme $A$ at points of structural articulation: the theme appears at the beginning of each of the four large sections, always in the movement tonic of $B_i$, as shown in Example 3.3, below. While its appearance at the head of the exposition and recapitulation is expected and its role at these points is structurally pre-determined, its returns at the start of the development and coda bear closer investigation. Altogether, its recurrence serves two purposes: dramatic and formal, as will be demonstrated below.

**Ex. 3.3: Symphony No. 5/I, the transformation of theme $A$.**

/a: Exposition bb. 1-7.

/b: Development bb. 92-98.
/c: Recapitulation first subject, bb. 165-173.

/d: Coda, bb. 227-242 (continued).
Comparing Examples 3.3/a and /c shows how the climactic return of theme $A$ in the recapitulation is maximised by its contrast with the initial quiet presentation of the theme in the exposition, as noted by Brown (see section 3.1, above). The significant increase in dynamics – from $p$ in the exposition to $ff$ in the recapitulation – is enhanced by the change in orchestration from flutes, bassoons and lower strings to almost full ensemble: the melody and its chromaticised harmonisation are sounded by the full brass section, with support from most of the woodwinds from b. 167, while the full string section interjects with the accompanying figure. Emphasis is also added in the recapitulation through extending the theme by directly repeating its fourth and fifth bars (see Example 3.3/c, bb. 168-171, above).

When theme $A$ returns previously in the development, however, there is a pointed lack of contrast with its initial appearance in the exposition. Comparing Examples 3.3/a and /b shows that while the registers and orchestral groups in which the melody and accompaniment are presented are reversed in the development, the quiet dynamics and sparse orchestration mirror those of theme $A$ in the exposition. To the innocent ear the subtle changes in register and orchestration occurring in theme $A$ in the development may not initially be noticeable, so that the overall impression is one of returning to the exposition.

These presentations of theme $A$ serve a dramatic purpose in two ways. First, the music creates a sense of disorientation when what the listener initially believes to be the repeat of the exposition actually turns out to be the start of the development. Second, recalling theme $A$ at the head of the development primes the listener for its climactic return in the recapitulation, where the main tensive processes of the movement will occur. From a formal perspective, the recurrences of theme $A$ indicate a return to tonal centricity on $B\flat$, according to Harrison’s rhetorical technique No. 4, whereby thematic exposition is heard in the tonic (see above). While the movement’s background harmonic pillars trace a familiar functional pattern (see Example 3.1, top stave), the middleground in Example 3.2 reveals intervening tonal centres and passing harmonies, which depart from these pillars into non-functionally related keys that
would be difficult for the ear to trace. (These will be explored in more detail in Chapter 5, below.) Theme A’s strong association with the key of B♭, in which it begins every large movement section, serves as an aural marker indicating where the formal divisions occur.

Theme A’s reiteration in the coda provides an opportunity to see how tension between functionally attuned position finding techniques and non-functional position-asserting ones is used to create a dramatic effect. A look at Example 3.3/d, above, shows that in the coda theme A emerges gradually, as its first three notes delineate a rising major-third figure undergo an irregular rhythmic augmentation in bb. 229-231. This effect is achieved through combining the start of theme A with a development on a fragment of theme B taken from b. 31 in the exposition (bracketed in Example 3.4 below).

Ex. 3.4: Symphony No. 5/I, a fragment from theme B in the exposition, b. 31.

The same expanding technique is employed in bb. 233-234, leading to a repeat of the opening motif of theme A in the following bar, after which the theme proceeds from the point it left off at b. 232, with minimal changes. These extensions accommodate a harmonic re-orientation of theme A, which retains tonal centricity on B♭ despite the fact that in its preceding versions it began on the dominant base, F, while in the coda, it is shifted to tonic base, B♭. With no alterations to the theme, this shift would tonicise the key of E♭; however, the immutable force of B♭’s tonic base in the lower instruments acts as a pedal that firmly grounds the music in the key of B♭ (see Example 3.3/d, above). This position-asserting technique of indicating tonic is brought into conflict with the harmonic features of the extended theme A itself. These perform a narrative of trial and error created by position-finding tritones, which suggest a
succession of intermediate harmonic ‘goals’ that are discarded as they fail to reach the peak of the phrase. Example 3.5 shows a harmonic template of bb. 229-236 of the coda.

Ex. 3.5: Symphony No. 5/I, harmonic template for coda, bb. 229-236.

By this stage in the movement, theme A has been heard so many times that the dominant-to-tonic motion implied in the first two bars of the original theme (see Example 3.3/a, above) has become memorable and expected. The expectations of its return are subverted, however, by the triplet figure in b. 230 (see Example 3.3/d, above). As it decorates the approach to the thematic note D, it is harmonised with a contrary melodic motion that creates a tritone between G and C♯ on the last quaver of the triplet figure, and discharges outwards by semitonal motion onto the agent and base of D major (see analysis in Example 3.5, above).

The music aborts this path and begins again in b. 231, where the triplet figure’s harmonisation by the counter-melody is augmented such that the tritone is created now with the thematic note D – A♭-D – suggesting the approach of E♭ major, the key that theme A would technically be ‘in’ were it not for the over-riding force of B♭’s tonic base in the lowest voice. Yet expectations are subverted once more as the 7–1 discharge in E♭ is accompanied by the modally altered 4–♭3, as F♯s in the score (enharmonically re-interpreted as G♭s in Example 3.5, above) take the place of Gs on the downbeat (see Example 3.3/d, b. 232). These are corrected to Gs on the third beat of the bar, but enter prominently as part of a rhythmically accented minim chord on E♭ minor in b. 233, before being corrected once more in the following bar.

When theme A is picked up again in b. 235, it performs the same harmonic arch as the one in bb. 231-232, yet this time from the newly reached starting point of E♭, and with the preceding
modal correction in force, such that the tritone D♭-G discharges directly onto A♭ major in b. 236, from which the second half of the theme proceeds to end ultimately on a diminished seventh discharge into the tonic B♭ (see Example 3.3/d, bb. 239-240).

The manipulations of theme A in the coda are thus geared towards producing three intermediate harmonies – D, e♭/E♭, and A♭ – by the position-finding technique of outwards-resolving tritones, to sound against the position asserting tonic base, B♭. The harmonic tension of their conflict as well as the narrative of trial and error in the intermediate harmonies themselves creates a dramatic effect in the coda, which is accompanied by a gradual increase of orchestral forces and registral expanse, especially when the whole coda-theme-A is reiterated from b. 241 with even richer orchestration (see Example 3.3/d, above). The coda thus acts as an exultant re-affirmation that expands on the A-theme’s climactic return in the recapitulation. That Prokofiev uses the formal space of the coda to fulfil a dramatic purpose endows theme A with an ascendant status as a characterising theme of the symphony as a whole. Crucially, the theme will return at the beginning of the last movement, re-asserting this status. As will be seen in the following section, the second movement of the symphony reverses the balance between harmonic and thematic structures as form-defining features, with the former playing a more significant role.

3.1.2 Symphony No. 5/II: Allegro marcato

The second movement, in D minor, unfolds in a ternary form, whose contrasting middle section in bb. 112-224 is most clearly articulated by a shift to D major in the background, as can be seen in Example 3.6, below. This mode contrast between the movement’s outer and middle sections is supported by the middleground tonal centres and passing harmonies: in the outer sections they are mostly in the minor mode, while in the middle section they are all major.

The thematic structure corresponds with the harmonic divisions of the ternary form, but does not supersede them in their form-defining function. The middle section is marked out by the
introduction of new themes, and is further distinguished from the outer sections by greater variety in its thematic content and its treatment. The outer sections are dominated by repetitions of theme $A$, with the only contrast provided briefly by the appearance of theme $B$ in bb. 55 and 268, respectively. Aside from this, the only interruption of theme $A$’s progress through different keys comes in the form of the athematic passages of layered harmony at bb. 23, 51 and 78 in the opening section, and bb. 256 and 303 in the closing section. The first of these will be discussed briefly in chapter 4. By contrast, the middle section presents three new themes – $C$, $D$ and $E$ – each of which plays an equally important role in the music. This is evident from the near-equal frequency with which they appear throughout the section, each one a fully-fledged melodic idea.
Ex. 3.6: Symphony No. 5/II, middleground.
While each theme contributes to its section’s distinct character, it is the difference in the manner of their presentation that identifies them as an outer- or an inner-section theme. In the inner section, the themes are mostly presented fully, even upon repetition, whereas in the outer sections, there is much more thematic fragmentation. This is the primary means through which variety is created in the outer sections, which are dominated by theme A, as mentioned above. More crucially, though, it is through the process of thematic fragmentation that harmonic variety and drive are created on the surface. Theme A involves a number of quick harmonic shifts, especially in its first half, as can be seen from the reduction and harmonic analysis given in Example 3.7 below. These shifts do not retrace their steps to harmonies already visited, with the exception of the last chord of b. 5, in this case C major, which returns in b. 8. Moreover, no one type of transformation is repeated consecutively, thus making each step of the theme harmonically distinctive.

Ex. 3.7: Symphony No. 5/II, Theme A: /a reduction, and /b harmonic analysis.
Tension and drive are created in the music of the outer sections by using different fragments of the theme to achieve particular harmonic transformations and to vary the harmonic pace. This process can be seen in action from the very beginning of the movement. Example 3.8, below, provides a reduction of bb. 11-22, detailing the remaining harmonic steps in the first subsection of bb. 1-22 (see Example 3.6 above).

After the full iteration of theme $A$ (as given in Example 3.7) opens the movement, performing a middleground $RP$ transformation, linking tonal centres d-f, a re-statement of the theme begins in the new key. The original pattern of the theme is followed for the first four bars of the re-statement, completing an overall $R$, f-A$. At this point, the theme breaks off and makes way for three varied fragments of $N$ from the original theme’s first two bars (see Example 3.7, bb. 3-4), first on the local tonal centre of f, then on c and, finally, on b (see Example 3.8, bb. 15-20). The last fragment in bb. 19-20 leads to the completion of the theme in D at b. 22 via a middleground $R$ transformation between harmonies b-d. The re-attained D centricity, is emphasised in the following athematic section of in bb. 23-32 (see Example 3.6, above), marking the end of the first subsection of the movement.
Ex. 3.8: Symphony No. 5/II, bb. 11-22: /a reduction, and /b harmonic analysis.
The TR shifts that transform the phrase between harmonies f-D in bb. 11-22 thus mirror the original version of the theme with its RP shifts, transforming d-f, with a modal alteration. The phrase’s harmonic trajectory is created by stitching together fragments of theme A that express the characteristic transformations N and R into a patterned, yet flexible construction. For instance, the three N transformations f-C, c-G, and b-F♯ (see Example 3.8, bb. 15-16, 17-18, and 19-20, respectively) form a harmonic pattern which alternates minor and major triads. Yet this pattern is irregular by virtue of the different transformations that link the consecutive N shifts. The first is connected by P, C-c, the second by L, G-b. This small irregularity allows D major to be set up as the goal harmony of the phrase. Were the consecutive N shifts linked by a regular pattern of P shifts, D major would appear too early in the progression, as circled in Example 3.9, below, and be bypassed on the way to the alternative goal harmony B♯.

(Dotted bar-lines divide consecutive N shifts.)

Ex. 3.9: Symphony No. 5/II, hypothetical progression for bb. 15-22.

Thus thematic fragmentation provides harmonic units that are arranged in particular ways to fulfil tonal trajectories in the middleground, in this case a return to D centricity before the athematic section in bb. 23-32. By mining material almost exclusively from theme A, the outer sections also maintain a very strong sense of thematic consistency. This same sense is created differently in the more thematically diverse middle section of the movement. There, the three individual themes C, D, and E share the characteristic aspects of being in a major mode, with a particularly close connection between C and D, which emphasise a 7 (labelled in Example 3.10 below), giving the music a Mixolydian feel. The first eight bars of each of the three themes are shown in Example 3.10 for comparison.
Ex. 3.10: Symphony No. 5/II, themes C, D, and E, first eight bars.
The major-mode characteristics of the inner-section themes strongly distinguish them from the themes of the outer sections, namely theme \( A \). At the same time, there are subtle links, for example, theme \( C \) shares a rhythmic opening motif with theme \( B \), as shown in Example 3.11. This similarity is blurred by a difference between the two themes’ melodic trajectories and the tempi in which they are expressed, yet the link is present.

**Ex. 3.11: Symphony No. 5/II, rhythmic motif in themes \( C \) and \( B \).**

Another subtle connection exists in the ever-present \( \sharp 4 \), which appears as a feature of all of the inner- and outer-section themes (see above Examples). It plays an increasingly influential chromatic role in the movement, appearing initially in theme \( A \) as a *projection* from the subdominant *agent*, \( \flat 6 \) (B\(_{b}\)), as well as being highlighted through metre and accent in a chromatic voice-leading motion (bracketed) between tonic and dominant *associates* \( \hat{5} \) (C) and \( \hat{2} \) (G), (see Example 3.7 above, bb. 3 and 7, respectively). In the passage leading up to the first athematic section, it starts to appear more frequently due to thematic fragmentation (see Example 3.8, above), and eventually gains some independence from \( \flat 6 \) by replacing the dominant *agent*, \( A \), in the top line of b. 20. In the inner-section themes shown in Example 3.10, above, \( \sharp 4 \) returns to the context of \( \flat 6 \) and semitonal melodic motion. In the final section, however, it begins to permeate the musical surface as part of the accompanying harmonies as
well as the melodic line of theme $A$, as can be seen in Example 3.12, below, which circles all instances of $\sharp 4$.

**Ex. 3.12: Symphony No. 5/II, theme $A$ increasing role of $\sharp 4$ in the final section.**

While $\sharp 4$ (G$\sharp$) is projected from subdominant agent $\flat 6$ (B$\flat$) in the melody, as before, it is now also projected from dominant agent $\hat{7}$ (C$\sharp$) in the accompaniment, where it forms a highly dissonant DT-functioned harmony created by a superimposition of the triads d and e$\sharp$ (see bb. 233-234 of the above Example). In bb. 235-236, the functional balance of the accompanying harmony containing $\sharp 4$ (G$\sharp$) is tipped towards dominant as its agent $\hat{7}$ (C$\sharp$) moves into the bass, while the agent $\flat 3$ (F) maintains a vestige of tonic in the inner parts. The chromatic scale degree $\sharp 4$ seems briefly wedded to the prevailing dominant function, until it is voiced prominently in the top line of b. 236, where its rhythmic extension to a double-dotted minim accentuated by a crescendo intensify its discharge onto $\flat 5$ (A). As in this harmonic context, $\flat 5$ presents as the dominant base, supported by dominant agent $\hat{7}$ (C$\sharp$) in the bottom part, and a discharge requires a change of function, the double-dotted minim $\sharp 4$ must be attributed to the subdominant, as in the top stave of b. 233 (see Example 3.12, above). To summarise, by the final section of this movement, $\sharp 4$ has transformed from a subdominant projection of $\flat 6$ occurring in theme $A$’s opening melodic figure to a scale degree carrying both subdominant and dominant functions within the melodic and harmonic spheres of the music, that appears with much greater frequency on the surface of the music. As will be shown in section 5.1.2, below, its role also extends into the harmonic structure at the end of the movement.
3.1.3 Symphony No. 5/III: Adagio

The third movement of the symphony, in F major, shares many common structural features with the second movement. It is in a ternary form, and the layout of its themes is remarkably similar to that of the second movement, as can be seen from Example 3.13 below. The outer of the three sections are dominated by the repeated theme A, with short interjections of theme B occurring at bb. 39 and 160. The middle section is thematically distinctive, introducing three new themes. As in the second movement, the main structural marker here is harmonic, with the outer sections being characterised by major-mode harmonies and the middle section by minor-mode ones.

Beyond these structural likenesses in the middleground, the two movements are quite dissimilar. The Adagio is much more subdued than the Allegro marcato, especially its slowly unfolding, languorous main theme, A, which gets much of its character from its inherent semitonal voice leading, as can be seen in Example 3.14, below. This theme makes two subtle connections with chromatic features of the preceding movement’s thematic material. First, the subdominant double discharge of 6 and 4 onto 5 in the second bar of the melody inverts the melodic fragment characterising the opening of the second movement’s main theme (see, for instance, Example 3.12, b. 233, above). Second, the projection 2-3 in the bass recalls the chromatic scale degree from the first movement’s theme B (see Example 1.14/a, the note C, above), boosting the S-T discharge in the upper voices and establishing a chromaticised F major context. The following two bars articulate a reversed contrary-motion discharge, T-S, between harmony-shifting melodic and bass notes (see Example 3.14, bb. 6-7, below), introducing the optimal-mode subdominant agent 6 into the F major context, directly positioned above its projection, 4. Having thus maximised chromatic voice leading in the opening bars, the music proceeds to employ it to depart from the F major tonal centre.
Ex. 3.13: Symphony No. 5/III, middleground.
Ex. 3.14: Symphony No. 5/III, theme A, bb. 4-17.
In bb. 9-10, two functional discharges overlap, setting up C in the bass of b. 9 as a pivot note with dual functional implications, in F major and the subsequent B minor. In the former, C is the goal of the S-T discharge $\text{S}^\flat-\text{T}^\flat$, while in the latter, it is the initiator of a chromatic discharge onto tonic, $\text{S}^\flat-\text{T}$. The role of $\text{S}^\flat$ as an ambiguously functioned projection has been discussed in the context of Piano Sonata No. 8/III in section 2.3.3, above, where it was shown to express dominant or subdominant function depending on the presence of other scale degrees connected with these functions. In Symphony No. 5/III, however, $\text{S}^\flat$ appears independently of a projecting element, copying the semitonal voice-leading motion performed by other scale degrees in the preceding bars. It reinterprets the discharge in the melody of bb. 9-10 as $\text{S}^\flat-\text{T}^\flat$ in the context of B minor, drawing the ear away from their connection with the preceding pitch C with which, in the context of F major, they would mimic the $\text{S}^\flat-\text{T}^\flat-\text{S}$ bass voice leading in bb. 6-7. The resultant clash of $\text{S}^\flat$ against $\text{S}$ in b. 9 and the resulting displacement of tonal centre F by passing harmony b thus delves deeply into the chromatic sound-world.

Echoes of the chromaticism of discharge $\text{S}^\flat-\text{T}$ and the accompanying modal shift from major to minor resound in the $\text{S}^\flat-\text{T}^\flat$ voice-leading motions over g and b in bb. 12-14. Finally, the E in the bass of b. 15 acts as dominant agent $\text{S}$ in F minor, supporting an S-D functioning $\text{S}^\flat-\text{T}^\flat$ discharge in the highest melody notes, but instead of the expected F minor, the music slips smoothly into E major in b. 17. This is achieved by overlapping voice-leading motions across melodic notes C-D-E in a similar way to what was seen in the bass of bb. 9-10 (see Example 3.14, above); however, this time both halves of the overlap occur simultaneously with one of two consecutive discharges in the inner voices. The resultant voice leading is shown in Example 3.15, which unravels the overlap and shows the discharges in two stages by repeating the melodic D from b. 16.
Ex. 3.15: Symphony No. 5/III, C-E overlapping voice leading in bb. 16-17.

First, the notes C are reinterpreted as tonic-functioning (they were previously dominant – see \( \hat{5} \) in in b. 15, Example 3.14, above) by the presence of B\( \sharp \) in the lower-voice *discharge*, which functions as dominant *agent* \( \hat{7} \) in C. It allows the note D above it to be heard as dominant *associate* \( \hat{2} \) in the context of C rather than subdominant *agent* \( \hat{6} \) in the context of the preceding f. When the bass A *discharges* to G\( \sharp \) in the following bar, however, the melodic D-E can no longer be heard in the context of C major due to E’s strong unequivocal function as a tonic *base* in b. 17. As can be seen from Example 3.14, above, E appears in the lower voice – the position where a *base* functions strongly – it is also doubled in the middle and top voices, supported by the tonic *agent* \( \hat{3} \) (G\( \sharp \)), and falls on a fresh exposition of theme \( A \), which further endows it with tonic-ness according to Harrison’s rhetorical technique No. 4 (see the opening discussion of this chapter). In light of the undoubtable tonicisation of E at b. 17, the preceding melodic D over lower-voice A attains the function of modally altered dominant *agent* \( \hat{7} \).

To summarise, the music in bb. 15-17 slips into E major after having set up expectations of F minor by a succession of voice-leading *discharges* and supporting motions that reinterpret, first, C as tonic *base* \( \hat{1} \) in C rather than a dominant *base* \( \hat{5} \) in f, and second, D as modally altered dominant *agent* \( \hat{7} \) in E rather than dominant *associate* \( \hat{2} \) in C. The smoothness of this transformation derives from the fact that pivot note, D, in the above examples is dominant-functioning in both C and E majors. The ensuing repetition of theme \( A \) on a tonal centre a semitone lower than that at the start recalls the opening of the first movement of the
Symphony, where the local theme $A$ was presented in $B_\flat$ and subsequently began again on $A$ (see Example 1.11, above). In both cases, the respective dominant harmonies of the original tonal centres, $B_\flat$ and $F$, directly precede the shift to the semitonally lowered tonal centres $A$ and $E$. However, the shift in the first movement in bb. 12-13 happens more abruptly, with no intervening tonicisation of dominant-functioning scale degrees. This may be a consequence of the greater complexity of third movement theme $A$ as, unlike its first movement counterpart, it departs from the tonal centre established in its opening bars through a number of different harmonies via the means of chromatic voice leading. It therefore requires a more elaborate means of approaching the new tonal centre, $E$.

Having explored the Adagio’s main theme in some detail, the following discussion will revert to observations of the wider thematic layout with reference to the middleground graph given in Example 3.13, above. In contrast to thematic processes in the preceding Allegro marcato’s outer sections, the Adagio’s theme $A$ does not undergo the process of fragmentation. It is transformed minimally: first by a compression that leaves out its middle part in bb. 17-31, and second by the joining of its second half to the supporting theme $B$ in bb. 43-54. In the last section of the movement, bb. 140-198, the compressed version of the theme is omitted. Beyond this, theme $A$ undergoes no other development, and its reiterations are varied only by secondary parameters such as dynamics and orchestration. The character of theme $A$ and its presentation within the Adagio thus create a sense of stasis in the outer sections, which is antithetical to the relentless energy of the Allegro marcato. This stasis also serves as a point of contrast for the middle section of the Adagio.

As Example 3.13 above shows, not only is the middle section in bb. 55-139 thematically more diverse, it is also more complex. After the themes $C$, $D$, and $E$ are presented in bb. 55, 58 and 82, respectively, they start to undergo a process of layering: first the supporting theme $D$ with theme $E$ at b. 97, then themes $C$ and $E$ at b. 108 and again at b. 116. This development provides another contrast with the thematically static outer sections, all the more so because
no opening themes return in this section. The middle section is thus insulated, as was the corresponding section of the second movement and, at the same time, it draws on the formal design of the first movement development. The layering processes in the third movement culminate in an explosive climax at b. 125, which elevates theme D that had previously been in a supporting role (see bb. 58, 69, 93, and 97) into a fully-fledged theme. Secondary parameters support the progress of the thematic developments by continual increase in dynamics and instrumentation. As the development itself spans a relatively short space of time, the dramatic tension thus created is further strengthened by the fast pace at which it is built.

Another structurally notable feature of the third movement is the athematic section in bb. 169-190. Its placement towards the end of the movement mirrors the structural layout of the second movement, which also ended with an athematic section (see Example 3.6, bb. 302-320). In other words, it occupies the structural space of a coda. Concluding a movement in ternary form that included a development section in its middle part, this section might be expected to fulfil the purpose of a coda, which is to reinforce the stable tonality, thus drawing the movement to a close. Yet, as Example 3.13 shows, this section starts on the unstable B major - tritone-related to the movement’s tonic of F – that was reached at the end of the return of the main theme in b. 169. From there, the music progresses through two passing harmonies in the middleground – E at b. 180 and C at b. 181 – before a return to F and movement closure are finally achieved. The musical processes that span the athematic section and their functional implications will be explored in detail in chapter 6 below.
3.1.4 Symphony No. 5/IV: Allegro giocoso

The fourth movement of Symphony No. 5 bears the characteristic jocular streak of a light-hearted final movement. At the same time, the structural properties are those of a weighty culmination of a grand symphony, as will be explored in reference to the middleground graph in Example 3.16, below.180

The Allegro giocoso is in a clearly articulated sonata-rondo form, with a developmental central episode based around the fugal theme D. The movement’s propensity for major-mode harmonies and its outer sections’ firm B♭ centricity recall the character of the Symphony’s opening Andante. The music of the fourth movement also stands in pointed contrast with the thematic and harmonic tensions of the two middle movements. One especially notable feature that characterises the Allegro giocoso as a culmination finale is the fact that themes from earlier movements are woven into the musical fabric throughout, as will be explored presently. These themes are indicated in Example 3.16, below, in accordance with the notation set out in Figure 3.2, above.

Ex. 3.16: Symphony No. 5/IV, middleground.

Bars: 1,15

Themes:

Introduction

1st subject

EXPOSITION

1st subject

Codetta

FUGATO

DEVELOPMENT

1st subject

CODA
Beginning the movement with an introductory section that recalls theme $A_i$ (the first movement theme $A$) sets the grand tone for the fourth movement, while at the same time preparing its first witticism, a play on position-finding techniques that makes the movement’s B♭ tonic appear unexpectedly at the start of the exposition. This is achieved by sounding theme $A_i$ in F major, so that its harmonic arch closes on C as a dominant-functioning harmony at the end of the introductory section. Example 3.17, below, shows the music that directly follows this. Bars 23-26 present a single line structured around a melodic major third, C-E, with the latter note accentuated by metric placement, articulation and repetition. In the context of the preceding C-dominant of the introductory section, E appears as dominant agent 7, supported in bb. 1-2 by dominant base 5. With its strong tendency to discharge onto tonic via the voice-leading motion 7-1, E sets up an expectation of an approaching resolution to F, which is increased over four bars of music. However, the harmony of resolution at b. 27 is, instead, B♭, causing an immediate retrospective re-interpretation of E in bb. 23-26 as 4 (and C as 2) in the new key. The listener has, in effect, been duped by latching onto E’s potential as 7, a strong communicator of dominant function. E’s incorporation into the B♭ chordal accompaniment in bb. 27-31 and 36 as 4 dissipates this perspective quickly, achieving in just a few bars the process that spanned most of a movement in the Allegro marcato (see section 3.1.2, above).
Ex. 3.17: Symphony No. 5/IV, theme A.
The fourth movement’s theme $A$, shown in Example 3.17, above, contains another nod to the second movement by repeating the $\hat{7}$-1 discharge in the melody of bb. 34-36, emphasising the altered dominant agent that characterised the main themes of the second movement’s middle section material (see Example 3.10, above). Such subtle references to previous movements pervade the Allegro giocoso. Two more quotations come from the second movement: the themes $a_2$ and $C_2$. As shown in Example 3.16, above, the latter is appended to the end of the fourth movement’s theme $B$ in most of its appearances: in the transition episodes, bb. 54-82 and 254-268, and in the development, bb. 190-197. Example 3.18, below, gives a reduction of the last two bars from the first statement of themes $BC_2$ in bb. 63-65, and the original second-movement theme from which $C_2$ derives, with a bracket indicating the quoted section of the theme.

**Ex. 3.18:** Symphony No. 5/IV, theme $C_3$ bb. 63-65, and Symphony No. 5/II, theme $C$, bb. 114-115.

![Example 3.18](image)

In the second movement, the closing figure begins on a downbeat and resolves later on the weak portion of the bar (see Example 3.18/b, b. 115), stressing $\hat{7}$ in the melody over a dominant harmony. In $C_2$, the corresponding figure begins on an upbeat and ends on a
downbeat, rhythmically reinforcing the local tonic. These two alterations of the original theme incorporate $C_2$ fluidly into the larger phrase of the fourth movement’s theme $B$, in a way that is more subtle than was the full quotation of theme $A$, in the introduction.

A subtler and briefer quasi-quotation occurs in the central episode, where theme $a_2$ is layered with the end of theme $D$ in bb. 210-211 (see Example 3.19).

**Ex. 3.19: Symphony No. 5/IV, themes $a_2$, bb. 210-211, and Symphony No. 5/II, theme $A$, bb. 3-4.**

The fragment is taken from the accompaniment of the second movement's theme $A$, distinctive for the nervous energy of its persistent staccato quavers. The transformation the original undergoes alters its pitch and harmony to fit with the fourth movement theme $D$, which it accompanies in bb. 198-211, while the main characteristics it shares with the original are the rhythmic regularity of the consecutive quavers and the biting staccato articulation.

As demonstrated above, the themes $C_2$ and $a_2$ play an embellishing role within the fourth movement. However, there is another quoted theme, which plays a more prominent part: theme $E_1$. Derived from the first movement theme $E$, it retains its characteristic dissonance, $\sharp A$, expressed by a fast succession of semiquavers in both the themes (circled in Example 3.20 below), and gives it further percussive emphasis by placing it on a downbeat. The rhythmic
aspect and melodic trajectory of the original first-movement theme $E$ have also been preserved in $E_1$, although the latter descends scalically where the former descended by skips.

**Ex. 3.20: Symphony No. 5/IV, theme $E_1$, bb. 37-38, and Symphony No. 5/I, theme $E$, bb. 219-220.**

The brevity of theme $E_1$ gives it the appearance of a fragment, rather than a fully-fledged theme. In the exposition and recapitulation it occurs towards the end of one of the main themes of the fourth movement, in a similar way to theme $C_2$ (see Example 3.16, above). Yet its impact on the music is much greater than that of the other referenced themes by virtue of two facts: $E_1$ undergoes development, whereas the other quoted themes do not, and it plays a structural role in the development and coda sections. The discussion below will demonstrate how the theme’s characteristic dissonance, $\hat{4}$, engenders a middleground structure based on tritones, which mediates the return to the recapitulation. Example 3.21, below, shows a reduction of the last fifteen bars of the development section.
Ex. 3.21: Symphony No. 5/IV, end of the development section and beginning of recapitulation, bb. 217-232.
In this passage $E_1$ is first sounded in its original form twice, in bb. 217-218 and 220-221. Its pitches are altered to fit with the underlying harmonies, and it has been displaced rhythmically to fall on the third beat of the bar rather than the first; however, these alterations are not so great as to render the theme any less recognisable. Conversely, the theme appears so close to its original form in order that it can be recognised from earlier instances in the movement, before any development of the theme takes place. Such development follows in bb. 223-224, where the opening melodic fragment of the theme is drawn out into a repeating rhythmic motif, followed by a scalar descent extended by one beat, which avoids an emphasis of the lowest note that concluded the phrase of the original version of the theme. This development of $E_1$ is repeated in bb. 225-226, leading to an athematic passage of five bars, which finally gives way to the recapitulation. While the development of the theme itself does not begin in earnest until b. 223, its characteristic dissonance influences the harmony of this extract from its very beginning.

Example 3.20, above, illustrated that in $E_1$'s original form $\sharp A$ fell on the first downbeat of the phrase as a string of repeated semiquavers. In the first reiteration of the theme in bb. 217-218, attention is drawn to $\sharp A$ by displacing it to a different part of the theme, the rhythmically, melodically and gesturally accented final note achieved by a descending seventh leap at the end of the scalar semiquaver run in b. 224 (circled in Example 3.21, above). The emphasis that the note $A$ receives brings out the tritone it forms with the root of the underlying harmony, $E^\flat$, in the bass, creating the first pillar of the middleground structure of this extract. Having been presented as a significant sonority, another tritone soon appears in b. 220. Here, it occupies an even more prominent position as the G bass note, which clashes against the D$^\flat$ triad insistently repeated in the middle voices. The $\sharp A$ (G) is also taken up in the melody of theme $E_2$, where it occupies its original place after the first upbeat of the phrase. Both of these instances of the new $\sharp A$ are labelled in Example 3.21, above. By virtue of the registral layout of the D$^\flat$-G tritone and its repetition in the ensuing bars, not only is it more prominent within the harmony than the preceding E-A$^\flat$ tritone, but it also gives more of a dissonant hue to the
harmony that incorporates it. With the discordant $\hat{4}$ (G) sounding in the bass, the D$_b$ triad in the inner voices is not sufficiently strong to outweigh the sound of the tritone created between its root and the note G. This presentation of the D$_b$-G tritone marks a step between the preceding major-mode harmony of E$^9$ and the ensuing minor-mode harmony, D$^\#7$. Entering in b. 223, the half-diminished seventh chord on G$\sharp$ is registrally spaced such that the note D that forms a tritone with its root is once again in the bass. The G$\sharp$ root is repeated within the rhythmic motif formed from E$_1$'s upbeat figure in the melody against the pedal Ds in bb. 223 and 225. By appearing in the outer voices, this third tritone is even more prominent within the harmony than the preceding one, which was mostly expressed between the bass and the inner-voice parts.

The final tritone, F-B, forms part of an F$^\#7$ harmony introduced in b. 227. The $\hat{4}$ (B) is once again in the bass, although here it oscillates with the chordal root F for three bars, expressing the tritone fully within one voice part for the first time. From b. 230 the B is retained in the bass as a pedal note, supporting the running quavers in the inner-voice parts. While F appears within the texture, it is not highlighted in any way until it is taken on the upbeat of the melody beginning the recapitulation on the last quaver of b. 231, circled in Example 3.21, above. It is supported by the B quaver in the bass, once more sounding the B-F tritone before resolving onto the B$\flat$ major of the next section. Retrospectively, the B-B$\flat$ voice-leading motion in the base involves a reinterpretation of B as $\hat{4}$ in F to B as $\hat{2}$ in B$\flat$, bringing in the discharge $\hat{2}$-$\hat{1}$, familiar from the Adagio’s main theme and the Piano Sonata’s third movement exposition (see Examples 3.14 and 2.9-2.10 above, respectively). This completes the local middleground pattern linking the end of the development to the recapitulation. The pattern’s five stages are summarised in Example 3.22, below.
Ex. 3.22: Symphony No. 5/IV, harmonic pattern underpinning bb. 217-232.

The progression of tritones initiated by the theme $E_7$’s characteristic dissonance, the $\sharp A$, traverses two diminished seventh chords, $E^7$ and $G^7$. Through this progression, the development section connects to the recapitulation via a common-note link between the F of the B-F tritone and the Bb fifth, shown at bb. 227 and 232 in Example 3.22, above. This connection bears the hallmarks of Prokofiev’s cadential practice: to hold some notes of the penultimate sonority in common with the resolution, while other voices move by semitone. A look at the full chord occurring on the last quaver beat of b. 231, just before the Bb resolution (see Example 3.21 above), shows that the inner voices follow the same pattern of movement. E♭ is held over into the next bar, where it acts as an added fourth to the B♭ triad, while C♯ resolves upwards to D.

Curiously, the first tritone of the progression depicted in Example 3.22, E-A♯, also shares an enharmonic common note with the B♭ fifth. However, were the same process of resolution initiated by this tritone, it would achieve the E♭ fifth instead of the B♭, which signifies harmonically the start of the recapitulation. As such, the harmonic role of the tritone progression in bb. 217-231 can be seen as that of displacing the E-A♯ tritone created by theme $E_7$’s dissonant $\sharp A$ by the interval of a fifth, in order to achieve a resolution onto B♭ at the recapitulation.
3.1.5 Symphony No. 5: Summary

In the first movement of Symphony No. 5, the clarity of the thematic structure is in accord with the relative simplicity of the background tonal plan (see Example 3.1 above). Both correspond to the formal layout of the sonata-form movement. Yet, while the background harmonies occupy the traditionally form-defining functional areas T-D-S-T, the sense of their harmonic influence is soon lost in the middleground modulations that occur between them. Consequently, it is the thematic structure of the movement that serves as a primary form-defining feature, especially theme A, whose recurrence at the beginning of the four main structural sections indicates a return of the movement tonic B, in accordance with Harrison’s fourth rhetorical device (see the opening discussion of this chapter).

In the second movement, thematic isolation in the outer and inner sections consolidates the formal boundaries of the ternary structure, but the boundaries are demarcated most clearly by the shift from tonic D minor to major and back to minor again. A few subtle connections between the inner and outer section themes remain, such as the rhythmic similarity highlighted in Example 3.11, above, and the presence of ♭ in the melodies of many of the themes. The chromatic scale degree gains prominence throughout the movement until it becomes incorporated into the harmonic fabric in the final section.

The third movement draws heavily on chromatic voice leading in its main theme, which materialises a harmonic progression that marks a clear departure from the initial tonal centre, F, and then subverts brief expectations of its return by slipping into a semitonally lowered key, imitating the deep middleground pattern opening the first movement. While it shares a broadly similar ternary structure to the second movement, the Adagio is also more complex in that its central section does not merely present new themes, but also develops them, working up to a climax that dissipates on the approach to the final section. The latter also contains an unusual passage in the formal space of a coda, which will be analysed in greater detail in chapter 6.
The fourth movement combines the formality of a culmination sonata-rondo with a light-hearted character created by quirky major-mode themes and harmonic devices that subvert expectations fostered by position-finding techniques. Its themes incorporate a number of quotations from previous movements, including a full presentation of the piece’s opening theme in the fourth movement’s introductory passage. It also weaves characteristic dissonances of the preceding movements, most notably $\frac{3}{4}$, into the fabric of the music, in the latter case using the dissonance to engender a harmonic device linking the central episode with the recapitulation.

3.2 Piano Sonata No. 8: Overview

The Piano Sonata No. 8 in B♭ was conceived in 1939 as the last of a trilogy of sonatas, now widely known as the ‘War Sonatas’, their tempestuous, nostalgic and victorious characteristics seen as reflections of the turbulent time of their composition. It is in three movements – Andante dolce, Andante sognando, and Vivace – and is arguably the most nostalgic of the ‘War Sonatas’ in the slow expanse of much of its first movement, the stately elegance of the minuet theme of its second movement and the pensive interjections pervading all three movements. Boris Berman suggests that the first movement’s languorous, lyrical quality may have been influenced by Prokofiev’s recently initiated relationship with his second wife, Mira Mendelson-Prokofieva, to whom the Eighth Sonata is dedicated.181 Indeed, Simon Morrison notes her recollecting that Prokofiev told her the very opening theme of the first movement came to him after one of their walks together.182 There is no record from Prokofiev himself on this matter; however, Berman has traced the following thematic material of the opening back to film music Prokofiev composed for the romantic role of Lisa in the unrealised rendering of Alexander Pushkin’s The Queen of Spades, initially composed for the Pushkin Anniversary.

celebrations in 1937.\textsuperscript{183} (The connection had actually been made much earlier by Kholopov,\textsuperscript{184} but Berman was likely unaware of this, as his text does not cite Kholopov’s writings.) Whether the real or the imaginary romantic female inspired the character of the opening of the first movement, it is unmistakably replete with sensuality.

*The Queen of Spades* was one of a number of projects Prokofiev had started preparing for the Pushkin Anniversary, all of which were rejected, and the music written for them later found its way into other compositions. Another of these projects was incorporated into the Eighth Sonata: the waltz theme and the following lyrical section of the second movement are taken from music initially written for a theatre production of Pushkin’s *Eugene Onegin*, a romantic tragedy set in the aristocratic world of imperialist nineteenth-century Russia. The ball scene from which the waltz theme and lyrical section are taken becomes a metaphor for that past, which has been lost after the turbulent events of the twentieth century. As Berman notes, the sense of reminiscence and nostalgia are emphasized by the unusual indication ‘sognando’ (dreamily) at the beginning.\textsuperscript{185}

As in Symphony No. 5, there is a recognizable heroic streak running through Piano Sonata No. 8, with the sense of conflict at its height at the climax of the first movement development section, and triumph in the driving third movement’s outer sections. Yet the pensive quality pervading much of the sonata, especially such poignant moments as the return of the subdued first movement second subject theme in the development of the third movement, gives the Piano Sonata a darker character than that of the Symphony. The kind of psychological intensity that was contained in the Symphony’s third movement seems to be present throughout the Sonata. This is reflected in the piece’s more radical departure from tonal functional harmony, as can be seen from the background layout given in Example 3.23.

\textsuperscript{184} Kholopov, *Sovremenныe cherty гармонии Prokofieva*, 1967, 396-397.
Ex. 3.23: Piano Sonata No. 8, harmonic pillars.

The inter-movement key design involves a simple shift from B♭ to its minor mediant, D♭, and back. While not unusual in itself, in the broader scheme of all the harmonic pillars this can be perceived as one of the many chromatic degrees pervading the background structure, one that returns in the second section of the third movement (see Example 3.23, Vivace, bb. 107). The two most significant chromatic relations that recur in the Piano Sonata are the tritone and semitone. The former can be seen in the background between the B♭ tonic of the outer movements and its tritone-related major-minor harmony, E♭ (♭IV), at b. 169 of the first movement and E♭ 404 in the third movement. The B♭-E tritone relation characterises the background of the fourth movement of Symphony No. 5 as well (see Example 3.1, b. 181). The semitone relations are manifested in the raised tonics, D, in the middle section of the second movement, and B, at b. 42 of the third movement. That these two chromatic relations feature prominently in the background of both the Symphony and the Piano Sonata marks them out as salient dissonances. Analyses in this and the following chapters will reveal some of the multiple roles that they play in the music’s harmonic structure, in both large- and small-scale processes.
One especially significant departure from conventional tonal practices evident in the Piano Sonata’s background is the absence of V as Dominant in the outer B-flat movements. In this, the Sonata differs from the Symphony, which involves a I-V motion as the first background shift in both its first and fourth movements. Taken together with the fact that every movement of the Piano Sonata includes either one or both of the salient dissonant relations in its background, this suggests that chromaticism pervades the harmonic structure of this piece more strongly than it did in the Symphony. The manner in which such a chromatic background engenders or is contained by the conventional formal schemes of sonata form, rondo, and sonata-rondo, respectively, invites analytical enquiry.\(^\text{186}\)

### 3.2.1 Piano Sonata No. 8/I: Andante dolce

The first movement’s sonata form is punctuated by a large number of connective subsections, as can be seen from Example 3.24, below. As well as the conventional transition and retransition in the exposition and development, respectively, there is also a codetta closing off the exposition, and a reappearance of the transition, albeit in compressed form, in the recapitulation. Additionally, the movement is replete with athematic passages: the only subsections that do not contain any are the first subject and the recapitulation’s second subject, while the codetta and the return of its material in the retransition are entirely athematic. To varying degrees, these athematic passages and connective subsections are antithetical to the thematic drive of the first movement, acting as the formal means of reinforcing a mood of pensiveness already attributed to its opening themes (see the discussion above).

\(^{186}\) Boris Berman sets out the sonata’s formal divisions in *Prokofiev’s Piano Sonatas*, 2008, 171-183, although I argue that the first movement climax falls on b. 169, not b. 183.
Ex. 3.24: Piano Sonata No. 8/I, middleground.

Bars: 1,10 18 26 35 44,46 48,50 52 55 59 61 65 67 70 73 77 79 82 84

Themes: $A^1, A^2, A^3$  $B, B, A^1, B, A^1, B$

1st subject  Transition  2nd subject  3rd subject

EXPOSITION

DEVELOPMENT

RECAPITULATION

CODA
Another way in which the first movement tempers a sense of drive is by relying on only three independent themes. In so large a movement, this thematic economy is only minimally effaced by having three different variants of theme $A$ (first presented at bb. 1-18, see Example 3.24). As fragments of the limited thematic material return again and again throughout the movement, they create a neurotic sense of preoccupation, antithetical to progression. The thematic tightness of the first movement thus contributes much to its dramatic aspect.

A closer look at the specific treatment of the three main themes reveals a marked difference in how themes $A$ and $B$, and theme $C$ are presented. $A$ and $B$ appear much more frequently and undergo more development than theme $C$. As the following discussion will demonstrate, this contrast in thematic treatment substitutes for the lack of harmonic contrast between the themes $A$ and $C$ in the exposition.

Traditionally, the first seeds of structural tension in a sonata form would appear with the modulation into a new key for the second subject, representing a contrast to the tonic of the first subject. This contrast may also be emphasised by a change in character between the two subjects. In the exposition of the Piano Sonata No. 8, the second subject tonicises $B$'s relative minor, $g$ (see Example 3.24, b. 61). In classical terms this is an unusual choice of contrasting key, its relative relationship to the tonic being more characteristic of a minor-mode sonata.

The significance of the second subject’s move to the relative minor could be viewed as a return to pre-classical norms, or rather their reincarnation in the work of nineteenth-century composers. In Charles Rosen’s words: ‘[t]he Romantic generation turned back to an early eighteenth-century … sense of key relations [whereby] a tonality was more closely linked with its relative minor than with the tonic minor’. Speaking of nineteenth-century sonatas which move to the relative key in the second subject of the exposition, Rosen adds that: ‘[i]n terms

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of the more modern Romantic sensibility, they are not going anywhere at all, and no modulation and consequently no polarisation takes place.\textsuperscript{189}

Rosen barely touches on twentieth-century sonata forms. Had he looked at Prokofiev’s Piano Sonata No. 8, he might have observed that it employs many harmonic transformations which were being explored in the Romantic period, as will be shown in chapter 5. In view of this, it is plausible to suggest that Prokofiev may be making a reference to the Romantic sensibility concerning relative keys that Rosen refers to. What reinforces this notion is that the pensive, lyrical mood of the first subject characterises the second subject as well. The exposition of Piano Sonata No. 8, therefore, does not present a contrast, but rather a pointed similarity of tone between the two subjects. There is no heightening of tension in the second subject. If anything, tension is lowered by the retreat from a major to a minor key, whose main theme is replete with falling intervals, and which Kholopov and Valentina Kholopova describe as having a ‘twilight character’\textsuperscript{190} (see Example 3.25, below).

**Ex. 3.25: Piano Sonata No. 8/I, opening of the second subject, theme C.**

\begin{center}
\includegraphics[width=\textwidth]{example.png}
\end{center}

\textsuperscript{189} Ibid., 369.

\textsuperscript{190} Valentina Kholopova and Yuri Kholopov, *Fortepiannie sonaty Prokofieva (Prokofiev’s Piano Sonatas)*, Moscow, 1961, 70.
The bass melodic figure of a falling ninth opens theme C, accentuating the chromatic scale degree 4 by rhythmic stress (which is out of sync with the written metre by a beat), timbral amplification by the addition of accompanying fifth, GD, and registral displacement. William Nyaho suggests that the short-short-long (and especially short-short-short-long in b. 63) rhythmic aspect of this melodic figure may be a direct reference to Beethoven’s Symphony No. 5/I, and traces its varied appearances throughout Prokofiev’s ‘War Sonatas’. While this particular extra-musical reference cannot be confirmed, the chromatic 4 highlighted by the falling melodic figure does feature prominently in Prokofiev’s Symphony No. 5, as was shown in the section 3.1 discussion. However, none of the Symphony’s themes make so much of a feature of it, especially in their original manifestations. In Piano Sonata No. 8, its presentation at the head of a main theme, its accentuation by secondary parameters, the fact that it does not resolve in the bass part but extends over six-and-a-half beats, and that it echoes in the top line before being repeated in the second phrase all combine to give it a special motivic status. As will be seen in following discussions, this property is used as a formal indicator marking the culmination of thematic and harmonic processes. The first instance of this can be seen in the climax of the first movement development section. After a restless build-up of 79 bars that echo themes from the first subject, the second subject theme C comes in at a ff dynamic over an E major-minor harmony, which is then subject to a number of chromatic transformations (see Example 3.26, below).

This presentation of the theme could not have been more different in character from its initial appearance in the exposition (see Example 3.25, above). Not only is there a contrast of mode and volume between the two instances of the theme, but the development version is also burdened with a much thicker chromatic texture. An important change has taken place, linking the two halves of the theme from the exposition, divided by a shift from g to e, under one tonal centre, the dually modal Ee: the top line presenting the falling discharge \( \hat{6}-\hat{5} \) has been preserved, while the falling motif, \( \hat{5}-\hat{4} \), has been transformed into \( \hat{1}-\hat{7} \) (compare Examples 3.25 and 3.26, above). The latter is supported in b. 169 by the T-S discharge \( \hat{5}-\hat{6} \) and the \textit{accompaniment} \( \hat{3}-\hat{5} \) in the inner voices, while tonic base \( \hat{1} \) acts as a pedal in the bass and lower tenor (shown across the two bass staves in Example 3.26). These voice-leading motions combine in b. 169 with the motivic \( \hat{1}-\hat{7} \) to create an H-transformation, noted in section 2.4 above for the capacity of its highly chromatic voice leading to produce very strong functional
discharges (see especially Example 2.11 and related discussion). In b. 169 of Example 3.26, this capacity is exploited in order severely to destabilise the tonic E triad, dramatically accentuating the dissonant part of the \( \hat{1}-7 \) motif. This effect is further increased by the motif’s registral enlargement over three octaves, such that the melody leaps over its accompanying chords in the upper-bass stave, and \( \hat{7} \) creates a direct semitonal clash with the pedal base \( \hat{1} \).

In terms of the prevailing stasis of the exposition, this recurrence of theme \( C \) can be understood as providing the tension-generating contrast which was lacking in the exposition. Its characteristic \( \hat{5}\hat{4} \) motif acts as a formal indicator in two ways: first, by connecting the exposition and development material such that the latter can be understood as compensating for the absence of tension in the former, and second, by associating its inherent sense of instability with the E♭e harmony. This association highlights the abstract sense of E’s instability with relation to B♭, the movement tonic: being T-related, E is at the greatest possible distance from B♭. As the two tonal centres are so distant on the surface of the music between the exposition and development, this relationship is hard to perceive without supporting features that draw attention to it, and theme \( C \)'s \( \hat{5}\hat{4} \) motif and its subsequent transformation in the development is chief among these.

The large-scale process of the delay of tension until the climax of the development has consequences that stretch beyond the end of the first movement. To compensate for the static tone of the exposition, the tensions wrought in the development are on a scale so grand that they cannot be resolved in the recapitulation. The approach to its first subject is most suggestive. After the climactic return of the second subject theme in the development, there follows a turbulent athematic section, which oscillates between chromaticised E and g harmonies, as shown in Example 3.27, below. Eventually stalling on a g harmony in bb. 191-194, the music then proceeds through a chain of chords below a D-F♭ ostinato. These wash away all sense of the preceding harmonies, until only the note D is left hanging, to be picked up in the melody of the recapitulation’s first subject. The enigmatic harmonic
progression that leads back into the tonic B♭ in bb. 196-206 will be analysed in more detail in chapter 6.

The tensions of the development burn themselves out violently towards its close, and are not dealt with in the recapitulation. Instead, this section mirrors the exposition’s move to a closely related minor key, by having its second subject in the tonic minor (see Example 3.24, bb. 245-257). It is almost a gesture of denial, a pointed refusal to acknowledge the transformations the theme C had undergone in the development. What forestalls an interpretation of the movement’s close as a defeated conclusion to its dramatic framework is the subsequent return of the turbulent development material in the coda (see Example 3.24, bb. 261-297). It seems that this interpretation is also shared by Kholopova and Kholopov as they point out that, with the coda ‘the dramatic conflict turns out to be … unresolved; the resolution will occur only in the finale’¹⁹². The jarring soundings of the E-octaves beneath the B♭ minor passages in the right hand are a reminder of the polarity between the two key areas (see Example 3.28, below). As will be seen later in this chapter, the tension between B♭ and E will indeed finally be worked out at the end of the third movement.

Ex. 3.27: Piano Sonata No. 8/I, end of the development section.
3.2.2 Piano Sonata No. 8/II: Andante sognando

The second movement presents an extreme contrast with the first movement. Not only is it considerably shorter, it also features a tighter harmonic structure, based around the D₃ triad and its chromatic inflections, unmediated by any middleground passing harmonies, as can be seen in Example 3.29.

Ex. 3.29: Piano Sonata No. 8/II, middleground.

The movement’s thematic layout traces the simple rondo form ABACA, mildly elaborated by a chromatic shift that introduces D major and A minor harmonies (see Example 3.29, bb. 9,
27, and 35). This then prompts an extension in the form, reiterating the concluding theme sequence $CA$ in the movement’s tonic of $D_\flat$ (see Example 3.29 bb. 43-66). The ‘dreamy’ (sognando) character of this movement pervades all its themes to some extent, evident in the steady pace of their rhythmic patterns, and the use of quiet dynamics and indications such as dolce and tranquillo, instances of which can be seen in Example 3.30, below.

Ex. 3.30: Piano Sonata No. 8/II, opening bars of /a theme $A$, and /b theme $C$.

Chromatic scale degrees $\hat{4}$, $\hat{2}$ and $\hat{6}$ inflect the music of the main theme but are not emphasised in the way that was observed in connection with theme $C$ of the previous movement, (see section 3.2.1, above). They may be understood as seeds for the chromatically elaborated variations of the main theme later in the movement, but these elaborations do not accompany any substantial thematic or harmonic transformations, and every recurrence of theme $A$ closely resembles the original in all crucial features.

By its decisive contrast of formal structure, character, duration and mode, the second movement thus presents a respite from the tensions created in the first movement. The
semitonal rise D♭ to D of its background harmonic pillars also foreshadows a similar background motion within the first section of the third movement.

3.2.3 Piano Sonata No. 8/III: Vivace

The third movement of Piano Sonata No. 8 returns to the overall tonic of B♭, as can be seen in the middleground analysis given in Example 3.31, below. The form of this movement bears some resemblances with the final movement of Symphony No. 5 (see Example 3.16). Both are in sonata-rondo form with a cumulative aspect partly by virtue of their formal design, and partly by referring to their respective earlier movements. While in the Symphony these references are mostly thematic in nature (see discussion following Example 3.16), the Piano Sonata recalls medium- and large-scale harmonic connections from earlier movements. The inter-movement tonal pattern of B♭-D♭-B♭ is reflected in the governing background centres of the three larger sections of the Vivace (compare Example 3.23, bb. 1 of each of the three movements, and Example 3.31, bb. 1, 107 and 308). Furthermore, the second movement’s background pattern of D♭-D♭-D♭ is likewise reflected in the B♭-B♭-B♭ background centres of the third movement exposition (compare Example 3.29 with 3.31, bb. 1, 42 and 85).
Ex. 3.31: Piano Sonata No. 8/III, middleground.

Bars: 1 5 8 13 15 17 19 22 26 36 38 42 46 49 55 59 63 71 75 79 85 89 91 101

Themes: A B A B C¹ C² C¹ C² C¹ D B A

1st subject 1st episode 1st subject 1st episode Trans. 2nd subject 2nd episode 1st subject Codetta

EXPOSITION

107 208 225 289 335

e,E e-athematic codetta material C¹/E C¹

C²

DEVELOPMENT/CENTRAL EPISODE

Retransition


B A A C¹ C² C¹ C¹ D B A C¹ B

1st episode 1st subject 2nd subject 2nd episode 1st episode 1st subject CODA

RECAPITULATION
Thematic quotations from previous movements are limited to one, albeit very significant, theme: $C_i$, quoted in the central episode of the third movement, as shown in Example 3.31, bb. 225 and 289. The original theme forms the main idea of the first movement’s second subject, and reappears dramatically at the climax of its development (see Examples 3.25 and 3.26). Examples 3.32/a and /b show its presentation in the exposition of the first movement and its fullest reappearance in the third movement development, respectively, to facilitate direct comparison.

Beyond the fact that $C_i$ enters in the key of $D_i$ minor (the full significance of which will be explored in chapter 5) and is pitted against a faster, triple metre, creating a cross-rhythm with the accompaniment, the theme is similar to its appearance in the first movement in most essential aspects. The manner in which $C_i$ is incorporated into the Vivace provides an insight into the extent to which thematic processes determine form in the movement, and how the formal layout, in turn, shapes the musical narrative of the whole Sonata. The following analysis will continue the discussion of the first movement theme $C$ initiated in section 3.2.1, above. It will demonstrate that the third movement’s strong cumulative aspect derives to a large extent precisely from the fact that it focuses on a single thematic reference to an earlier movement (rather than multiple references as in the Symphony), and places it at the head of a process of thematic mutation.
Ex. 3.32: Piano Sonata No. 8, a comparison of themes.

/a: Piano Sonata No. 8/I, Theme C, bb. 73-8.

The process of thematic mutation begins rather innocuously at the opening of the central episode, with the introduction of the seemingly light-hearted theme $E$, the first 22 bars of which are given in Example 3.33, below. Theme $E$'s characteristic melodic fragment, $A_\flat$-$G$-$A_\flat$, employs theme $C_b$'s $5\flat-4$ motif, brought out through articulation in the second bar, and decorated with its inverse, $5\sharp-6\flat$, in the fourth bar; although this connection will only become apparent in retrospect, after thematic developments have taken place. The steady rhythm of repeated $A_\flat$'s, with their unmistakable dominant flavour, confirms the $D_b$ tonic and further imbues the theme with latent tension. This opening presents no melodic phrase, but instead strongly suggests an introduction that will lead to the main melodic aspect of the theme. This is reinforced by the fact that bb. 107-119 occur in the traditional accompaniment register.

**Ex. 3.33: Piano Sonata No. 8/III, central episode, start of theme $E$.**

However, when the top line shifts into the treble clef at b. 120, rather than developing into a melodic phrase, it repeats the $5\flat-4\flat-5$ motif three times, varying it only minimally with registral expansion and the alteration of its downbeat to $D_b$ instead of $A_\flat$ at b. 123. The expectation of
melodic development is thus thwarted, and mutation occurs instead. This process builds in the following bars. However much the opening fragments seem to be forming together into a melody, it seems to get stuck on the modulating motif, as can be seen in Example 3.34.

\textbf{Ex. 3.34: Piano Sonata No. 8/III, central episode, recurrences of }\textit{modulating motif.}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example334.png}
\end{figure}

In the absence of melodic development, the gradually building tension, caused by the repetitions of the motif and the unrelenting crotchet rhythm, becomes manifest through increasing harmonic enrichment. As full chords at extreme registers take the place of single notes, as shown in Example 3.35, the previously light-hearted character of theme \textit{E} darkens into something more sinister.

\textbf{Ex. 3.35: Piano Sonata No. 8/III, central episode, harmonic intensification.}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example335.png}
\end{figure}
Eventually the music reaches a bridge section, which recalls the athematic material from the earlier codetta (see Example 3.31, b. 208), and leads into the crucial mutation of theme $E$, through which it begins to intersect more obviously with $C$, as shown Example 3.36.

Ex. 3.36: Piano Sonata No. 8/III, crucial theme-$E$ mutation.

The bass ostinato, which begins at b. 225 and extends throughout the ensuing passage, consists of the melodic fragment $A\flat-G-A\flat$ and its reverse, $A\flat-B\flat-A\flat$, linearised in the accompaniment, so that the chromatic part of the fragments now falls on the downbeat. By emphasising Gs and $B\flat$s as dissonant pitches, $A\flat$ is presented as a tonal anchor and therefore sheds its previous dominant aspect. Through the persistent repetition of the ostinato, it attains tonic status by virtue of Harrison’s third rhetorical device, whereby harmonic stasis and immobility attract tonic function (see the opening discussion of this chapter). The motif $5-6-5$ and its inverse $5-6-5$ are therefore transformed into $1-7-1$ and $1-2-1$, mirroring a similar transformation of the first movement theme $C$ in the development (see Example 3.26, above).

It is in this context that the motif explicitly manifests its first-movement origins by performing the minor ninth descending leap that characterises the first movement theme $C$, in bb. 233-234 (see Example 3.36, above). In this way, the first clear quotation of the theme refers
back to the climax of the first movement development, rather than its exposition, making a
direct association with the peak of tension and harmonic instability in the piece.

The falling ninth motif dominates the following section, gradually shifting downwards by
semitone (the beginning of this process can be seen in Example 3.36, bb. 237-238), until
eventually reaching the scale degrees of its original manifestation, 5-4, and placing heavy
emphasis on the latter pitch through accent and rhythmic extension over six bars, as shown in
Example 3.37, below.

**Ex. 3.37: Piano Sonata No. 8/III, central episode, 5-4 motif in A♭ minor.**

![Example 3.37: Piano Sonata No. 8/III, central episode, 5-4 motif in A♭ minor.](image)

The downward journey travelled by the motif up to this stage is accompanied by waning
dynamics and thinning harmonic texture, dissipating the massive tension created from the
start of the central episode. The ostinato has shed the inverse A♭-B♭-A♭ portion of the motif
and repeats A♭-G-A♭ exclusively, the G briefly harmonised by C major triads in bb. 268-272 of
the above example. This creates H shifts with the surrounding A♭ minor triads in the same
bars – highly chromatic transformations, which, in the present context, have no cadential
function but serve rather to perturb the prevailing stability of A♭ minor, in a manner similar to
that encountered near the opening of the third movement (see Example 1.4, above).

When nothing but the repetition of A♭-G-A♭ in the bass remains, theme C finally enters in full
at b. 289, instantly establishing the new tonal centre of D♭ minor. (As this entry differs
minimally from the first eleven bars of its immediate repeat, given in Example 3.32/b above, it
is not reproduced here.) This makes reference to the theme’s original appearance in the
exposition of the first movement, where the falling ninth motif emphasises the chromatic #4 and the character is quiet and subdued.

To summarise, the power of the process through which theme $E$ mutates into $C_i$ derives from the fact that it unfolds over nearly 200 bars with strict thematic economy through extremes in character, from light-hearted, through sinister, to subdued. Observing this process allows an understanding of $C_i$ as the fulfilment of the promise of a melodic idea first suggested at the start of the central episode, and, consequently, as the goal of the development. The fact that the process is wrought on such a large scale intensifies both the cumulative aspect of the central episode and the dramaticism with which the first movement theme is recalled.

The central episode’s drastic departure from the movement’s opening *giocoso* character has repercussions for how the recapitulation is approached. The two sections are mediated by a retransition (see Example 3.31, bb. 343-358) that recalls theme $C^2$ and its characteristic French sixth harmony, bearing the unusual indication, *irresoluto*. The specific harmonic patterns employed will be dealt with in more detail in chapter 6. However, comparing a few bars from its beginning and end (given in Example 3.38) shows that, while increased dynamics and rising triplet arpeggios inject some energy into the music, lack of melodic development stalls the sense of progression.
This explains why the start of the recapitulation is hailed by an opening episode rather than by the main theme: the staccato quavers of its thematic fragments jump-start the musical drive of the opening, so that it is in full swing by the time that theme $A$ re-enters in b. 380 (see Example 3.31). The beginning of this process is shown in Example 3.39.
A look at the third stave of Example 3.31 will show how the regained sense of drive is enhanced by the recapitulation’s formal design. The second subject runs on directly from the first, with no mediating episodes or retransition (see bb. 380-432), and the episodes themselves likewise run on, in reverse order, in bb. 433-447. Notably, the juxtaposition of the two subjects brings the key areas B♭ and E into direct confrontation. This refers to the conflict between these two harmonies in the sonata’s first movement (see section 3.2.1) completing the final stages of a harmonic process that will be analysed in detail in chapter 5. The coda that ends the cumulative third movement makes a gesture of summary in the approach to its final cadence, which will be explored in section 4.3.

3.2.4 Piano Sonata No. 8: Summary

In the first movement of Piano Sonata No. 8, the thematic layout highlights the movement’s unusual harmonic skeleton, and interprets the role of its keys within this sonata-form framework. It formally presents the harmonic relationship between B♭ and E in the stead of conventional I-V tonic-dominant tension that characterises traditional sonata forms, with the aid of the second subject theme C. This acts as a structural marker between the exposition where the onset of tension is delayed and the development, which compensates for this delay by building up to an explosive climax. A crucial element in this process is theme C’s falling ninth motif, originally ♯5-4-♭4 and later 1-♭7, which both draws attention to the significance of the tritone relationship within the piece and paves the way for ensuing thematic connections.

The second movement offers a respite from the tensive processes initiated in the Andante dolce. It is much shorter in length and calmer in character, tracing a simple rondo form, extended slightly by raising then lowering tonal centres by a semitone. Compared with the slow third movement of Symphony No. 5, the Andante sognando is much simpler, perhaps because due to its brevity and direct mediation between the outer movements, it does not need to recall tensive processes before the start of the finale. By contrast, in the Symphony the inclusion of a scherzoish second movement provides a sense of respite and distances the outer
movements, prompting an eruption of tension in the middle section of its slow movement. The middle section of the Symphony’s finale is thus freed up for a different thematic process: a fugato. Beyond chromatic elaborations of the main theme of Piano Sonata No. 8/II that echo scale degree ♯4, the movement is self-contained. Its themes do not undergo much development, and their variation gives it a repetitive rather than transformative aspect.

The third movement is a cumulative sonata-rondo, as is the last movement of Symphony No. 5; however, the manner in which it recalls earlier movements is different. Rather than incorporating disguised references to a selection of themes or their salient features, the Vivace unmistakably quotes a single theme, C from the first movement, while also mirroring some harmonic connections from the first and second movements between its exposition and development. The re-introduction of first-movement theme C becomes the sole goal of the Vivace development, which uses the theme’s characteristic motif ♯5-♯4 (♯1-♯7) as a melodic fragment that transforms the development’s theme E gradually into theme C♯, referring back to the first movement development and eventually its exposition during the course of this process. The tritone-related key areas - the tonic B♯ and E that were placed into conflict in the first movement - return in the Vivace recapitulation before the piece ends with a return to B♯, which is extended in the coda.
4 Dissonance and Polyharmony

It was observed in chapters 1 and 2 that tonal-functional readings of Prokofiev’s music often falter in their attempts to account precisely and convincingly for its highly chromatic harmonies. This chapter will argue that such harmonies can be elucidated by means of Kholopov’s concepts of polyharmony and linear harmony, as introduced in section 1.1.1, with special focus on the former. This will provide an opportunity to introduce the phenomenon of de-layering, as described by Kholopov, to show that there are significant analytical advantages in perceiving Prokofiev’s highly chromatic harmonies as the resultant formations of a number of independent musical processes. Linear harmony has already been touched upon in several preceding analyses, for instance in the discussion of Example 2.9, above, where static accompaniments in the upper voices represented notes belonging to a chord of resolution that were super-imposed onto preceding chords within the two progressions. It will also be demonstrated that neo-Riemannian analysis using Cohn’s and Harrison’s theories can enrich our understanding of these processes and the manner in which they interact to create the familiar elements of Prokofiev’s musical sound-world.

Polyharmony, as set out in section 1.1.1, above, occurs when a complex chord begins to sound like a combination of independent parts, which may be chords, dyads or even single notes. De-layering is the process by which these parts are distinguished from each other by means of harmonic content, intervallic arrangement, registral proximity, and other secondary parameters such as texture and instrumentation. Despite a seeming likeness, de-layering is not to be understood as the analytical practice of segmentation but rather as an inherent process within the music that can be observed by analysis. Example 4.1 shows a basic instance of polyharmony from the second movement of Prokofiev’s Symphony No. 5.
In bb. 19-22, a B-minor reiteration of the first four bars of the predominantly triadic main theme (analysed in Example 3.7, above) leads to the first two complex harmonies in this movement: g\textsuperscript{7} and dD (see Example 4.1, b. 23). Registral disposition and differences in instrumentation \textit{de-layer} them into two separate triadic transformations: g-D and D-d, as highlighted in b. 24. (This \textit{de-layering} is in effect from b. 23, and is annotated only in the following bar for visual clarity.) Hypothetically, either of the two transformations would fit in with the preceding harmonic progression. g-D would elaborate the D harmony arrived at in b. 22, suggesting the approach of a functional perfect cadence into g via a V\textsuperscript{6-5} progression. D-d would open up further opportunities for harmonic progression from the D harmony with its chromatic shift of the note F\textsuperscript{♭} to F\textsuperscript{♯}. Either of these transformations could extend the D harmony within a chromaticised tonal-functional context. By occurring simultaneously, they not only perform this conventional tonal function but also effect a harmonic accent in these bars by complicating the musical surface with semitonal clashes – the notes G-F\textsuperscript{♯} in g\textsuperscript{7} and F\textsuperscript{♯}-F in dD. The concept of \textit{polyharmony} interprets this accent as a feature arising out of the
superimposition of coherent harmonic progressions, rather than an arbitrary addition of chromatic notes. It also highlights the extent to which triadic thinking pervades this passage.

A basic instance of linear harmony can be demonstrated by elaborating on one of Kholopov’s examples of unusual suspension resolutions, taken from Piano Sonata No. 8/I, as shown in Example 4.2, below.¹⁹³

Ex. 4.2: Piano Sonata No. 8/I, bb. 59-60, basic instance of linear harmony.¹⁹⁴

In this short passage directly preceding the entry of the second subject in the exposition, Kholopov notes that the upper-stave D♯ in the second half of b. 58 is suspended over the bass motion D♯–D♭ to form an augmented octave. He then highlights the unusual voice-leading, which moves the upper-stave D♯ upwards by a tone to E♭, instead of moving by semitone, as might be expected, and only resolves when the latter reaches F♯ on the second beat of the bar.

Since the resolution is extended through the addition of the intervening E♭, which through being a tone rather than a semitone distant from D♯ does not wipe away the latter’s trace as efficiently, Kholopov argues that the dissonant aspect of the suspended D♯ is brought to the fore.

¹⁹⁴ The score extract used is the same as Kholopov’s (see ibid.); however, the annotations are original to this thesis.
Expanding on his observation, it can be argued that the two-step resolution presents an instance of linear harmony. Within the context of this phrase, $D^{\text{add1}}$ is highly dissonant due to the semitonal clash between the natural and sharpened tonic base, $\hat{1}$. With the first step of the resolution, the tension of this clash is partially released through the voice-leading $\hat{1}\rightarrow\hat{2}$, producing along with the $3\rightarrow4$ voice-leading motion and the D pedal in the bass a diminished triad on D, which is dissonant in this context, but less so than the $D^{\text{add1}}$ by virtue of not chromaticising the tonic base. The $d^\circ$ triad then completes the resolution to D major via the $4\rightarrow5$ discharge, accompanied by $2\rightarrow3$, which resolves specifically the suspended D$\sharp$ from before. Linear harmony, as described in section 1.1.1, above, is presented here in a two-step resolution process, in which the first step involves a harmony of greater dissonance resolving to one of lesser dissonance. The distinction between the dissonant aspects of the two may not be particularly large in this instance; however, the very simplicity of this example serves in its favour as an introduction to the technique. Further analyses of linear harmony will normally treat more complex chords. Incidentally, the second half of b. 59 to b. 60 in Example 4.2, above, can also serve as a basic example of polyharmony, with a D triad in the top stave, and a $G^\sharp$ formed by the quavers in the bottom stave. The following sections will present two examples each from Symphony No. 5 and Piano Sonata No. 8, exploring less straightforward examples of polyharmony as well as touching on some aspects of linear harmony.

4.1 Symphony No. 5/I: Polyharmony and Linear Harmony

One of the first themes to recur in the development of the first movement of Symphony No. 5 is D, the penultimate theme introduced in the exposition (see Example 3.2, above). A reduction of the theme is shown in Example 4.3, below.

185 Thanks are due to David Fanning for this observation.
Ex. 4.3: Symphony No. 5/I, reduction of theme D in the development, bb. 106-110.

The music in these bars is bounded by E♭ major harmonies, establishing the tonal centre for the first half of the development (see Example 3.2, bb. 105, 121, and 137). An E♭ pedal is maintained in the bass throughout the five bars, and the melody makes no departures from the major scale other than the brief chromatic passing note of C♭ in b. 108. However, in the same bar, the accompanying harmonies derive from E♭ minor and create dissonant chords with the melody and bass that involve stark semitonal clashes. Separating out the different harmonic processes that contribute to the creation of these dissonances unveils the relative simplicity of the individual layers; this can be seen from Example 4.3, below, which shows a harmonic reduction of the passage and illustrates the two harmonic processes at work in the music. As will be shown later in the discussion, their combination produces two characteristic harmonic entities of Prokofiev’s music – the Slide- (S) and Tritone- (T) relations – within the cadence in bb. 109-110.

As can be seen in reference to Example 4.3/a, Example 4.3/b replicates the functional inner-voice harmonies that accompany the melody in bb. 106-107, then re-composes the chords in the subsequent two bars according to the functional implications of the melody. The
supporting bass line and the annotation of keys and chordal functions is included in Example 4.3/b to help illustrate the implied harmonic process within the context of the larger five-bar progression. Together the harmonies in the actual score in bb. 106-107 and the ones implied by the melody thereafter form a straightforward progression in $E_\flat$ major, traversing two perfect cadences. The first accomplishes a momentary departure into the supertonic, $f$, via its secondary dominant (bb. 107-108), and the second returns to $E_\flat$ via a $V_4^{6-7}$ cadence (bb. 109-110). A comparison of Examples 4.3/a and /b shows that the chords accompanying the melody break with the functional harmonic pattern at the onset of b. 108. At this point the accompanying harmony proceeds according to a different, chromaticised process, illustrated in Example 4.3/c, below.
Ex. 4.4: Symphony No. 5/I, theme $D$ in the development, bb. 106-110.

/a Orchestral reduction, /b Functional harmony, /c Chromatically inflected harmony.
In the chromatically inflected harmonic strand depicted in Example 4.3/c, the E₃ harmonies bounding the passage are connected via a modally-mixed subdominant, which is approached from the Neapolitan sixth via the chromatic voice-leading motion, ♯2-♯ (see b. 108). It then contracts into a diminished-seventh chord that resolves onto E₃ via the normative D-T discharge, ♯-♯ (bb. 109-110). Layering the decorated minor subdominant chord with the functional melody, as shown in Example 4.3/a, produces an abundance of semitonal clashes with two major-minor chords, one of them with an added 4th, and a chromaticised diminished triad (see Example 4.3/a, bb. 108-109). The harmonic analysis below the stave in Example 4.3/a discounts, for the moment, the E₃ pedal, which contributes tonic status to the entire progression by acting as tonic base, ♯; however, its role as a static accompaniment will be significant in the analysis of the phrase’s cadence, later in the discussion.

It is possible to adopt an alternative perspective on the chromatic harmonies in bb. 108-110 by preserving the accompanying harmonic progression and re-composing the melody to coincide with it, as shown in Example 4.5, below.

Ex. 4.5: Symphony No. 5/I, bb. 106-110, counterfactual analysis.

This perspective views the melodic G and B₃ from b. 108 of the original score (see Example 4.3 or the reduction in Example 4.4/a, above) as non-chordal, and demotes them to rhythmically inferior positions as semiquavers preceding the melodic A₃ and C₃ in b. 108 of Example 4.5. The melodic C₃ that coincides with the a₃ triad in the original is eradicated from Example 4.5, since it does not work as either chordal or passing note, and C₃ is repeated in its
place. Finally, the penultimate four notes of the original melody are fitted into one bar in Example 4.5 (b. 109) by condensing them rhythmically according to the dotted-note pattern characterising the melody; this emphasises the Fs as chordal members of the diminished harmony in that bar. Having muted the melody’s capacity to imply its own harmony, this interpretation of the passage focuses on the transformational relationship between the triadic manifestations of the accompanying harmonies (that is, the seventh of VI$^7$ and iv$^07$ are seen as elaborations of the triads VI and iv, respectively). It highlights a similarity between the two halves of the phrase by virtue of the L shift that initiates them both. It also offers a simpler explanation for the transformation C-F$\flat$ in bb. 107-108: the label LP identifies it as a major-third relation achieved by the movement of two triadic voices by a semitone each, a unitary explanation that does not require conceiving a transition between two harmonic processes, as the reading in Example 4.4 advocates.

However, it is questionable whether the benefits of adopting the interpretation in Example 4.5 outweigh the drawbacks. Its reading of the harmonic progression in bb. 106-107 (L, TS) as being powered solely by semitonal voice-leading motions loses the sense of their cadential implications of resolving onto f, as observable in Ex. 4.4/b. The simple designation LP for the subsequent transformation into b. 108 then belies the unexpectedness of achieving F$\flat$ instead. Furthermore, the changes required to re-compose the melody so that it fits with the accompaniment not only mute its capacity to imply its own harmonic progression, they also deprive it of some crucial features through which it contributes to the phrase structure. Its rhythmic drive towards the cadence is lost by the introduction of crotchets into b. 108, necessary for its notes to coincide with the harmonies in bb. 108-109.

The re-composition also hampers the sense of timbral drive, created in the original version by marking the melodic notes G in these bars as the lower and higher registral extremities achieved via a consistent stepwise ascent (see Example 4.4/a, bb. 108-109). By placing the note A$\flat$ on the downbeat of b. 108 and F on the strong quaver-beats in b. 109, the
re-composition in Example 4.5 narrows the registral span of the main melodic notes from the original’s G-G octave to a sixth, lessening the sense of timbral drive. In view of these deficiencies, the perspective offered in Example 4.5 seems not so much to reflect the peculiarities of the phrase as to mask them through an analysis that eradicates the sense of their impact in search of a simplified explanation. Conversely, the more elaborate analytical interpretation of the passage as exhibiting polyharmonic properties given in Example 4.4, above, preserves both the music’s harmonic and melodic integrity, and is therefore offered in preference to the analysis in Example 4.5.

The analysis of this passage has so far ignored the A triad formed by the inner voices on the last quaver of b. 109 (see Example 4.3, above). This is because it does not arise out of the process of harmonic layering, but rather serves as part of a connecting chord between the preceding complex harmony in the same bar and the E₃ chord of resolution in b. 110. The following analysis will argue that the resulting cadential progression reverses the harmonic expansion, which occurred earlier in the passage via the process of layering, through the process of linear harmony. The A connecting chord mediates between the local harmonic extremes represented by the outer cadential chords by creating increasingly smooth voice leading and decreasing the level of dissonance gradually in the progression, and thus presenting an example of linear harmony. Example 4.6 illustrates the two stages of this process.

Ex. 4.6: Symphony No. 5/I, Theme D cadential harmonies, bb. 109-110.
This instance of linear harmony is manifest in the superimposition of tonic base, $\hat{1}$ (E$\flat$), and the tonic agent, $\hat{3}$ (G), from the resolution chord, E$\flat$ in b. 110, onto the two preceding chords, with which they create dissonant sonorities. (That the tonic base extends also from the initial E$\flat$ chord in b. 106 does not impact on the present analysis, but merely contextualises it.) Acting as static accompaniments in the melody and bass, E$\flat$ and G expand the diminished triad in the inner voices (left-most in Example 4.5, above) into an $a_5G$ S-join, a compression of the chromatic Slide transformation that is highly dissonant due to the semitonal clashes of the roots and fifths of its component triads. The S-join also expresses a high degree of functional mixture, with the presence of all three functional agents, $\hat{6}$, $\hat{7}$ and $\hat{3}$, in their optimal modes, as well as the remaining subdominant scale degrees, $\hat{1}$ and $\hat{4}$. The presence of so many influential functional entities creates ambiguities; for instance, $\hat{1}$ appears directly below the subdominant base and agent, $\hat{4}$ and $\hat{6}$, which support its function as the subdominant associate, however, it is also supported by the tonic agent, $\hat{3}$, in the melody that, coupled with $\hat{1}$’s presence in the bass voice, suggests it functions as the tonic base. The ambiguity of $\hat{1}$’s functional status also casts doubt on that of $\hat{4}$: while the presence of subdominant agent $\hat{6}$ supports its function as likewise-functioning base $\hat{4}$, its placement in an inner voice and the presence of dominant agent, $\hat{7}$, inclines it towards dominant function by virtue of creating the characteristic tritone of a dominant seventh. In summary, the S-join is a dissonant sonority that, in a functional context, can be understood as presenting a high degree of functional mixture as well as semitonal clashing.

The sense of discharge is delayed by omitting the normative resolutions of scale degrees $\hat{4}$, $\hat{6}$ and $\hat{7}$ of the S-join in favour of parallel ascending voice-leading motions to chromatic scale degrees $\hat{4}$, $\hat{7}$ and $\hat{2}$ within the second chord in the progression (see Example 4.6, above). The presence of the static accompaniments E$\flat$ and G turn this chord into an A-seventh with E$\flat$ acting as its raised fourth. Only one semitonal clash is present in this sonority: between the E$\flat$ and A$\flat$’s fifth, E. The $A^\flat7\text{add}_4$ therefore expresses dissonance, but less so than the preceding S-join. At the same time, the functional expressivity of the A-chord’s scale degrees is no
weaker than that of the S-join. While the static *accompaniments* 1 and 3 supply their tonicising effect, 2 and 4 act as the chromatic *projections* of the dominant and subdominant optimal-mode agents (see discussion of their special status in cadential contexts in section 2.4, above), while 7 contributes a weaker sense of dominant, supporting 2. In combination they form a mixed DTS-functioning sonority, which *discharges* onto the following E₃ chord via two strong and one slightly weaker voice-leading motions (2-1, 4-5, and 7-1, respectively), the effect of which is smoothed over but not overwhelmed by the presence of two static *accompaniments* that express tonic in both chords.

Perceiving this cadence as an instance of *linear harmony* unravels the voice-leading procedures that contribute to the formation of its discordant harmonies. There is some similarity with *polyharmonic* features, namely that the harmonies contain different functional layers that can create semitonal and tritonal clashes; however, *linear harmony* also introduces the process of tension-resolution, which may be absent from *polyharmonic* passages. By employing Harrisonian scale-degree analysis, particularly the concept of functional *discharge*, the details of this process can be observed with more precision than a singular Kholopovian perspective would allow. The latter would point out that the cadence is characterised by dissonant harmonies created by the superimposition of the notes E₃ and G from the chord of resolution onto the two preceding chords, but would not display their functional content or the relationships between their voice-leading motions.

The addition of a Cohnian perspective sheds light on the dissonant character of the first harmony in the progression by identifying it as a S-join, the compression of a voice-leading motion connecting a major triad to a minor one a semitone above it via their common third. The Cohnian perspective also highlights a T-relation between the last two chords in the cadence, allowing the other two perspectives to explore its contextual role within a functional process. Finally, the Cohnian perspective can add a positive slant on the analysis of the static *accompaniments* in this cadence; by perceiving them as common notes between the three
cadential chords, it draws attention away from their interference with the strength of functional discharges between the chords, and towards the smooth voice-leading that connects them.

To summarise, the examples presented in this section serve to demonstrate two points:

1. Highly dissonant chords arise on the surface of the music within a predominantly tonal context due to the technique of layering distinct harmonic processes. Perceiving such dissonances as the result of polyharmony allows an explanation of two of their characteristic features that analysts have problematized in earlier accounts of Prokofiev’s music. These are the smoothness with which dissonances appear in the music, despite lacking preparation via conventional methods, and the palpable retention of a tonal context, which highly dissonant harmonies disturb but do not obliterate.

2. Cadential progressions employ the principles of smooth voice leading in order to gradually diffuse dissonances created through harmonic layering. This process can be understood as a manifestation of Kholopov’s concept of linear harmony. Applying neo-Riemannian perspectives to the analysis of such passages reveals their features in more detail than a singular Kholopovian perspective can offer.

In the passage presented in Example 4.3, a sense of coherence is maintained by the running thread of a single harmonic process throughout, namely, the functional process initially expressed by inner-voice harmonies and subsequently implied by the melody (see Example 4.4, above). Dissonances created through adding a layer of chromatically-inflected harmony did not obliterate the sense of tonality created by this functional process: they enriched it, rather than displacing it. The smoothness with which dissonances appear in this passage can be attributed to the fact that the use of any of the layered processes individually would still create a coherent musical passage. In other words, it manifests polyharmony as distinct, coherent variants of the passage that are superimposed onto each other. Coherence is not achieved
through the act of layering; it is already present in each separate layer. The following section will analyse a different passage from the development of Symphony No. 5/I, showing how linear harmony can be understood as working over a longer stretch of music.

**4.2 Symphony No. 5/IV: Overlapping De-layerings and Ambiguity**

The opening C-major phrase of theme B from the fourth movement (shown in reduction in Example 4.7, below) bears a number of characteristic features associated with Prokofiev's musical style, including unprepared dissonant notes, chromatic slips and what looks like a conventional tonic-dominant-tonic foundation in the bass. These features elaborate an arpeggic melody and create a distinctive light and jocular character for this theme, enhanced by the relatively sparse texture and staccato articulation.

Ex. 4.7: Symphony No. 5/IV, Theme B, bb. 58-59.

As closer analysis will show, the process by which the dissonant harmonies that make this extract so characteristic arise can be understood by observing how they *de-layer* into independent parts. However, the rhythmic, harmonic, and registral organisation of the notes in this extract does not suggest a *de-layering* as clear-cut as that which was observed in the preceding examples in this chapter. Two possible *de-layerings* seem equally viable: one that prioritises harmonies implied by the melody, and another that focuses on the bass-line. The following analysis presents the former in Example 4.8/a and the latter in Example 4.8/b with
the aid of neo-Riemannian analysis. Example 4.8/c displays some voice-leading motions within the passage using Harrisonian scale-degree analysis, whose implications for the two possible de-layerings will be considered in due course.

Ex. 4.8: Symphony No. 5/IV, Theme B, bb. 58-59:

/a Rhythmic reduction, melody-accompaniment de-layering,
/b Harmonic reduction, outer-inner voices de-layering,
/c Scale-degree analysis.

The first possible de-layering, shown in Example 4.8/a, suggests that the music splits into the two separate processes of melody and accompaniment. The arpeggic melody broadly outlines the triads C-B-C with an overlap between the last two, as bracketed, marking a PS
transformation and its reverse. The remaining notes, given in the lower stave, form into
texturally simplified stacked-thirds harmonies, creating what resembles a compressed version
of a tonal-functional progression that elaborates C major by a passing V-I motion to D, with
the latter harmony omitted from the score. In the lower stave of Example 4.8/a, one can
almost hear the cycle-of-fifths progression that would result from the injection of a D major
or minor triad between A♯ and G♯. The first possible de-layering of the dissonant harmonies in
this extract can thus be summarised as a full downward-then-upward chromatic shift (C) of
the C major triad in the melody and an abridged cycle-of-fifths progression in the
accompaniment, involving traditional functional dominant intensifications, the seventh and
flat-ninth degrees.

Example 4.8/b, above, presents an alternative harmonic analysis of the extract. In this reading,
the music de-layers the dissonant harmonies into a tonic-dominant-tonic progression in C
major, outlined by functional bases in the lower part performing the rising root motion
C-G-G-C, with corresponding triadic notes in the melody and a non-functional triadic
progression in the inner voices. While at first this reading may seem to require more tinkering
in order to connect the upper-voice notes F♯ and D♯ with the middle-voice minim dyads, this
can be justified in view of the harmonic, intervallic, and registral consistency that this creates
in the inner-voice layer shown in Example 4.8/b. As these three musical parameters primarily
determine the manner in which complex harmonies de-layer, the analytical reading presented in
Example 4.8/b is equally viable to the one in Example 4.8/a.

This second possible de-layering of the complex harmonies differs significantly from the first
(shown in Example 4.8/a, above) in that it presents the phrase’s chromatic notes as part of a
triadic progression powered by semitonal voice leading, as opposed to an abridged cycle of
fifths. The Cohnian analysis below the middle stave in Example 4.8/b identifies two
chromatic transformations – the modally-mixed Tritone shift (TP) and H – both of which are
noted for their potential for strongly expressed functional discharge in section 2.4, above. The
near-maximally distant TP-transformation of the C triad takes it to f♯, which leads by a whole-tone shift to g♯ and, finally, via the fully-chromatic H-shift, back to C. The high degree of chromatic voice leading in both the TP- and H-transformations makes them ideal candidates for connecting otherwise remotely-related triads, and acts as a foil to the simple tonal-functional process occurring in the outer voices in this extract.

The two discharges shown in Example 4.8/c, above, contribute an aspect of coherence to the phrase that is expressed in the inner-voice layer of Example 4.8/b: strictly symmetrical voice leading. The upper and lower lines of Example 4.8/c are exact inversions of each other in terms of voice-leading motion, with every semitone rise in one part balanced by a semitone fall in the other, and so on. Moreover, these discharges offer an interpretation of how the inner-voice harmonies f♯ and g♯ in Example 4.8/b are connected. In Harrison’s theory, the scale degrees ♭2 and ♯4 have an established status as chromatic projections from either of the two non-tonic agents, ♭6 and ♯7. As can be seen in Example 4.8/c, above, these agents initiate the second discharge in the phrase. Their presence strongly suggests that the ♯4 and ♭2 achieved by the preceding first discharge should be perceived retrospectively as the direct projections from these agents, ♯4 expressing ♭6’s subdominant function and ♭2, ♯7’s dominant one. That this perception is confirmed retrospectively does not stretch Harrison’s theory beyond its remit, since he emphasises the two projections’ special independence from the two non-tonal agents, meaning the agents’ presence, while supportive, is not strictly necessary for the projections’ functional expressivity (see the discussion in section 2.4, above).

In summary, the two voice-leading discharges presented in Example 4.8/c, above, highlight that the f♯ and g♯ harmonies shown in the middle stave of Example 4.8/b contain different expressions of the same DS-functioning entity – f♯ the chromatic projections, and g♯ the optimal-mode agents. This interpretation seems to support the de-layering in Example 4.8/b over the one presented in Example 4.8/a, above; however, it is also applicable to the latter, though in a less direct fashion. While the notes involved in the two discharges shown in Example 4.8/c
do not reside within one layer in Example 4.8/a, their presence within the harmonies in the combined polyharmonic phrase may explain why the elision of a D harmony from the abbreviated cycle-of-fifths progression within the accompaniment layer of Ex. 4.8/a does not disturb the regularity of the phrase; semitonal voice leading bridges the gap between two non-adjacent harmonies in the cycle. The scale-degree analysis presented in Example 4.8/c therefore supports both of the alternative de-layerings shown in Examples 4.8/a and /b. This emphasises the phrase’s inherent ambiguity, since there are insufficient grounds for analytically prioritising either one of its de-layerings over the other. Accepting this ambiguity reveals an important feature of Prokofiev’s musical style: his chromatic developments exploit intersections between different musical processes.

This statement makes explicit an aspect strongly implied in some of Kholopov’s discussions of his concepts of polyharmony and de-layering. It asserts that complex harmonies can exist in one additional state: not only may they be unified or de-layered into independent parts, they may also de-layer into separate but overlapping parts. In a simple de-layering, a single chordal voice does not participate in more than one musical layer that contributes to a complex harmony, although an additional layer may double it in the context of a different harmony. This was the case in the first two analyses presented in this chapter. Applying this simple definition in the analysis of the extract in Example 4.7, however, has several drawbacks. It would either require that one of the possible de-layerings in Example 4.8 be prioritised without sufficient musical grounds, or it would entail a reading that allows sonorities no larger than a dyad at most to comprise separate musical layers. While there is nothing inherently wrong with such a reading, it would provide an impoverished description of the extract in question by virtue of ignoring all of its abundant triadic contents. In view of these shortcomings, the expanded concept of polyharmony that encompasses de-layerings into separate but overlapping processes has clear analytical advantages. It provides an insight into a number of different ways in which a single musical passage can be coherent, and highlights not only the harmonic richness of such
200

passages, but also a richness of musical processes which, by defying simplistic categorisation, offers multiple, equally viable explanations relating to the act of both listening and analysis.

4.3 Piano Sonata No. 8/III: Functional Intensification

In the previous example from the development of the Symphony No. 5/I, dissonant harmonies arose out of the layering of two alternative harmonic progressions, building to a chromatic peak in the phrase, which was then dissipated by semitonal voice-leading discharges. As in the first example in this chapter, the resultant effect was one of harmonic intensification marking a particular portion of the phrase. In the following discussion, it will be shown how polyharmony produces a functional intensification that amplifies the powers of summary and resolution of the final cadence of the Piano Sonata No. 8/III. Example 4.9 presents a Cohnian analysis of the cadential passage.

Ex. 4.9: Piano Sonata No. 8/III, functional intensification in the final cadence.

Following on directly from a tumultuous coda passage ending on a B♭ triad, bb. 487-488 recall a fragment from the first episode theme B of the movement on a b♭ harmony. At b. 489, the progression splits off into two branches, clearly distinguished by registral difference reflected in the note distribution between the treble and bass staves. Each of the two branches recalls characteristic harmonic relationships from preceding moments in the piano sonata, which are then constructed into two simultaneously sounding, distinct harmonic progressions marking alternative paths from the b♭ harmony in b. 487 to B♭ in b. 490. The de-layered complex harmonies thus created also recall distinctive cadential transformations that occur in the piece.
and elsewhere in Prokofiev’s music, maximising the gesture of summary. The following discussion will unpack these harmonic relationships and explain their interactions.

The progression forming the top-stave branch of the final cadence recalls three important harmonic transformations mostly from the background harmonic pillars of the piece (as shown in Example 3.23, above), with one middleground tonal centre (see Example 3.31, above). They are reproduced and annotated in Example 4.10, below.

**Ex. 4.10: Piano Sonata No. 8, three distinctive transformations.**

The three transformations are presented here in the order in which they are recalled in the final cadence. Example 4.10/a reiterates the R-shift b₃-D₃ that establishes the new key for the second movement. (The third movement background previously refers to this shift in the relationship between the main background harmonies of the exposition and development sections – see Example 3.31, above.) Example 4.10/b shows the P-shift connecting the tonal centre at the opening of the third movement development with that of its thematic goal (see the discussion in section 3.2.3, above). Example 4.10/c shows the chromatic slip, labelled as transformation PS, which reinstates the B₃ tonic in the third movement exposition after it is raised in the second subject. In the final cadence shown in Example 4.9, above, then, the first two transformations – R and P – in the upper-stave branch make a broad sweep of the whole sonata, before the larger shift TH achieves the C₃ harmony, which leads via the shift PS onto the final B₃, referring to the B-B₃ shift in the exposition of the third movement (the shift is bracketed in Example 4.9, as is its lower-stave accompanying line because B₃ manifests as a single note rather than a triad).
The lower-stave branch of the progression in Example 4.9 makes only one reference to preceding material in the piano sonata by reiterating the PL-shift quoted from the third movement’s first episode, which is shown in Example 4.11, below.

**Ex. 4.11: Piano Sonata No. 8/III, beginning of the first episode.**

In Example 4.9, above, the b♭ reiteration of this characteristic PL-shift from the first episode reaches a D minor triad at the start of b. 489. From there, an over-arching R-shift is achieved via two incremental semitonal shifts in the upper-voice part (briefly overreached by note a at the start of the bar), taking the harmony via F\( ^\text{aug} \) to F. The final motion onto B♭ performs a conventional dominant-tonic resolution. This progression differs from the one in the upper-stave branch of Example 4.9, above, in its closeness to tonal-functional principles, most notably in the final dominant transformation to B♭. It is also less extensive in its summative role, referring only to a characteristic harmonic transformation from the surface of the third movement. Nevertheless, it is a coherent progression with its own specific purpose: to gear the PL-transformation in bb. 487-489 of Example 4.9 towards the movement tonic of B♭. The ultimate summative role is performed by the complex harmonies formed by the simultaneous sounding of the two branches of the final cadential progression, as shown in Example 4.12, below.
Ex. 4.12: Piano Sonata No. 8/III, complex harmonies in the final cadence.

It has already been seen that the S and T transformations occur within cadential contexts in Symphony No. 5 (see sections 4.1 and 4.2, above). In Piano Sonata No. 8, they both occur in compressed form and, within the context of the piece, have summative meaning due to their operative role as transformations in the outer movements of the piece. The $d_3^{\text{add}_{6}}$ plays an intermediary role between the S- and T-joins. Instances of the two latter transformations will crop up in a number of harmonic analyses that will be presented in chapters 5 and 6, below, but a small selection of examples will be presented for the purposes of the present discussion.

The highly chromatic S-transformation’s capacity to shift very quickly between semitone-adjacent triads is maximised in a number of surface progressions, including the first episode of the third movement (see Example 4.11, bb. 11-12, above). Another notable instance occurs in the left hand of the climactic passage of the first movement coda shown in Example 4.13, below. In both cases, the S-transformation elaborates the prevailing harmony – g♯ in the former case and b3 in the latter – by injecting chromatic complexity into the harmonic fabric.
Ex. 4.13: Piano Sonata No. 8/I, first movement coda, surface S-shifts.

The S-relation also rationalises some unexpected key changes in the middleground of the third movement, where its paradoxical nature, embodied in the conflicting propensities to evoke the sense of harmonic closeness according to chromatic voice leading, and remoteness according to conventional tonal-functional schemes, is activated by diatonic contexts. Example 4.14/a shows the opening passage from the Piano Sonata's third movement, while Example 4.14/b provides a middleground harmonic analysis.

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196 Lehman provides a detailed exploration of this attribute of S in 'Shubert's SLIDEs', c. 2014.
Following the self-contained eight-bar opening passage in B♭ (discussed previously in sections 1.1.2 and 2.3.3, above), the sudden appearance of E minor at the start of the first episode can be linked via an S-shift to the intermediate E♭ harmony occurring within the preceding passage. This draws attention to the harmonic proximity that exists between the opening phrase and the first episode in terms of chromatic voice leading, tempering the more strident expression of harmonic remoteness highlighted by the TP-shift B♭-e in bb. 8-9. At the same time, the S-shift emphasises the sense of remoteness by signalling a departure from the diatonic framework of the opening eight bars, indicated by the NP- and PN-shifts.¹⁹⁷ The

¹⁹⁷ Neo-Riemannian theorists such as Kopp (2002) and Lehman (c. 2014) prefer to retain the functionally meaningful labels of DOM and SUBDOM for transformations such as these, in order to highlight the presence of diatonic contexts.
S-shift E♭-e is later reversed on the surface of the music within the second subject, as shown in Example 4.15.

**Ex. 4.15: Piano Sonata No. 8/III, S in the second subject, bb. 48-49.**

The **T**-transformation compressed in the third complex harmony of Piano Sonata No. 8’s final cadence can be observed in many places within the piece. Most significant are its B♭-E appearances in the backgrounds of the outer movements (see Ex. 3.23, bb. 1 and 169 of the upper stave, and bb. 380-449 of the lower stave). In the former case, the **T**-transformation characterises the relationship between the movement’s B♭ tonic and its thematically emphasised harmonic far-out point, E, as was discussed in section 3.2.1, above. In the latter, it describes the relationship between the respective harmonic areas of the first and second subjects of the third movement’s recapitulation, as shown in Example 4.16, below.

**Ex. 4.16: Piano Sonata No. 8/III, recapitulation, B♭ and E subject tonics.**
This T-transformation is also the central harmonic relationship characterising the surface of the music in the third-movement coda material preceding the final cadence. As can be seen from Example 4.17, below, which shows some bars from the coda, the B♭ and E harmonies oscillate repetitively in a gesture of final harmonic affirmation.

Ex. 4.17: Piano Sonata No. 8/III, coda, B♭-E oscillations.

Perceiving the link between the transformations in the preceding five examples (as well as Example 4.11 and 3.23, above) with the complex harmonies in the final cadence of the Piano Sonata is possible if the cadence is treated as a polyharmonic phrase, whereby de-layering separates out the triads related by the S and T transformations. The advantage of adopting this perspective is that it highlights the relationships between as well as within the different musical layers, as was seen earlier in this section, and therefore unveils the extent to which the final cadence makes references to preceding musical events in the piano sonata.

Whereas the chromaticism inherent in the S- and T-shifts earlier in the piece was exploited for its capacity to create links to diatonically-remote harmonic areas, in the final cadence of Piano Sonata No. 8, it is employed in the chromatic intensification of individual chords. The extent
of the resulting functional intensification can be observed in a Harrisonian analysis of the final cadence (see Example 4.12, above), as shown in Example 4.18, below.

Ex. 4.18: Piano Sonata No. 8/III, bb. 488-489, Harrisonian analysis.

Functional intensification is manifest in the above example in two ways, which will be explored in turn:

1. Single functions are expressed by both modal variants of a particular scale degree,
2. Equivocally functioned scale degrees express both of their possible functions.

The first point is readily apparent from the scale-degree annotation in Example 4.18, above, especially in the first chord, which contains both modal variants of the dominant and tonic agents (7 and 3, respectively). It also applies to the dominant associate 2 and its flattened version in the third chord, although the case is slightly complicated by 2 also expressing subdominant as well as dominant function. The first point does not, however, apply to the two modal versions of 5 in the second chord, as they express different functions, as will be argued below.

The presence of two modal variants of the scale degrees in the first and third chords embodies intensification by virtue of representing a set – in the first chord, an exhaustive one – of entities communicating a particular function, rather than just one of the possibilities.

The second point concerns the two scale degrees 5 in the first chord, and 2, 2 and 4 in the third chord. In the former, the lower 5 acts as a dominant base by virtue of its bass-line
position and the support of dominant agent 7 sounding directly above. The upper 5’s status as a mere doubling, however, is challenged by the presence of modally-mixed tonic agent 3 in the adjacent voice below it, as well as its major variant, 3, in an inner part. Their presence and registral placing suggest that the upper 5 functions as a tonic associate, unlike the lower 5. That the upper 5 imitates the inner-voice 3’s semitonal voice-leading motion downwards onto the second chord confirms its tonic allegiance. Since the resulting 5 in the second chord is likewise tonic functioning while the lower-voice 5 of the same chord remains dominant, these two scale degrees cannot be said to be modal variants expressing the same function, according to point (1), above. Scale degrees 2, 2 and 4 in the third chord present a less clear-cut situation, since the latter two are technically unequivocal in their functional expression as dominant associate and subdominant base, respectively. However, as Harrison points out, they are often subsumed into their opposite functions, manifesting the chords II7 and V7. This is evident in the third chord of Example 4.18, above. 4’s function as a subdominant base is weakened by its upper-voice placement, while the gathered forces of all the three dominant chord constituents in the lower voices incline it towards dominant function.

On the other hand, optimally-moded subdominant agent 6 in an inner voice supports 4’s subdominant expression, and together they incline 2 towards subdominant function. As such, 4 and 2 are both interpreted as expressing the dominant and subdominant functions. 2 presents a less problematic case, since its capacity to be projected from either the dominant agent 7 or the subdominant agent 6, and hence embody either function, has been established in section 2.3.2, above (see especially Example 2.8). As both the agents are present in the third chord of Example 4.18, above, 2 can be said to express both of their functions. Functional intensification according to point (2), above, is thus manifest in that the scale degrees 2, 2 and 4 simultaneously express an exhaustive set of their possible functions.

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In summary, the final cadence of Piano Sonata No. 8 presents an instance of polyharmony, in which de-layering unveils compressed references to preceding music material, and separates into two layers three complex harmonies that embody functional intensification. The resulting discharge onto the final B, is very strong, featuring the two voice-leading motions from agents, 7 and 6 (although 6-1 is not one of the common discharges of the former scale degree), one from a projection, 2, two from the dominant and subdominant bases, 5 and 4, with the support of one active accompaniment, 2. While the precise description of the overall discharge varies slightly depending on which facet of the ambiguously-functioning entities explored above is emphasised for interpretative convenience, this does not affect the strength of the discharge. That all six voices resolve onto the same scale degree – the tonic base, 1 – augments this affect by providing a stark timbral contrast between the DS chord and the final B,. The following section will consider another important cadence, appearing at the close of the Piano Sonata’s first movement, and argue that conceiving it as a polyharmonic phrase illuminates the role of harmonies that initially appear mysterious.

4.4 Piano Sonata No. 8/I: Polyharmony and Disambiguation

In section 4.2 it was shown how the polyharmonic opening phrase of theme B from Symphony No. 5/IV created a sense of ambiguity by de-layering with equal clarity into separate but overlapping musical processes, and thus inviting multiple hearings of the same material. The following discussion will present an analysis which suggests that polyharmonic passages can also have a disambiguating effect on the music, by conferring meaning on harmonies whose role was previously uncertain. The final cadence of Piano Sonata No. 8/I, shown in Example 4.19, is a prime instance.
Ex. 4.19: Piano Sonata No. 8/I, final cadence, bb. 293-297.

Following a tempestuous coda reinforcing the B♭-minor tonic that ended the recapitulation, this passage comes as a surprise with its quiet dynamic and questionable harmonic allegiance. It resists a simple harmonic analysis because it evades stability until the final B♭ chord. The preceding chords can, of course, be labelled without too much trouble; however, this will not necessarily unveil their role and connection to the B♭ triad at the end. What emerges strongly from bb. 293-296 are seemingly un-patterned instances of semitonal motion in all parts, with no obvious goal until B♭ is reached in b. 297. This musical effect is dramatically powerful as it fosters a sense of uncertainty at the movement’s conclusion, where affirmation would be expected (a large-scale manifestation of this effect will be discussed in relation to Symphony No. 5/III in section 6.2, below). Yet describing this effect analytically has proved problematic. Probably the only previous analytical account of these bars resides in an early article by Malcolm Hamrick Brown and, despite his seemingly positive intention, it comes across as somewhat dismissive. Example 4.20 reproduces his analysis of the passage.
Ex. 4.20: Piano Sonata No. 8/I, reproduction of Brown’s analysis of the final cadence.\textsuperscript{199}

Brown’s description of the extract is as follows: ‘This cadence of the first movement … demonstrates in concentrated form Prokofieff’s expansion of functional harmony. The separate harmonic entities might be considered the product of harmonizing chromatic passing notes. In any case, the final tonic speaks firmly and satisfyingly’.\textsuperscript{200} Brown’s statement captures the impulse to locate elements of ‘functional harmony’, the evident prevalence of ‘chromatic’ motion and the ‘firm[ness]’ of the final tonic. And yet his description only serves to underline the inadequacy of the theoretical concepts and terminology that he invokes. The term ‘passing notes’ commonly refers to auxiliary pitches moving stepwise between two stable ones; yet with no stable pitch at the beginning of the phrase, one cannot responsibly attribute the term to the ensuing notes. Even if the implication behind Brown’s labelling of subdominant, dominant and tonic areas were to be drawn out and, consequently, the pitches E\textsubscript{b}, F and B\textsubscript{b} considered stable, the only viable ‘chromatic passing note’ would be the E\textsubscript{b} at the end of b. 294, and that is not harmonised. Example 4.21 illustrates how harmonies in this passage can be understood by using neo-Riemannian analysis and Kholopov’s concept of polyharmony.

\textsuperscript{200} Ibid.
Ex. 4.21: Piano Sonata No. 8/I final cadence, neo-Riemannian/polyharmonic analysis.

The top two staves label the harmonies in the cadence according to two visually-apparent de-layerings, producing in b. 295 the C$\sharp$7 and D$\flat$7 chords, the latter of which overlaps with an f triad, and a complex harmony comprising of the f$\sharp$, f and C$\flat$ triads in b. 296. Perceived in this way, the passage unvels some harmonic relationships between the final B$\flat$ chord and the preceding harmonies. F$\flat$ minor connects to it via an H-transformation, the cadential role of which was previously observed in Symphony No. 5/IV (see Example 4.8/b above). The C$\flat$ triad slips down to B$\flat$ via a PS, a transformation seen within the cadential progression of the final cadence of the Piano Sonata’s third movement (see discussion following Examples 4.9-10). Finally, the f triad relates to B$\flat$ via a TS-shift. What this de-layering suggests is indeed a ‘concentration’ of musical processes, such as Brown must have intuitively perceived within this passage. It even supports an interpretation of these relationships as ‘Prokofieff’s expansion of functional harmony’, yet for different and analytically more viable reasons than Brown’s. The ‘expansion’ in this case refers not to the use of somewhat vaguely defined ‘harmonized chromatic passing notes’, but to the complex harmony in b. 296, whose constituent triads resolve onto B$\flat$ via cadentially associated transformations of a chromatic nature found elsewhere in Prokofiev’s works. What is more, perceiving the harmony in b. 296
as constituting three distinct triads reveals that two of them are foreshadowed in the pre-cadential progression: f♯ at the beginning of the passage in b. 293 and f in b. 295. The significance of this will be explained presently, but first it is necessary to refine the analysis to incorporate a number of features so far unaccounted for.

As mentioned above, the de-layering of the complex harmony in b. 296 outlined in this analysis is based on visually apparent factors; namely, the specific enharmonic spellings of the notes, the registral implications of their separation between the two staves, and the rhythmic arrangement of the lower-stave notes. However, a more probing analysis will show that the intervallic and registral disposition of the f♯ and C♯ triads places them in close proximity, with only a(n enharmonic) minor third between C♯’s upper note, E♯, and f♯’s lower note, F♯. That part of the complex harmony in this bar splits into f♯ and C♯ triads distinctly is thus much less obvious aurally than it is visually. This suggests that the analysis must be refined in order to reflect these triads as forming a single harmony. The principle of enharmonic equivalence allows one to propose that the resulting harmony is an innocuous C♯9. On this aurally apparent de-layering, the semitonal voice leading of the H- and PS-transformations outlined previously in Example 4.21 can be understood as part of a single chromatic process, as outlined in Example 4.22/a, below.\textsuperscript{201}

\textsuperscript{201} Thanks are due to William Drabkin for guiding me to this observation.
A Harrisonian analysis of the cadence, shown in Example 4.22/b, highlights the fact that it involves maximised semitonal voice leading. Although the intervallic disposition of the harmonies masks this feature (evident by the crossed lines indicating the notes connected by discharges and accompaniments in the example), working instead to create an overall rising registral trajectory covering four octaves, the impact of semitonal voice leading is unmistakable. Reading from the left, the DS discharge $\hat{5}$-$\hat{6}$ is supported by a change from flattened to optimally-moded dominant agent $\hat{7}$-$\hat{7}$, accompanied by the parallel-motion projection, $\hat{2}$-$\hat{2}$, resulting in a full semitonal shift connecting the $f$ and $g_b/f_2$ harmonies, the latter of which resides within the $C_{b^9}$ chord. $\hat{7}$ and $\hat{2}$ then continue their upward trajectory to obtain $\hat{1}$ and $\hat{3}$, while $\hat{6}$ descends back to $\hat{5}$. At the same time, the additional three notes comprising the $C_{b^9}$ chord intensify the discharges onto the $B_b$ triad: $\hat{6}$-$\hat{5}$ is doubled in a lower voice, the doubled $\hat{1}$
in the final triad is achieved by special projection \( \hat{2} \), which can be interpreted as exhibiting both the dominant and subdominant functional qualities, due to the presence of both optimally-modeled agents (\( \hat{7} \) and \( \hat{6} \)) within the \( C_9 \) chord, and \( \hat{4} \) connects to the registrally distant \( \hat{3} \) in a higher voice. Kholopov notes Prokofiev’s penchant for registrally distancing resolution notes from their voice-leading precursors in this manner, and highlights this as an expressive means of intensification.\(^{202}\)

Observing the maximised semitonal voice-leading in the final cadence outlines a consistent connection between the \( f, C_9 \) and \( B_3 \) harmonies. It also engenders a reconciliation between the Harrisonian concept of discharge and the Cohnian concept of smooth voice leading, which give opposing interpretations to moving and static voices in a harmonic transformation (as discussed in section 2.4, above). The latter concept requires that notes be held in common between two harmonies while another (or others, in case of larger harmonies) moves by semitone, the former, that a voice moves between scale degrees – semitonally or otherwise – which strongly express different functions. In the final cadence, as depicted in Example 4.22, above, all voices move, satisfying Harrison’s requirements for discharge, and while no common notes exist between the adjacent harmonies, all voices move by a semitone, satisfying one of Cohn’s crucial requirements for smooth voice leading.

The refinement of the analysis of the final cadence, reflected in Example 4.22, above, also invites an appreciation of a relationship obtaining between all the harmonies observed in the cadential passage. The first of these strengthens the connection between the \( f \) and \( B_3 \) triads, as illustrated in Example 4.22/c, above, while the second concerns the diminished-seventh chords highlighted in Example 4.21, above, and will be discussed further below. As previously observed, \( f \)'s functional cadential role is seemingly undermined by its modal mixture and its temporal separation from the \( B_3 \) triad by the notes forming the \( C_9 \) harmony, not to mention the latter’s superseding chromatic voice-leading connections to the final triad. Yet the insistence with which the \( f \) harmony appears in the music – its root occupying the outer voices

\(^{202}\) Kholopov, Sovremennye cherty garmonii Prokofieva, 1967, 121.

216
in b. 295 (see Example 4.21, above) and its repetition across the bar-line – suggests that it cannot be easily dismissed. In fact, its TS harmonic relationship to the B♭ triad is mirrored in the relationship between the C9's constituent triads, C♯ and g♭. That C9 does not de-layer into these triads does not negate the TS-relationship between them. Rather, it allows the observation of how this relationship is used in two different ways within a cadential progression. The TS-relation between f and B♭ is de-emphasised such that the first triad overlaps with the semitonally-distant, and likewise TS-related g♭ and C♯ triads, forming a complex harmony. Its fully-chromatic resolution onto the harmonically-simple B♭ triad maximises the dispersion of tension within this cadence. While neither of the TS relationships is brought clearly to the forefront of the music, perceiving them analytically promotes an understanding of the surface chordal connections as manipulations of a patterned harmonic structure.

The second previously undisclosed harmonic relationship unveiled by the de-layering of the complex harmony in b. 296 into the f and C♯9 chords concerns the role of the half-diminished seventh harmonies in b. 295; so far they have been labelled (see Example 4.21), but not connected analytically to the cadential process. This feat is possible once another property of the C♯9 harmony is taken into account: it is formed by the addition of a C♯ to an E♭ø7 chord. By drawing out this constituent harmony, one can connect it to the preceding half-diminished seventh chords in a chromatically-ascending progression spanning bb. 295-296, as illustrated in Example 4.23, below.
Ex. 4.23: Piano Sonata No. 8/I, final cadence, half-diminished seventh chords.

One might object to this reading on the basis of the fact that the C$\text{#}_7$ and D$\text{#}_7$ chords arise out of a clear de-layering, while the E$_b^7$ chord is only a constituent of the larger, unified C$_9$ harmony; however, it would be more informative to observe the three half-diminished seventh chord progression while acknowledging that its final member is masked within a complex harmony. Doing so provides an analytical means of explaining in some detail what the intuitively apparent ‘concentration’ of musical features in this passage consists of and, as was the case with the TS relations discussed above, it allows the perception of a coherent harmonic structure behind the surface complexities of the music.

Now that the full implications of refining the initial analysis of the cadential progression have been set out, the significance of the foreshadowing f$\#_7$ and f$7$ triads in bb. 293 and 295, respectively, (see Example 4.21, lower staves) can be explained. They can be understood as constituent members of the complex cadential harmonies that, without their remaining parts, appear devoid of a harmonic trajectory. As these parts are added in the ensuing bars, the previously ambiguous f$\#_7$ and f$7$ triads acquire meaning as members of the complex harmony. In other words, the polyharmonic process in bb. 293-297 is not characterised so much by the de-layering of complex harmonies as by incremental layering that produces them. The polyharmonic process of disambiguation creates a cadential narrative of motion from uncertainty to clarity, rather than one of reinforcement as might be expected in a movement-concluding cadence. As
was briefly mentioned above, this has a very powerful dramatic effect within the movement’s
coda which, prior to the final cadence, insistently reinforces the b[sub]♭[/sub] harmony (see Example
4.13, above). The feeling of uncertainty introduced by the floating f[sub]♯[/sub] harmony in b. 293 injects
an aspect of doubt regarding b[sub]♭[/sub]’s predominance as the tonal centre. As the ensuing bars begin
to layer harmonies, f[sub]♯[/sub]’s cadential role is gradually revealed and clarity finally arrives with the
resolution to the B[sub]♭[/sub] major triad in b. 297. The poignant effect created by the change to B[sub]♭[/sub]
major from B[sub]♭[/sub] minor invites a plethora of narrative interpretations, should one choose to look
for them, including hope amidst despair or the subdued voice of protest against an
overpowering force. Establishing any such hermeneutic reading is beyond the remit of the
present analysis. Nevertheless, the strength of the dramatic effect in the coda is undeniable.
That the concept of *polyharmony* has the capacity to disclose harmonic interactions that
contribute to this effect makes it a highly useful tool in the analysis of Prokofiev’s music.

### 4.5 Summary

The analyses in this chapter serve to show that *polyharmony* is a highly versatile concept that
promotes an understanding of the varying roles that complex harmonies play in Prokofiev’s
Symphony No. 5 and Piano Sonata No. 8, while the process of *linear harmony* can shed light on
how harmonic tension is released in transformations between such harmonies by highlighting
the results of specific voice-leading behaviours. Section 4.1 presents a prime example of both
processes by demonstrating the ways in which a *polyharmonic* conception of the development
passage from Symphony No. 5/I (see Example 4.3) highlights both its properties of coherence
and disjunction in the introduction of chromatically-enriched harmonies. *Linear harmony* offers
an interpretation of how the passage’s amassed chromatic forces are dispersed. Section 4.2
presents a passage from the last movement of the Symphony (see Example 4.7), which invites
the perception of alternative *de-layerings* and argues that this instance of *polyharmony* is best
understood by accepting both ‘alternatives’, thus emphasising the capacity of the process to create a sense of musical ambiguity.

Section 4.3 offers an analysis of the final cadence of Piano Sonata No. 8/III, which focuses on the capacity of a polyharmonic passage of producing a sense of intensification by means of compressed introverting musical references and the activation of an increased number of functional properties, as well as discussing the complex harmonies involved. Finally, section 4.4 argues that a polyharmonic conception of the cadence closing the Piano Sonata’s first movement not only reveals different relationships within the complex harmonies involved, but also encourages a retrospective interpretation of seemingly disconnected harmonies earlier in the passage, in a process described as disambiguation.

These examples are not offered as the only possible interpretations of the passages in question; however, I propose that there are significant advantages to perceiving them as manifestations of polyharmony. Some of these have been highlighted in sections 4.2 and 4.4 with regard to an original alternative analysis and one presented by Brown, respectively. In essence, these advantages reside in the capacity to produce detailed analytical interpretations of passages in Prokofiev’s music, identifying a variety of harmonic and voice-leading relationships that would be masked or de-emphasised by other approaches.
5 Form and Harmonic Structure

Having set out in the last chapter some of the ways in which neo-Riemannian and Kholopovian theoretical concepts can elucidate the nature of analytically problematic local passages of Prokofiev’s music, the focus will now shift back to larger structures – in particular, the relationship of harmony to form. This chapter will elaborate on the background tonal layouts presented in chapter 3 for the discussion of thematic features, highlighting salient examples of harmonic organisation that play significant form-defining roles. Section 5.1, which will look exclusively at Symphony No. 5, will explore the way transformational cycles operate within particular tonal zones, providing a Cohnian alternative to Minturn’s analysis of the structural processes within the first movement (see section 1.3.2, above). Further analyses will proceed to develop the concept of transformational cycles as means of harmonic organisation in the Symphony by presenting readings of how they elucidate aspects of harmonic structure within the following movements. Section 5.2, which will focus on Piano Sonata No. 8, will expand on this principle and argue that a transformational cycle operates in the background structure across all three movements of the piece. Analyses will demonstrate how associated harmonic processes acquire particular functions with regard to form, and how the idiosyncratic attributes of these processes in turn affect formal parameters. The most structurally significant transformational cycles, namely ones occurring in the first movements of the two pieces and the background of the entire Piano Sonata, will provoke the most extensive discussions.

As noted towards the end of section 2.4, this chapter will mostly employ Cohnian theory as set out in section 2.2, although this will serve to demonstrate Kholopovian concepts in many a case, as will be made explicit in the following analyses. Harrison’s scale-degree analysis will occasionally be called upon to describe voice leading that departs from triadic harmony, but will not feature as heavily as it has in the two preceding chapters. A final note concerns the application of triadic analysis to musical contexts that may not explicitly or unequivocally
express full or actual diatonic triads. According to the methodology set out at the beginning of chapter 3, a triad will express either simply itself or additionally a major or minor key, unless otherwise stated. In the latter cases, justification for using triadic analysis will be given contextually.

5.1 Symphony No. 5: Overview

As was seen in the discussion of Example 3.1, above, which shows Symphony No. 5’s main harmonic pillars, much of the piece’s harmonic background reflects conventional tonal planning, especially in the first and last movements, which follow a broad T-D-S-T pattern or its close variant in the latter case. Only the third movement of the Symphony has an unconventional, chromatic background (see Example 3.1). In all other movements, harmonic complexity is only evident at the surface and middleground layers. Furthermore, comparing the middleground analyses of the Symphony’s four movements (shown in Examples 3.2, 3.6, 3.13 and 3.16, above) reveals the presence of third- and, albeit to a lesser extent, tritone-related harmonies throughout. As the following analyses in this section will show, many of these form transformational cycles, which serve as a means of modulatory development for thematic material and provide harmonic variety within conventional tonal zones. The latter is particularly significant within the structures of the first and, to a lesser extent, the third movements, as will be explored in sections 5.1.1 and 5.1.3, below.

The transformational cycles created through harmonic organisation by thirds also contain various triadic relationships that are emphasised for specific harmonic effects, or used in isolation from the rest of the cycle. One such relationship is between the initial triad of the cycle and its pole chord, whose extreme voice-leading distance from its partner gives it a special transformational status, as has been established with regard to the two pole-relationships H and T in chapter 2 and subsequent analyses. Section 5.1.2, below, will
comment on how one such harmonic relationship manifests outside of the middleground transformational cycles within the Symphony’s second movement.

Finally, the interaction between different transformational cycles will be explored in the Symphony’s fourth movement, where it will be demonstrated that a particular harmony acts as a pivot-chord forging a connection between two different cycles in the exposition and development sections. It will be argued that the resulting harmonic structure explains the role of the tritone-related E♯ harmony in the movement’s background (see Example 3.1, fourth stave, above).

5.1.1 Symphony No. 5/I: Andante

In his discussion of the exposition of Symphony No. 5’s first movement, Minturn located a succession of third-related harmonies, arguing that they are created as a consequence of a particular deployment of what his analysis designated as the movement’s structural set (see Example 1.12, above). While this analysis is problematic for reasons cited in section 1.3.2, its mention of third-related harmonies points to a harmonic structure encompassing all of the first subject of the exposition from its first middleground passing harmony (see Example 3.2, b. 7, above), as will be shown in this section. The following discussion will argue that this harmonic structure maps directly onto the movement’s background pillars (see Example 3.1, above) when perceived through the prism of Cohnian tonal-zone analysis as presented in section 2.2.3, and further, elucidates the presence of an unexpected harmony within the first subject’s return in the recapitulation. Example 5.1, below, shows a reduction of bb. 1-18 and 28-29 from the first subject of the exposition, during which theme A is presented and subsequently modulates through a number of keys before a return to B♭.
Ex. 5.1: Symphony No. 5/I, reduction of the exposition bb. 1-7, 12-17 and 28-29.

The initial statement of the first subject primary theme, A, establishes the tonic of B♭ within the first three bars, and subsequently leads to the dominant F in b. 7, which returns at the beginning of b. 12, suggesting imminent return to B♭. Via a chromatic slip in the melody, which under-shoots the note A and lands on a G♭ instead, the expected dominant-tonic motion occurs in the key of A, establishing the initial third-relation with the preceding F. The same melodic manoeuvre is used in b. 16 to achieve a transformation into D♭, likewise third-related to the preceding A. D♭ becomes the local tonic until the return of B♭ for the secondary theme of the first subject, B, at b. 29. Observing these transformations on the Tonnetz, as shown in Figure 5.1, below, links the two outer B♭s via a pattern of consecutive, adjacent steps between major-mode triads of a hexatonic cycle in the dominant zone. Numbered arrows on the Tonnetz indicate the succession of harmonies.
The move from B♭ to F in bb. 1-7 makes the initial step from the tonic to the dominant zone (shown by arrow 1 in Figure 5.1, above). The two subsequent steps move through the dominant-zone cycle, skipping every intervening minor triad. A step back to the tonic zone, shown by arrow 4, occurs before the cycle can close with a return to F. This achieves a return to the tonic B♭ without creating a strong sense of harmonic resolution, which would have resulted from reaching B♭ via F. Evidently Prokofiev wanted to avoid such a strong harmonic closure so early in the exposition.

Thus, a transformational analysis of bb. 1-29 shows that the harmonies through which theme A is taken elaborate the dominant zone, into which the theme initially ventures in bb. 7-12, before returning to the tonic B♭ for the introduction of theme B. This reading gains support from observing the harmonic patterns underlying the presentation of theme B and how they lead through the transition into the second subject. Example 5.2, below, gives score extracts demonstrating the main harmonies in bb. 29-52 of the exposition, while Figure 5.2 maps them onto a Tonnetz.
Ex. 5.2: Symphony No. 5/I, the main harmonies from bb. 29-52 of the exposition.
From the initial starting point of B♭, the harmony performs a shift onto E♭ in b. 34, stepping out into the subdominant zone, followed by a major-third shift to B in b. 38. Comparing these two shifts to the first two shown in Figure 5.1, above, reveals that the harmonies B♭-E♭-B proceed along an exact inversion of the B♭-F-A pattern occurring earlier in the movement. The Tonnetz makes this visually apparent by presenting the first shift of the former by a leftward arrow, where the latter was indicated by a rightward arrow; likewise the former’s second shift moves downwards, whereas the latter’s moved upwards along the Tonnetz. Were the inverted harmonic pattern to be continued in the music presenting theme B and the transition, it should arrive back on B♭ for the second subject, via a shift from G, as can be seen by tracing the dotted arrows in Figure 5.2, above. However, the pattern is deliberately broken off in the music at the transition. Through disjunctive harmonic processes that will be explored in more detail in section 6.1, below, the B harmony at b. 38 is connected to its tritone-relation, F at b. 52 (compare Figure 5.2, arrows 3-5 with Example 5.2, bb. 37-52, above). In this way, F is established in the second subject only after a succession of hexatonic-cycle transformations in B♭’s dominant and subdominant zones is interrupted by disjunctive processes in the transition, belying the seeming simplicity of the B♭-F shift between
the first and second subjects observable in the background structure (see Example 3.1, top stave, bb. 1 and 54, above).

This reading of the exposition’s first subject is supported by the harmonic structure of its recurrence in the recapitulation, which also consists of adjacent transformations between major-mode triads of a hexatonic cycle, but this time solely within the tonic zone. Example 5.3, below, shows a reduction of the relevant passage from the recapitulation, where harmonic movement occurs over a shorter span of music due to thematic concentration.

**Ex. 5.3: Symphony No. 5/I, reduction from the recapitulation, bb. 186-192.**

Approaching b. 186, B♭ is re-established as the tonic in the recapitulation, (see Example 3.2, b. 165, above). At b. 186, shown in Example 5.3, the main theme begins on B♭ in the melody, suggesting an imminent re-iteration of theme A in E♭. However, through the technique of chromatically lowering the dotted quaver on the upbeat, familiar from the exposition, a cadence onto D is achieved instead. After theme B is sounded in the new key at b. 188, the opening melody of theme A returns in b. 190 in the top voice, starting on F♯ and performing the same chromatic slip, heralding a return to B♭. However, the melody in the following bar is
harmonised instead by G♭, producing the effect of an interrupted cadence at b. 191. The surface of the music thus creates a dramatic effect by thwarting expectations and introducing prominent modal mixture (see Example 5.3, 6 and 3 degrees, above). Yet while the G♭ harmony sounds unexpected on the surface of the music, a Cohnian analysis shows it to be part of a coherent harmonic structure in the middleground, as shown in Figure 5.3, below.

**Fig. 5.3: Symphony No. 5/I, harmonic transformations of themes A and B in the recapitulation, bb. 165-204.**

This harmonic structure follows the same pattern of movement along a hexatonic cycle as that which was observed towards the start of the exposition’s first subject (see Figure 5.1, above), but now solely in the tonic zone. Comparing the manner in which hexatonic major-mode cycles are employed in the exposition and recapitulation reveals that they coincide with the process of thematic compression, shown in Example 3.2, above (compare bb. 1-54 with bb. 165-204). In the exposition, the themes A and B progressed along hexatonic cycles in the dominant and subdominant zones, respectively. When these themes are compressed in the recapitulation, they proceed together along the hexatonic cycle in the tonic zone. As well as serving the goal of compression, this harmonic device also paves a more direct path towards the B♭ tonic, which is geared to coincide with the re-statement of the second subject.
Two factors – one formal and one dramaturgical – deflect this path after the $G_\flat$ harmony, so that other transformations intervene between it and the tonic $B_\flat$. These transformations counteract the absence of a transition, which acted in the exposition as a clear signal of the formal division between the two subject areas, as well as defusing the tension accumulated along the path to $G_\flat$ in the recapitulation. The following analysis will argue that the intervening transformations achieve these goals by breaking with the regularity of the hexatonic cycle and thus marking $B_\flat$ as a harmonic point of arrival.

The presentation of this analysis will require stretching the limits of the Tonnetz to illustrate harmonies other than a major or minor triad. While not ideal, the principle of depicting more complex harmonies on the Tonnetz is feasible in neo-Riemannian theory; Cohn notes, for example, that ‘tetrachords that combine two edge-adjacent triads, forming a parallelogram from their two triangles … benefit from compact and determinate locations on the Tonnetz.’

His analyses also demonstrate that dyads and augmented triads – in other words, harmonic entities connected by lines on a Tonnetz, but not encompassing a triangular space as triads do – can be included in triadic analyses for heuristic purposes. The following example will employ both these principles in the analysis of the harmonic structure connecting harmonies $G_\flat-B_\flat$ in the recapitulation, bb. 191-204, whose reduction is given in Example 5.4, below (this omits b. 193, which likewise expresses a $G_\flat$ harmony, while bb. 191-192 can be seen in Example 5.3, above). A number of features have been applied in the Tonnetz illustration of this passage (shown in Figure 5.4, below) to increase legibility:

- Harmonies connected along lines that do not mark a boundary of an encompassed space are shown by parallelograms surrounding those lines. To help distinguish them further, arrows connecting to and from such parallelograms do not penetrate their borders, as they do with triads and fully space-encompassing tetrachords.

203 Cohn, Audacious Euphony, 2012, 142.
204 For example, see Figures 6.7 and 6.20 for dyads and augmented triads, respectively, in ibid., 121 and 138.
To mitigate the visual concentration of overlapping harmonies, the passage is presented in four ‘snap-shots’ of the Tonnetz, labelled consecutively (a)-(d). Where a potentially confusing overlap is unavoidable, certain harmonies are brought out in dotted lines (partially for A7 at (b), and fully for D7 at (c) and (d)); this does not indicate that they have an extrapolated or otherwise inferior status, but is solely for visual clarity.

Finally, the inclusion of numbered arrows corresponding to those in Figure 5.4, connecting consecutive transformations between harmonies in the reduction of bb. 194-204 in Example 5.4, below, should resolve any remaining uncertainties.

The introduction of so many caveats for the ensuing analysis will be counterbalanced by the analytical gains of harnessing the power of the Tonnetz not only to depict transformational patterns and harmonic distance, but also to demonstrate that the introduction of the Gb harmony as a modally-mixed entity in the context of Bb has repercussions for the entire passage that follows. These are manifest in the use of the note D♭ – Bb’s ♯3 – as a pivot connecting all harmonies in bb. 191-203, until D enters with the Bb harmony in b. 204, which marks the start of the new subject area, characterised by theme C (see Example 5.4, below).
Ex. 5.4: Symphony No. 5/I, recapitulation, bb. 194-205, harmonic analysis.
Fig. 5.4: Symphony No. 5/I, recapitulation, bb. 194-205, harmonic analysis on the *Tonnetz*. 
Fig. 5.4/a: The initial transformation depicted above performs a P shift onto g♭, the first minor triad to appear within any of the hexatonic cycles employed for first-subject material in this movement (compare with Figures 5.1-5.3, above). Being H-related to the B♭ tonic marking the apex of the hexatonic cycle in the recapitulation, it represents the furthest harmonic point from the tonic within the cycle (i.e. the cycle’s pole chord), acting as a bridge between the preceding cycle harmonies (shown in Figure 5.3, above) and the ensuing non-cycle ones. The second transformation moves to the augmented triad on the border between the tonic and dominant tonal zones. Both transformations involve maximally-smooth voice leading, that is, shifting one triadic voice by semitone, while two others are held in common.

Fig. 5.4/b: The third transformation preserves the notes A-C♯ (enharmonically spelled as B♭-D♭ in the Example 5.4, b. 199, above) from the preceding augmented triad, and shifts the other by a minor third to A♭, creating a major seventh chord on A without a fifth; the shape this harmony forms on the Tonnetz looks like a diagonally-slanted ‘L’, turned 90 degrees clockwise. This transformation introduces the D♭-A♭ fifth, which will be held in common between all the ensuing harmonies until the final shift onto B♭. The fourth transformation expands the harmony into tetrachords by stepping out onto a b7, which encompasses the minor tonic triad, b♭, but remains a non-cycle harmony due to its minor seventh, A♭. Were the preceding A7 to include a fifth, this transformation would also encompass a triadic S shift, A-b♭; as it is, its chromatic effect is retained in the semitonal shift of the roots A-B♭ of the two harmonies.

Fig. 5.4/c: The fifth transformation takes b7 to the tetrachord that can be given the somewhat cumbersome label, D7add4, but is shown on the Tonnetz to resemble closely the A7 without a fifth in the preceding Figure 5.4/b, of which it is essentially a leftwards extension by fifth. The new tetrachord engages a major third, D-F♭, on the tonic-subdominant border of the B♭ hexatonic cycle, while preserving the D♭-A♭ dyad from the dominant tonal zone. The sixth
transformation takes the harmony fully into this zone by shifting onto the D₆ tetrachord, brought out in dotted lines on the Tonnetz. This swinging between the tonal zones represents a greater degree of harmonic movement than was evident at the start of the progression, which was characterised by maximally-smooth voice leading between triads (see Figure 5.4/a and the connected discussion). Furthermore, the Tonnetz illustration shows that this movement follows a pattern of alternating seventh chords of a quintal and a tertian structure; this interpretation treats A⁷ without a fifth as a quintally-structured chord by virtue of its subsequent extension to D⁷₄, whose quintal structure is evident in the line of fifth-related notes that it connects on the Tonnetz (see Figure 5.4/c, above).

Fig. 54/d: The seventh transformation briefly contracts the harmony to a triad, encompassing a major-to-minor P shift between D₆⁷’s root triad and the following d₆ triad, thus recalling the progression’s opening P shift, G₆→g₆. However, when d₆ shifts by a fifth to a₄ with the eighth transformation, the note D₆ persists in its role as pivot, so that another tetrachord is formed. This retains a greater degree of smoothness in the eighth transformation, while also going some way to soften the disjunctive effect of the large voice-leading distance of the ninth transformation between a₄₄, which exists outside of the three tonal zones, and B₇ in the tonic zone. At the same time, the disjunctive effect plays its role of marking out the B₇ harmony as the point of arrival, which completes the harmonic progression on bb. 191-204.

In summary, the transformations connecting G₇ at b. 191 and B₇ at b. 204 break with the regularity of motion along the tonic zone hexatonic cycle, and mark the latter as a point of arrival by increasing harmonic movement and voice-leading distance up to the final transformation. B₇ is also strongly marked as an arrival harmony by being the first in the progression from G₇ to include D₇ instead of D₆, which acts as a pivot between all the preceding harmonies. That D₇ is B₇’s natural agent, the strongest functional constituent, makes its appearance particularly prominent. Incidentally, the addition of the note A₇ as another pivot in the transformations 4-8 (see the respective numbered arrows in Figure 5.4/b-d,
above) gives it a similar voice-leading role to $D_3$ in the approach to the $B_3$ harmony, so that the sense of arrival engendered by the ninth (and final) transformation's $\hat{3}$-$\hat{3}$ is heightened by the supporting $\hat{7}$-$\hat{1}$.

5.1.2 Symphony No. 5/II: Allegro marcato

As in the first movement, the second exhibits transformational cycles involving adjacent steps between like-modal triads in the middleground, which occupy specific tonal zones relating to background harmonic pillars. However, the characteristic modal change from $D$ minor to $D$ major in the middle section of the movement not only alters respectively the emanating tonic triad, but also changes the type of cycle from octatonic in the $D$ minor outer sections, to hexatonic in the $D$ major middle section.

The concept of tonal zones being expressed through octatonic cycles has not so far been explored, but it translates exactly from their familiar context of hexatonic cycles: essentially, all eight triads in an octatonic cycle can be understood as expressing a single tonal zone. There are no precedents of presenting the closed chain of alternating $P$ and $R$ shifts as an ‘octatonic cycle’, directly analogous to its hexatonic counterpart, in conjunction with tonal zones in Cohn’s theory. The only similar analogy between the hexatonic and octatonic collections involved is made by Julian Horton with reference to the music of Bruckner, as mentioned in section 2.2.2, above. However, it can be observed in Kholopov’s analysis of the opening of Piano Sonata No. 8/III, illustrated in Example 1.3, above: although the analysis pre-dates Cohn’s concept of tonal zones, Kholopov’s description of the cascading triads in b. 7 as expressing a minor-third system in the dominant sphere coincides almost exactly with the concept of a triadic octatonic cycle (that is, one formed by alternating $P$ and $R$ shifts) with adjacent steps between like-modal triads, expressing a tonal zone (the $a_1$ triad is not like-modal, although it is still contained in the same tonal zone according to a Cohnian interpretation).205 The following discussion will explore how, through the use of both the

205 Kholopov, Sovremennye cherty garmonii Prokofieva, 1967, 420.
octatonic and hexatonic cycles, the second movement of Symphony No. 5 projects two different tonic zones from the minor and major harmonic pillars.

Example 5.5, below, shows how the two different cycles map onto the middleground layout of the second movement, while Figure 5.5 depicts them on a Tonnetz, excluding the intervening harmonies. Both of these representations show a simple pattern of the cycles’ distribution: harmonies from the octatonic thirds cycle occur in the outer D minor sections, while those from the hexatonic thirds cycle appear only in the D major middle section. In this way, the root motions of the cycles’ triads reflect the tonality of their respective section – the minor third for the octatonic thirds cycle and the major third for the hexatonic.

Figure 5.5, below, demonstrates the centrality of D in this movement in two ways. First, the interlocking of the two thirds cycles shows four triads – b, D, d and B♭, reading clockwise – that share D as a common note, which is depicted as the centre of a hexagon of harmonies that is two triads short. This conveys visually how D is represented by an array of harmonies created by the two thirds cycles that appear in this movement. Second, the looping arrows that detail the shifts between the cycle triads in the three sections reflect the oscillating motion between these triads, and the fact that they never stray far from the d and D tonics.
Ex. 5.5: Symphony No. 5/II, octatonic and hexatonic cycles in the middleground.
Fig. 5.5: Symphony No. 5/II, octatonic and hexatonic thirds cycles in the tonic and major-tonic zones.
Figure 5.5 reveals one more point of interest: while the hexatonic cycle in the middle section exhausts all its like-modeled triads, the octatonic cycles in the outer sections between them fall short by one harmony: $a\flat$. This is significant in view of the harmony’s late appearance in the foreground at the end of the movement, the first four bars of which are given in Example 5.6, below.

**Ex. 5.6:** Symphony No. 5/II, foreground completion of like-modeled triads of the tonic octatonic cycle, bb. 305-308.

A$\flat$ minor chords can be seen interjecting forcefully in the middle registers while D minor is expressed in the outer voices, although the scalic figure in the bass is inflected with an A$\flat$. The appearance of this harmony completes the set of like-modeled triads of the octatonic cycle, which in turn triggers the end of the movement. Whereas the previous middleground cycle triads propelled the movement forward by mediating harmonic shifts towards and away from the tonic, the $a\flat$ chords in the foreground signal a halt both harmonically, by clashing with the prevailing middleground harmony of d, and rhythmically, by the insistence of the accented crotchets. That this role is performed by the pole chord of the d octatonic cycle is also significant in terms of the trajectory of chromatic development within this movement, explored in section 3.1.2, above. The $a\flat$ chords can be seen as the harmonic manifestation of the chromatic scale degree $\sharp 4$, which has characterised the movement from the beginning, and whose prominence has developed gradually in its outer sections.
5.1.3  Symphony No. 5/III: Adagio

In the third movement, transformational cycles do not play as large a role in the overall harmonic layout as they did in the first two movements. The only significant instance is that of a hexatonic cycle involving adjacent steps between minor-mode triads, initiated by the root of the leading-note, e, of the movement tonic, F. This cycle can be seen in the middleground of the middle section, as bracketed in Example 5.7, below. The hexatonic cycle’s association with the first part of the middle section serves as a point of contrast from the surrounding opening section and middle-section development (see Example 3.13, bb. 1-48 and 108-136, respectively). The transformations between the harmonies covered by the span of the cycle are presented on a Tonnetz in Figure 5.6.

Ex. 5.7: Symphony No. 5/III, middle section, leading-note hexatonic cycle, bb. 55-107.

Fig. 5.6: Symphony No. 5/III, hexatonic cycle in the leading-note zone, bb. 55-103.
This cycle performs two functions. First, it elaborates harmonically the e tonal centre of the beginning of the opening section, which spans the presentation of the section’s main themes, C and E. The repeated point at which the harmony proceeds beyond the completed cycle at b. 104 marks the end of the presentation subsection, and gives way to the development subsection (see Example 3.13, bb.104-108, above). Second, the leading-note hexatonic cycle serves to distinguish the two themes, C and E, harmonically. Whereas theme C is largely dominated by the e harmony, theme E cycles through the like-modal triads of the hexatonic cycle – c, a, and e – in quick succession, the faster harmonic pace imbuing the theme with a more unsettled character.

Unlike the transformational cycles in the previous movements, this hexatonic cycle of like-modal triads does not elaborate a tonal zone connected with the three harmonic functions of tonic, dominant and subdominant, but is built rather on the seventh degree of the scale. This reflects the chromatic nature of the third movement’s harmonic background, and emphasises it in the middleground. It also paves the way for the joining of cycles elaborating tonal zones built on more and less stable degrees of the scale in the fourth movement, as will be seen in the following discussion.

5.1.4 Symphony No. 5/IV: Allegro Giocoso

In the fourth movement of the Symphony, transformational cycles solidify the harmonic connection between the exposition and development sections, while also projecting into the background structure a chromatic feature that has appeared prominently on the musical surface throughout the Symphony: 4. The following discussion will show that this is achieved by deploying an octatonic cycle in the tonic zone emanating from B across the beginning of the exposition and development sections, such that the tonic’s T-related pole harmony, E, which is based on 4, falls in the development, where it is elaborated by its own hexatonic cycle. Example 5.8, below, shows the octatonic cycle in the middleground of the fourth movement.
Ex. 5.8: Symphony No. 5/IV, octatonic cycle in the tonic zone connecting the exposition and development.

There are a number of features that favour analysing the harmonies B♭, G, D♭ and E occurring across the two formal sections as part of a unified octatonic cycle. First, the resultant harmonic structure is similar to ones observed throughout the Symphony’s preceding movements: that is, third-related cycles – specifically octatonic ones in the second movement (see section 5.1.2, above) – of adjacent steps along like-moded triads of hexatonic or octatonic cycles. Second, understanding the above harmonies as linked by such a cycle provides an explanation of why the development starts in the new key of D♭ and then proceeds to E. While the transformation from the preceding Ff to D♭ can be described as a PL shift, this does not capture the sense that D♭ marks the beginning of a new section; however, conceiving of it as a continuation of the tonic zone octatonic cycle occurring in the exposition presents it as part of a distinct harmonic process that does not have to have a connection with the material directly preceding it.

While the connection between the exposition and development parts of the octatonic cycle is obscured on the surface of the music by intervening harmonies, within the sections themselves, both minor-third steps – B♭-G and D♭-E – occur prominently: the former describes the first harmonic transformation of the movement’s primary theme, A, while the latter accompanies the initial presentation and subsequent direct repetition of the development’s characteristic theme, D. A and D’s shared status as primary themes of their
respective formal sections highlights the connection between the two above-mentioned harmonic transformations. With the completion of the octatonic cycle involving like-moded triads in the development by E, a new, hexatonic cycle of major triads begins on the new harmony, so that the two cycles are connected by the E acting as a pivot, as shown in Example 5.9 and Figure 5.7, below. This hexatonic cycle dominates most of the development, raising the profile and influence of E to that of a background harmonic pillar.

**Ex. 5.9:** Symphony No. 5/IV, development section, hexatonic cycle elaborating the ♯ tonal centre, E.

![Hexatonic Cycle Diagram](image)

**Fig. 5.7:** Symphony No. 5/I, connection between tonic octatonic and raised-subdominant hexatonic cycles, bb. 27-219.
The way in which transformational cycles in the fourth movement project the Symphony’s prominent chromaticism, \( \textcircled{4} \), into the background harmonic structure can be seen as a prominent aspect contributing the movement’s cumulative role (explored in section 3.1.4, above). In this regard, another connection can be made with a feature of the third movement harmonic structure: as was discussed in the preceding section, it also contains a hexatonic cycle of like-moded triads emanating from an E (albeit minor) harmony, in the development. While within the context of the third movement tonic, F, E acts as \( \textcircled{7} \), not \( \textcircled{4} \), it can be understood as a precursor to the fourth movement hexatonic cycle, in which its role as \( \textcircled{4} \) is actualised.

5.1.5 Symphony No. 5: Summary

In Symphony No. 5, hexatonic and octatonic transformational cycles serve as a means of harmonic organisation in the middleground throughout the four movements. Most often, they elaborate a particular tonal zone, so that a tonic, dominant or subdominant area in the background is expressed by a succession of third-related harmonies. This is one way in which Prokofiev injects harmonic variety into the piece while preserving a conventional harmonic framework in the background – something especially evident in the first movement. By establishing motion along the cycles as a familiar middleground pattern, the music also engenders narratives of departure and return by connecting cycle harmonies through irregularly patterned progressions of harmonies that lie mostly outside a given transformational cycle and that frequently contain harmonies that cannot be satisfactorily reduced in analysis to diatonic triads. As was seen in section 5.1.1, above, one such departure-return script is used in the first movement recapitulation to substitute for an omitted transition and to mark out the final cycle harmony as a point of return.

As well as elaborating one specific tonal zone, transformational cycles in the Symphony also connect with other zones, thereby expanding the range of keys that the music traverses. In the second movement, the music expresses harmonies along two different tonal zones: an
octatonic one emanating from the minor tonic in the outer sections, and a hexatonic one from the major tonic in the middle section. The latter thus introduces major-third related keys, while the former introduces keys that are minor-third related, creating a further harmonic distinction between the inner and outer sections. In the fourth movement, a tonic-zone octatonic cycle is deployed across the exposition and development sections such that B♭’s tritone-related E harmony appears as a background harmonic pillar in the latter, where it is elaborated by its own hexatonic cycle. This particular feature of the harmonic structure adds to the fourth movement’s cumulative aspect by giving the Symphony’s prominent chromaticism, ♭, a structural role in the background, as well as referring to a hexatonic cycle centred on E in the third movement.

5.2 Piano Sonata No. 8: Overview

In the introduction to Piano Sonata No. 8 in section 3.2, it was noted that, while it possesses conventional formal divisions, unorthodox chromatic harmonies pervade the background of the piece, with key relations of a tritone or semitone being present in every movement. At the same time, there is an absence of a conventional strong dominant area in relation to the piece’s overall tonic of B♭, unlike in Symphony No. 5, where a dominant-functioning F is prominent in the outer movements (see Example 3.1, above). The preceding chapters have explored localised musical extracts from some of the Piano Sonata’s chromatic areas, but it is in this section that these can be rationalised within the overall harmonic framework of the piece. The ensuing analysis will reveal that, while in the Symphony cycles of neo-Riemannian transformations elaborated conventional tonal areas of the sonata-form movements, in the Piano Sonata they replace them. Once tonal functional expectations are put aside, what becomes immediately apparent from a presentation of the Sonata’s harmonic pillars (see Example 3.23, above) is the plethora of minor-third key relations. As previous analyses have shown, this can be a strong indication of the presence of octatonic cycles and, indeed, one
such is present in the background of the Piano Sonata No. 8. Exceptionally, and in contrast to Symphony No. 5, the harmonic structure based on this octatonic cycle spans the entirety of the piece. Example 5.10, below, overlays this structure, beamed below the stave and labelled ‘OCT’, onto the Sonata’s harmonic pillars, with the addition of a G and d♭ tonal centres at bb. 82 and 84 from the first movement’s middleground, and b. 289 from the third movement’s middleground, respectively (see Examples 3.24 and 3.31, above).

**Ex. 5.10: Piano Sonata No. 8, background octatonic cycle.**

This illustration reveals several points:

1. All of the first movement’s harmonies and all but two of the last movement’s are part of the octatonic cycle initiated by the Sonata’s overall key of B♭. Whereas a tonal functional perspective would have treated the chromaticised Ⅲ/Ⅲ in the outer movements and Ⅲ/iii in the Vivace as deviations that weaken a harmonic structure derived from the cycle of fifths, this neo-Riemannian perspective shows that they are integral members of the piece’s octatonic harmonic structure.
2. The contrast achieved in the second movement does not rely solely on its duration and character, as was noted in section 3.2.2, but occurs in large part due to the movement’s different harmonic structure from that of the outer movements. The Andante sognando is static, projecting only the D₉ harmony of the octatonic cycle, and thus containing no harmonic motion between cycle harmonies, whereas the Andante dolce and Vivace are both consistently active in this respect. Over half of the middle movement is also characterised by fifth relations between I and V/v, which occurs in no other movement in the Sonata, though it is mirrored in the Vivace’s development by fifth relations between Ⅳ/I₃ and Ⅳ/vi. The Andante sognando does, however, retain a link with the outer movements’ harmonic structure with its minor-third motion from D to F and back, which can be seen in bb. 9, 17, and 27 of Example 5.10, above.

3. The harmonic structure in the final movement only departs from the octatonic cycle in two places: in the exposition with the B harmony, whose position between two iterations of the tonic B₉ was linked in section 3.2.3 to the similar I-Ⅲ-I motion from the second movement, highlighting it as a cumulative gesture, and in the development with the a₆ harmony, which attracts tonic status by virtue of Harrison’s third rhetorical device, as discussed in section 3.2.3, above (see Example 5.10, Vivace, bb. 42, and 225 and 335, respectively). The former observation can now be enhanced with two further links, this time to small-scale harmonic structure in the final cadences of the Sonata’s outer movements. As was shown in sections 4.3 and 4.4, both cadences contain some elaborated version of the shift between the harmonies C₇-B₉ in their final gesture of resolution. The I-Ⅲ-I motion in the third movement exposition can therefore be understood as a cumulative gesture not only by its reference to an element of the second movement harmonic structure, but also by reference to that of the first movement’s final cadence. By the same token, the C₇-B₉ motion in the final cadence of the Vivace can be seen as the ultimate gesture of culmination.
A number of other points are revealed when the piece’s motion along the octatonic cycle is viewed on a Tonnetz, which is depicted in Figure 5.8, below.
Fig. 5.8: Piano Sonata No. 8, octatonic cycle on the *Tonnetz*.
The Tonnetz depiction of motion along the octatonic cycle in the Piano Sonata No. 8 shows that there is a striking similarity between the outer movements’ harmonic templates, which was not easy to observe from the score in Example 5.10, above. Both movements progress along the same type of harmonic construction of four cycle chords linking the tonic B♭ and the octatonic pole E, traversed by the transformations labelled by arrows 1-3 and 8-11, although the former’s last transformation (3) links to a tetrachord combining the major and minor E triads, whereas the latter’s (11) links to the major triad. This pattern is also followed by a subsequent leap from E to B♭ in both movements. This large-scale similarity supports the notion of a piece-wide harmonic structure in the Eighth Sonata. That the two four-chord constructions are traversed differently in the two movements suggests that their harmonic transformations have a direct connection with the varied formal or dramatic aspects of the music. Combining observations made from Example 5.10 and Figure 5.8, above, reveals the nature of these connections, as listed below:

**Andante dolce, bb. 1-84, arrows 1-2:** The first movement’s exposition is characterised by stepwise movement along the B♭ octatonic cycle, traversing the key areas B♭-g-G. A comparison with Example 3.24, above, shows that the keys coincide with the exposition’s three subdivisions of first subject, second subject, and codetta, respectively. The sense of stasis created by the first two harmonies’ association with the two subjects has already been commented on in section 3.2.1. The association of G with the codetta adds to this: shifting to this harmony involves minimal variety with the preceding g, moving only one voice by a semitone while preserving the tonal centre.

**Andante dolce, bb. 84-206, arrows 3-4:** The skip to the next harmony in the path of the octatonic cycle, Ee, is mediated by a highly modulatory passage, which is organised by different harmonic patterns, as will be seen in section 6.2.1. Ee is achieved at the climax of the development, marked by the first return of theme C of the second subject (see section 3.2.1). This thematic association highlights the two cycle harmonies Ee and g for comparison, linking
the seemingly disconnected Ee to the harmonic pattern initiated in the exposition. The striking contrast between the two imbues Ee with the sense of a far-out harmony. In effect, the varied nature of specific harmonic relationships in the octatonic cycle is used to transmit and determine the tensive processes in this movement. The exposition’s stepwise transformation of B♭-g delays the introduction of harmonic tension that would usually be expected to occur with the second subject. The appearance of Ee at the climax of the development finally supplies this tension, counteracting the delay by intensifying the music’s dramaticism with secondary parameters (see Example 3.26, above). The use of octatonic cycle harmonies preserves the characteristic tensive processes of sonata forms, but also transforms them according to the specific nature of close and remote harmonic relationships within the cycle. As will be seen in section 6.4 below, the harmonies E and B♭ of the development and start of the recapitulation are mediated by a disjunctive passage, such that no resolution between the harmonic opposites occurs at this point.

Andante dolce, b. 206 to Andante sognando, b. 1, arrows 5-6: Instead, the ensuing harmonic pattern seems to abandon the initial course and embark on another, proceeding stepwise along the octatonic cycle from B♭, but now in the opposite direction. This has curious implications for the recapitulation’s second subject: its change to tonic minor seems at best a grudging reaffirmation of the tonal centre, recalling rather the melancholy character of the exposition’s second subject in g. The B♭-b♭ shift in the recapitulation carries the same open-endedness as did the exposition B♭-g shift. This can be seen as the consequence of formal augmentation that occurred in the first half of the movement, requiring the resolution of tensive processes to extend beyond the Andante dolce. With the transformation b♭-D♭ into the second movement, the exposition’s mirror-pattern is completed. The Andante sognando offers a respite from the preceding movement’s tensions by lingering on the new harmony.

Andante sognando, b. 66 to Vivace, b. 289, arrows 7-9: The cumulative last movement opens by bringing back the first movement tonic of B♭ in the exposition and recalling the second
movement’s shift to the raised tonic in its second subject, as mentioned above. With the return of D♯ in the development, the movement completes the summary of the harmonic steps travelled so far, and it is from here that the next step along the octatonic cycle to d♯ is made. As was shown in section 3.2.3, this process is extended and dramatized by the thematic mutation of theme E into C♯, which also introduced the new tonal centre of a♯. By this point, the music has traversed all the steps along the octatonic cycle’s new trajectory that began with a reversal in the first movement recapitulation, leading up to the pole harmony E.

Vivace, bb. 289-449, arrows 10-12: However, there is no direct progression to the pole harmony; instead, there is a shift to B♯ with the return of the first subject in the recapitulation. E enters as the stable harmony of the second subject, such that it is juxtaposed with the preceding section’s B♯. This marks the beginning of the reconciliation between the two polar harmonies that had been set up as the ultimate points of stability (B♯) and tension (Ee) in the first movement. With the return to B♯ in the coda, the piece’s overall tonic is re-established, yet its juxtaposition with E continues on a local level until almost the very end, as can be seen in Example 4.17, above.

The key scheme for the third movement’s exposition and recapitulation departs from conventional sonata forms in a similar way to that of the first movement: in both cases the exposition second subject appears in an unusual relationship with the tonic B♯ – as its raised tonic, B, and its relative minor, g, respectively – and there is no retention of the first subject’s tonal centre, B♯, in the second subject of the recapitulation. This indicates how the key scheme creates but also re-invents a well-established musical form:

1. The first movement connects the B♯ and E harmonies through transformations along the octatonic cycle, whose direction features rising tones and semitones, such that the intermediate harmony – g – delays the onset of harmonic tension. B♯ and E’s polar relationship within the octatonic cycle is brought out in the music by a number of features that associate the former with stability, and the latter with the ultimate point of
harmonic tension. These include the rising voice-leading trajectory of the transformations that connect the two harmonies, the fact that a faster harmonic pace in the development (which will be explored in more detail in section 6.2.1, below) counteracts the delay of the onset of tension in the exposition, and that the pole harmony E is chromatically enhanced by being sounded with its minor variant, e. The very compression of two adjacent cycle harmonies into a tetrachord, which happens only once in the background structure of the Sonata, can be seen as a form of intensification. In other words, the music exploits the polar quality of the two harmonies. This association supplants the conventional tonic-dominant relationship with the non-functionally derived tritone relationship, with its roots in post-Wagnerian, Skryabinesque chromaticism, while at the same time augmenting the sonata’s tensive process in the exposition beyond its usual remit.

2. In order to diffuse this tension, the music uses the octatonic cycle’s internal properties: restarting from B♭ in the first movement recapitulation, the key scheme now follows a reverse trajectory along the cycle, which involves falling tones and semitones. As the first movement does not encompass the entire reverse progression from B♭ to E, it carries through into the second movement, which creates contrast by lingering on its cycle harmony, D♭, further extending the reverse progression into the third movement.

3. Before this can be taken up, the Vivace recalls the main harmonic stages of the process so far and, as the next step along the cycle to d♭ has been delayed for so long, the entire development section is used to build up to the introduction of the d♭ harmony. The latter’s association with theme Ct not only highlights its link to the harmonic process initiated in the first movement, it also recalls the static character of that movement’s second subject, such that the tension-building process of the Vivace development does not overshadow the diffusion of tension caused by descending transformations along the octatonic cycle.

4. Due to the movements’ key schemes following this descending trajectory, and the octatonic progression’s extension over such a long span of music, the E harmony
becomes dissociated from the sense of ultimate tension and instability, with which it was imbued in the first movement. This paves the way for its reconciliation with B♭ in the third movement recapitulation, a process that is reinforced at the surface level by repeated oscillations between B♭ and E in the coda, as seen in Example 4.17, above.

The roles that the octatonic cycle harmonies play in Piano Sonata No. 8 do not derive exclusively from their roles within the cycle itself. For one thing, relationships such as the octatonic pole can only be defined when a particular cycle harmony has been identified by the analyst as the tonal centre. Rather, the music brings out certain characteristics inherent in the cycle transformations according to the requirements of the musical form. For example, the remoteness of E from B♭ makes it an especially suitable harmony for achieving harmonic contrast and, in the context of the Sonata, tension. At the same time, the nature of these characteristics directly affects the parameters of the form: as the initial rising octatonic progression B♭-E via g spanned the length of the first movement’s exposition and development sections, it would be impossible to contain the falling progression via b♭ in the remainder of the first movement without significantly altering its formal structure, which is why the second half of the tensive process, which diffuses the sense of instability that has been associated with E, extends into the following movements.

To summarise, Piano Sonata No. 8 contains a background harmonic structure that unfolds along the octatonic cycle in two distinct stages, spanning all three movements of the work. The manner in which this occurs affects the formal parameters of the movements and determines much of their background key schemes. The rest of this chapter will explore how elements of the octatonic structure interact with other harmonic phenomena in the three movements, and the overall effect this has on form and dramaturgy.
5.2.1 Piano Sonata No. 8/I: Andante dolce

In terms of the background tonal structure, the establishment of the E major-minor harmony as a tonal centre at b. 169 is undoubtedly the main event of the development section (see Example 5.10, above). And yet the harmonic process by which this occurs is not readily apparent: there are no mediating harmonies from the movement’s octatonic cycle on the approach to the E major-minor harmony, nor does the middleground layout in Example 3.24, above, highlight any other harmonic pattern in an obvious way. Kholopov’s insistence that ‘the key to modern harmony lies in its relationship to form’ (for full quotation see section 1.1.1) suggests that a closer look at the local formal processes may illuminate the nature of harmonic interactions in this passage. The thematic layout presented in Example 3.24 shows that the run-up to b. 169 in the development can be divided into two stages, separated by the athematic section in bb. 134-139. The first stage covers bb. 90-133 and is characterised by frequent instances of theme B, as well as the return of all three of the exposition’s A themes. The second stage unfolds over bb. 140-168, and presents the themes A¹ and A² exclusively. There is a marked contrast in how the themes in the two stages are treated: in bb. 90-133 they tend to appear in full, whereas in bb. 140-168, they are mostly fragmented and more radically transformed in rhythm and character, as can be seen from a selection of representative extracts shown in Example 5.11, below.
Ex. 5.11: Piano Sonata No. 8/I, extracts from two stages of thematic development.
The eradication of theme B and the fragmentation of theme A in the approach to the E major-minor harmony in b. 169 suggests a formal process of disintegration. Assuming, in accordance with Kholopov’s principle, that the harmony in bb. 90-168 follows the same process, it is no wonder that the harmonic patterns in these bars are not amenable to straightforward analysis. An interpretation that argues for their existence must demonstrate sufficient coherence for the harmony to be termed ‘patterned’, while simultaneously showing how this coherence breaks down. The following discussion will propose that two such progressions exist, distributed neatly along the two stages of thematic development highlighted above. It will argue that they pave the way for the establishment of the E major-minor harmony as a background tonal centre in b. 169, and contribute to the marking of the passage in bb. 169-183 as the formal climax of the movement, challenging Boris Berman’s claim that the climax falls on b. 183.206

The first progression emerges out of the local tonal centres at the start of the development, oscillating between two harmonies root-related by fifth: G and d. Example 5.12, below, shows four two-bar extracts from each successive change of tonal centre.

In most cases, the tonal centre is clearly expressed in the harmony:

- In 5.12/a, G appears as a triad at the goal of cadential resolution.
- In 5.12/b, the pedal note D gives prominence to the arpeggiated d triads above it, relegating the other harmonies to a supporting role. Indeed, most of their notes can be derived from a ‘d’ scale.
- In 5.12/d, a ‘d’ centre is less strongly established, as the harmony seems to slip away quickly from d’s triadic notes, and 3 rather than 1 appears as the pedal note. Nevertheless, the rhythmic accent on the d triad in b. 111 suggests it has not been displaced by the other harmonies as the tonal centre.

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206 Berman, Prokofiev’s Piano Sonatas, 2008, 175.
Ex. 5.12: Piano Sonata No. 8/I, exposition-development, middleground tonal centres.

In 5.12/c, linear rather than harmonic features suggest G as a tonal centre, with the D-T-like bass movement into b. 107 and the remaining triadic member, 3, supplied at the start of b. 106 indicating a major mode. So far, indications of tonal functional harmonic processes in this section are quite strong: there are both triadic and scalar expressions of the local tonal centres, and a cadence-like D-T discharge in bb. 106-107. Moreover, the root movement between the tonal centres is highly reminiscent of the beginnings of harmonic organisation according to a
cycle of fifths. The case for the existence of such a pattern spanning this and the following part of the development can indeed be made if the conditions for an established tonal centre are loosened. The two extracts shown in Example 5.13, below, show a bass melodic line leading to two long-held pedal notes – A and E – at the end of two subsequent reiterations of A themes. In Example 5.13/a, the movement is similar to the D-T-like bass-line highlighted in the discussion of Example 5.12/c, and the impression of the functional discharge is strong enough that the arpeggiated right-hand F triad sounds like a subdominant in A minor before it is wiped away by a succession of other non-functionally-related triads. In Example 5.13/b, while the E pedal is approached by a similar bass movement, all elements of functional allusion have been eradicated. It could be argued that the arpeggiated C♯-minor and A chords in the first half of b. 130 are scalically derived from E major, but it is difficult to hear the ensuing passage as being centred on this or, indeed, any other key. If E is considered to be a part of the middleground cycle of fifths pattern initiated at the start of the development, then it represents a disintegration of this pattern by virtue of the stripping away of such scalic and triadic features as had been the primary means of defining a tonal centre in the preceding part of the development.
Ex. 5.13: Piano Sonata No. 8/I, development, a and E tonal centres.

The impact of harmonic disintegration can be seen from the start of the second stage of thematic development in bb. 140-168, whose opening phase is shown in Example 5.11/b, above. Internal harmonic progression in the eight-bar phrase seems to be driven by fragments of individual lines permeated by semitonal movement rather than chordal entities, creating a constantly shifting harmonic soundscape in which the only points of relative stability are the octave unisons and triadic harmonies occurring at the beginnings of the large phrases, such as the one depicted in Example 5.11/b, above. Five such points create a pattern of tritone-tone shifts that can be seen as highly disjunct according to the neo-Riemannian definition of harmonic closeness framed in section 2.1, although this definition relies on perceiving each musical entity as a diatonic triad, which is problematic, as can be seen from Example 5.14, below.
Ex. 5.14: Piano Sonata No. 8/I, development, tonal centres in bb. 140-168.
The only full triads that occur on the surface of the music are C and E, as shown in Examples 5.14/c and 5.14/e. The opening of the second phrase shown in Example 5.14/b is only suggestive of a D triad by virtue of the note F♯ in the double appoggiatura of the top line, and no triadic notes at all accompany the G♯ and F♯ unisons in Examples 5.14/a and 5.14/d. This hampers Cohnian voice-leading distance analysis, which requires the presence of triadic voices in order to calculate the semitonal distance between them. Nevertheless, such analysis provides a useful insight into this passage if the theoretical requirements for the music's triadic expression are loosened as the requirements for establishing a tonal centre were loosened in the analysis of bb. 90-139 above. If the analysis links the G♯, D and F♯ unisons into their surrounding musical context, rather than isolating them within it, it can be argued that they imply diatonic triads, albeit with varying degrees of strength. The presence of the note F♯ over the D unisons in Example 5.14/b strongly suggests a D major triad. The G♯ unison is not similarly embellished; nevertheless repetitive occurrences of the G♯-B♯ dyad forming the lower part of a chromaticised harmony in the preceding athematic section, excerpted in Example 5.15, below, suggests an implied G♯ major triad at b. 141.

Ex. 5.15: Piano Sonata No. 8/I, development, G♯-B♯ dyad.

The chromaticised F♯ unisons, shown in Ex. 5.14/d above, pose the real analytical difficulty, as there are no viable candidates for their triadic third in the surrounding musical context. In order that the current analysis should serve the music rather than itself, the best claim for an implied triad at this point can only be a weak one: that the corresponding phrases shown in
Examples 5.14/a and 5.14/b, which present the same thematic material in a similar way contained implied triads.

A case having been made for a middleground progression of tonal centres expressed through present and implied triads in bb. 140-168, their disjunct relationship can now be illustrated with the aid of Cohn’s Clock Face, as shown in Figure 5.9, below.

Fig. 5.9: Piano Sonata No. 8/I, development, tritone-tone pattern of tonal centres.

![Diagram of Cohn's Clock Face showing tritone-tone pattern of tonal centres.]

The triads forming this progression fall into two directly opposing tonal zones – 5 and 11 – and oscillate between them at each transformation without repeating any steps, creating...
maximally disjunct movement with consistent harmonic variety. The cyclic nature of this progression imitates the cycle of fifths observed in the first part of the development (see the discussion above), and yet the nature of its harmonic relationships – augmented fourths and major seconds – indicates a departure from even the most tenuous tonal-functional allusions. This progression thus embodies harmonic instability in two ways: contextually, by supplanting the relatively more stable progression of fifths characterising the preceding section of the movement, and internally, by involving maximally distant voice-leading shifts of six semitones between each successive pair of triads in the progression.

It may appear that this analysis is open to two objections:

1. Its claim of the tritone-tone progression’s contextual instability depends upon an unequal comparison between a root-motion analysis of the fifths cycle and a voice-leading distance analysis of the tritone-tone progression.

2. The analysis of this progression depends upon a significant number of implied triads.

In fact, neither of these presents a problem. That the two progressions in bb. 90-139 and 140-168 are analysed differently reflects their distinct harmonic natures. The claim of contextual instability rests on the observation that a sense of stability is created in the fifths cycle progression by means of tonal-functional allusion, and that the loss of such allusion entails a loss of stability. The use of a different method of analysis (by voice-leading distance rather than root-motion) for the latter section is therefore not only acceptable but desirable in support of this claim. As to the voice-leading distance analysis of the tritone-tone progression (shown in Figure 5.9, above) being based on too many implied triads, the very weakness of this analysis strengthens the overall claim that this progression contributes to a larger process of harmonic disintegration in the development section. Were the tritone-tone progression to contain actual rather than implied triads, the argument for harmonic disintegration would be harder to sustain. Moreover, the type of disintegration evident here – the eradication of scalar and triadic properties – is the same as that which characterised the latter part of the cycle of
fifths progression. This indicates that both the progressions participate in the same process of increasing harmonic instability, in conjunction with a similar thematic process, observed earlier in the above discussion. This observation vindicates the application of Kholopov’s principle according to which the role of harmony can be understood in its relationship to form. Its application guides both analysis and interpretation in a musical context that defies expectations of logical harmonic progressions. To put it differently: it would be difficult to locate and build an argument for harmonic disintegration in the above manner were the process contradicted by other formal procedures.

As it is, perceiving harmonic disintegration in bb. 90-168 of the development sheds light on how the dissonant E major-minor harmony is set up as a tonal centre at b. 169. Previously in the movement, within a context where stability was embodied in elaborated but essentially diatonic harmonies expressed scalically and triadically, the chromaticism of a major-minor harmony would detract from a sense of stability. By the close of the second stage of the development, however, the tonal centres’ scalic and triadic properties have been eroded to such an extent that the establishment of the dissonant major-minor harmony as a tonal centre becomes possible, as its stability outweighs its shifting harmonic context. It can thus be understood by analogy to Kholopov’s concept of greater and lesser dissonance, as discussed in section 1.1.1: just as a dissonant harmony can be perceived as the stable resolution of a cadence if it is preceded by an even more dissonant harmony, so a dissonant harmony may represent a tonal centre if it is located within a highly unstable harmonic context.

Moreover, just as observations about form can illuminate harmonic processes, so can certain observations about harmony highlight aspects of musical form. The final part of this section will demonstrate how, in conjunction with the octatonic cycle, the two middleground progressions discussed above articulate a formal climax at b. 169 of the development. It has been mentioned that both progressions end within their respective sections in the development by articulating the tonal centre E, one which also forms part of the major-minor
harmony derived from the octatonic cycle – Ee – at b. 169. In fact, it is possible to argue that each of the two development progressions extends by one further step in the first part of the athematic section directly following the Ee passage in bb. 169-183. This fact sheds light on the two oscillating chromaticised harmonies in bb. 183-186 – B and B₇ᵃᵘᵍ – whose origin is otherwise mysterious. Figure 5.10, below, displays the two progressions thus extended, and Example 5.16 shows the opening of the athematic section where their final harmonies appear.

While labelling the harmonies in the music as B and B₇ᵃᵘgsub also requires the observation that they are enriched by additional notes, this does not exclude them from the two middleground progressions: like their preceding harmonies, B and B₇ᵃᵘgua are expressed at least by their respective ¹ and additionally ³, as well as other scale degrees.

Fig. 5.10: Piano Sonata No. 8/I, development, extended middleground progressions.

| Cycle of Fifths | G--------d--------a--------E--------B |
| Transposition Interval (in semitones) | 5 5 5 5 |
| Tritone-Tone Cycle | G²--------D--------C--------F²--------E--------B₇ |
| Transposition Interval | 6 2 6 2 6 |

Ex. 5.16: Piano Sonata No. 8/I, development, athematic section, bb. 183-186.
Perceiving that the two middleground progressions are still active past the earlier stages of the development in which they initially unfold invites the observation that the Ee tonal centre at b. 169 also embodies a reiteration of the E harmony that precedes the final B and B\textsuperscript{aug} harmonies in both the progressions. In other words, all three cycles – octatonic, fifths and tritone-tone – are active at b. 169. This is illustrated in Figure 5.11, below, which summarises the harmonic structure of bb. 1-186 of the first movement. As the passage beginning at b. 169 is the only point at which three separate, previously initiated harmonic processes coincide, it stands as a point of culmination. Additionally, it is also marked out by the brutalised return of the second subject theme C, which is conspicuously absent from the preceding development material, as discussed in section 3.2.1 above. The combination of all these features indicates strongly that the formal climax of the development falls at b. 169 rather than b. 183, as Berman suggests.\textsuperscript{207} The strongest markers that can be cited in support of the latter interpretation are that, by b. 183, all thematic development has been exhausted, and the opening of the ensuing athematic section is forcefully enhanced by the secondary parameters of dynamic and registral expanse (see Example 5.16, above). While these features might make a viable argument for a formal climax, the combination of harmonic and thematic processes at b. 169 (which is also supported by secondary parameters, as can be seen in Example 3.26) is a stronger formal indicator.

\textsuperscript{207} Ibid.
Fig. 5.11: Piano Sonata No. 8/I, bb. 1-186, harmonic structure.

<table>
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<th>Exposition</th>
<th>Development</th>
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<tr>
<td><strong>Subsection:</strong></td>
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<td><strong>Octatonic Cycle:</strong></td>
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<td><strong>Fifths Cycle:</strong></td>
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<tr>
<td><strong>Tritone-Tone Cycle:</strong></td>
<td>Primary tonal centre established - sense of stability.</td>
<td>Rhythmic and harmonic agitation.</td>
</tr>
<tr>
<td><strong>Comments:</strong></td>
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To summarise, the background octatonic cycle harmonies G and E are connected in the development of the first movement of the Piano Sonata by a large-scale process of harmonic disintegration, which is elucidated by combining Kholopovian principles regarding twentieth-century harmony and relative states of dissonance with Cohnian triadic and voice-leading analysis. Without the former’s stress on locating similarities between thematic and harmonic processes, these analyses would be forced, as they rely heavily on implied triads; however, this very weakness becomes a strength when the analysis serves to describe a process of harmonic disintegration. This section also demonstrates that there are compelling reasons for locating the development’s climax at b. 169 and not b. 183, as Berman suggests: namely that three different harmonic processes coincide at this point, re-affirming the thematic indicator of the brutalised return of theme C, as discussed in section 3.2.1, above.

5.2.2 Piano Sonata No. 8/II: Andante sognando

In section 3.2.2 it was noted that the strongest characteristic of the Piano Sonata’s second movement is its reposeful nature, which can now be attributed in large part to the lack of internal octatonic cycle motion in its background harmonic structure (see Example 5.10, above), something which occurs only in this movement. This section will demonstrate that the sense of repose is enhanced in the middleground by virtue of a common-note connection between its middle-section harmonies – D, F, A, D, and a – in bb. 9-35, shown in Example 5.10. Figure 5.12, below, presents these harmonies on a Tonnetz.

Fig. 5.12: Piano Sonata No. 8/II, middle-section harmonies.
As can be seen from this illustration, the middle-section harmonies in bb. 9-35 are connected by the common note A. They are members of what Cohn terms a ‘neighbourhood’ of harmonies: an abstract collection of chords surrounding a particular pitch on the Tonnetz.

The common note at their centre gives the collection a greater consistency than the dynamically orientated transformational cycles discussed in this dissertation so far. While harmonic transformations in a neighbourhood can be relatively disjunct, with voice-leading distances of up to four semitones – see for example Figure 5.12, arrow 4 – the sense of the new harmony’s remoteness is not accompanied by so great a sense of departure from its original triad, by virtue of their shared common note. This enhances the atmosphere of stasis in the second movement’s middle section, while harmonic variety is preserved in the transformations within the ‘neighbourhood of A’.

Recognising the above-mentioned harmonies as deriving from this collection supports this dissertation’s reading of the formal divisions within this movement, which is at variance with the reading suggested by the thematic layout (see Example 3.29, ‘Themes’). The latter would begin the middle section at b. 17, where the introduction of theme B marks the first departure from theme A, which had been presented then repeated a semitone higher in the preceding bars. A thematic reading would also conclude the middle section just before the return of theme A in D at b. 47. On this dissertation’s harmonic reading, the middle section is delineated by the harmonies falling into the ‘neighbourhood of A’: D, F, A, and a. This corresponds well with the organisation of the harmonies in the outer sections – D, A, and A – which, by the same token, could be attributed to the ‘neighbourhood of A’.

Curiously, this reading corresponds with Bass’s intuitions about this movement, related in sections 1.2.2 and 2.1, above, while simultaneously opposing the implications of his interpretation. He notes the significance of the pitches A and A as melodic notes with structural properties, as does the present reading of the movement’s harmonic organisation. However, according to his principle of chromatic equivalence, he perceives the D and D harmonies in bb. 1-17 as two

208 Cohn, *Audacious Euphony*, 2012, 113-121.
expressions of the same entity (the tonic), while the present reading treats them as distinct members of two different abstract harmonic patterns.

5.2.3 Piano Sonata No. 8/III: Vivace

In section 3.2.3, it was argued that the development of the Sonata’s third movement is preoccupied exclusively with thematic metamorphosis that brings about the return of the first movement second subject theme C, a process which was then shown in this chapter to have a harmonic significance by engaging the final step of the reverse trajectory of the Sonata’s inter-movement octatonic cycle, D♭-d♭ (see Figure 5.8, arrow 9, and related discussion, above).

As the movement’s middleground tonal layout in Example 3.31 above shows, little else happens harmonically in the third-movement development. By contrast, the outer sections of the Vivace are characterised by high levels of harmonic activity, more so than any other part of the Sonata, with the limited exceptions of specific passages from the start of the first movement development and coda sections. As pointed out by Frank Lehman in relation to his transformational analysis of ‘Kaleidoscope of Mathematics’ from James Horner’s film score for A Beautiful Mind, neo-Riemannian analysis is particularly suitable for describing harmonically fluid passages due to its inherent preoccupation with transformation as opposed to static harmonic states.209 The following analyses in this section will explore a number of such passages from the Sonata’s third movement, demonstrating that octatonic and hexatonic cycles, as well as harmonic structures based around them, are used to create increased harmonic motion on the surface and shallow middleground of the music, contributing to the movement’s individual character while exploiting third-related harmonic structures familiar from the middlegrounds of the Piano Sonata and Symphony No. 5.

A prime example of this is the four-bar passage of rising quavers introducing the return of the first episode in the recapitulation, which follows a retransition whose static qualities will be explored in detail in the following chapter. In section 3.2.3, it was noted that the four-bar

passage injects a sense of drive into the music due to its rhythmical aspect, enhanced by staccato articulation. The present analysis expands on this observation by arguing that the major-third dyads formed between pairs of consecutive split-octaves from the second half of b. 363 create a harmonic sense of drive by cycling quickly through a triadic octatonic zone. Example 5.17, below, shows an annotated score of the relevant passage, while Figure 5.13 depicts its harmonic progression on a Tonnetz. Major-third dyads are annotated according to their lower note in the following score example, and indicated by single lines on the Tonnetz in Figure 5.13, below, temporarily discarding the previously employed convention of depicting them as parallelograms due to the absence of the possibility of confusing them with members of triads and tetrachords occupying triangular spaces.

Ex. 5.17: Piano Sonata No. 8/III, octatonic progression of dyads, bb. 363-367.

Figure 5.13, below, reveals two ways in which the passage in bb. 363-367 creates harmonic drive by traversing the triadic octatonic zone. First, motion between the dyads is characterised by a consistent, consecutive flow along the octatonic zone’s minor third axes, only broken at the end by shifting onto a diminished triad along the right axis, labelled as a° in Example 5.17, above (see b. 367). Second, the use of dyads as opposed to full triads eradicates all common notes that would otherwise connect consecutive or alternate transformations along the octatonic zone, thus embodying harmonic activity through increased voice-leading disjunction.
The presence of common notes and features that interrupt consistent movement along the cycle can impede the sense of harmonic motion, as can be seen in an earlier progression along the same octatonic zone within the retransition, shown in Example 5.18, below.

**Ex. 5.18: Piano Sonata No. 8/III, L-S-PR progression, retransition, bb. 452-454.**

The neo-Riemannian annotation below the score identifies the progression as a succession of **L-S-PR** shifts that return to the original chord after two rotations. Harmonic motion
produced by the increasing voice-leading distance with each consecutive transformation in the pattern (from one semitone for \( L \) to three for \( PR \)) is stalled by elaborating each \( PR \)-shift with an intervening non-triad harmony. Reducing the progression to the succession of \( L \)-\( S \)-\( PR \) shifts on the Tonnetz, as shown in Figure 5.14, below, shows that the \( L \)-\( S \) portion of the pattern extends progression along the octatonic zone by stepping beyond it (via \( L \)), then returning (via \( S \)).

**Fig. 5.14: Piano Sonata No. 8/III, L-S-PR progression, retransition, bb. 452-454.**

The resulting harmonic pattern links adjacent like-moded triads in the octatonic cycle along a path that Lehman terms ‘slide-mixture’, which represents a neo-Riemannian reconceptualisation of the way that a flat-median harmony appears within a chromaticised diatonic context.\(^{210}\) He explores this path within larger transformational frameworks created by the \( LSLR \) generator in James Horner’s film music that employs harmonic movement to represent genius in the act of intellection.\(^{211}\) His linking of these transformations’ harmonic

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\(^{210}\) Lehman, ‘Schubert’s SLIDEs’, (c. 2014).

properties to the expression of esoteric mental processes draws in part on S’s paradoxical nature, whose conflicting capacities to evoke harmonic closeness and remoteness was discussed in section 4.3, above. While diatonic impressions necessary to emphasise this conflict are fleeting in the retransition of Piano Sonata No. 8/III, often brought about by elaborating structural augmented triads that will be analysed in section 6.3, below, they nevertheless draw out an aspect of S’s paradoxical character, activating not only the relative smoothness of its chromatic voice leading, but also its sense of harmonic remoteness, which contributes to harmonic movement in the octatonic progression of bb. 352-354.

In the second subject of the third movement, a fast succession of harmonies elaborates a progression traversing like-moded triads of a hexatonic cycle in the local tonic zone of B major, divided into two parts of unequal length by the repetition of the initial thematic motif. Harmonic pace is increased by frequent lapses in transformational regularities that introduce dyads, an augmented triad and instances of highly disjunct voice leading into the progression. Example 5.19, below, shows the first stage of its unfolding, which is subjected to a tonal-zone analysis in the following Figure 5.15.

Ex. 5.19: Piano Sonata No. 8/III, exposition second subject, bb. 42-46.
Only one step along the tonic-zone hexatonic cycle is made in the first part of the progression, by the initial motion B-G. After this, the highly disjunct T-shift G-C♯ coincides with the onset of doubly-fast harmonic rhythm (compare Figure 5.15, arrow 2 with Example 5.19, bb. 43-44), wrenching the progression beyond the subdominant zone, before returning to G (arrow 3). At this point the harmonic rhythm is doubled in speed again as the harmony swings in the opposite direction to the dominant zone’s outer border, from where the progression cycles ‘inwards’ through two dyads – A-C♯ and D-F♯ (arrows 4 and 5) – before landing on the F♯ triad within the dominant zone itself (arrow 6). A halving of the speed of the harmonic rhythm emphasises F♯’s dominant status by indicating the arrival of B, but an interrupted cadence introduces g♯ instead (arrow 8), drawing the harmonic progression into the subdominant zone for its second part. The latter is given in Example 5.20 and analysed in Figure 5.16, below.
Ex. 5.20: Piano Sonata No. 8/III, exposition second subject, bb. 46-55.

Fig. 5.16: Piano Sonata No. 8/III, exposition second subject, bb. 46-55.
Harmonic movement is slower here than in the first part of the harmonic progression of bb. 42-55, as greater transformational regularity is accompanied by a more consistent harmonic rhythm. The harmony’s initial shift (Figure 5.16, arrow 8) produces G as did the B-G shift in the progression’s first part (Figure 5.15, arrow 1), but due to the preceding interrupted cadence, it is brought in via an S-shift from g♯. This engenders a patterned progression similar to the one observed in Figure 5.14, above, involving a further S-shift (arrow 10) to achieve the next like-modeled harmony in the hexatonic cycle, E♭. This pattern activates the hexatonic rather than the octatonic cycle by virtue of the mediating transformation R (arrow 9) appearing instead of L that connected to S-shifts in Figure 5.14. Early completion of the harmonic progression is avoided by breaking this pattern after the E♭ harmony, such that an N-shift connects E♭ directly to a♭, overstepping the intermediate R-S-R steps that would have gone through a return of the B tonal centre. Bars 49-52 in Example 5.20 show that the oscillation between these harmonies (Figure 5.16, arrows 11-12) is repeated, further extending the progression.

Return to B is finally achieved via a disjunct leap to the augmented triad on the outer dominant-zone border (arrow 13), imitating a similar move to the A-C♯ dyad in bb. 44-45 of Example 5.19 (Figure 5.15, arrow 4). After a series of linear chromatic slips and rises, the augmented triad leads to an F♯-A♯ dyad on the tonic-dominant border (Example 5.20, bb. 53-54, Figure 5.16, arrow 14) that leads back to B (arrow 15). In summary, the harmonic progression in bb. 42-55 in the second subject of the Vivace achieves harmonic movement through organisation around a tonic-zone hexatonic cycle’s major-mode harmonies, while varying harmonic pace by introducing then withdrawing aspects of transformational regularity, as well as manipulating harmonic rhythm.
5.2.4 Piano Sonata No. 8: Summary

While Prokofiev’s Piano Sonata No. 8 retains the essential formal characteristics traditionally associated with its genre, especially with respect to its thematic layout (as discussed in section 3.2), its octatonic harmonic skeleton marks out its post-common practice origins, especially through privileging the tritone relation as the tonic’s main contrasting key. In this respect, the Sonata’s tonal plan represents departure from traditional functionality to a much greater extent than does Symphony No. 5, in which the conventional dominant and subdominant steps appear prominently in the background (as discussed in section 5.1). At the same time, basing the Sonata’s tensive processes on the polarity between two contrasting keys represents a maximalisation of its distilled characteristic rather than its reinvention. One consequence of this maximalisation is the expansion of the tensional process across the entire piece.

In the middleground and the surface of the music, transformational frameworks are often employed as harmonic tools of organization, in which varied manipulation of voice-leading properties can create states of relative harmonic stasis, as seen in the second movement, or activity, as discussed in relation to the third. Cohn’s Tonnetz-based method of triadic analysis provides an effective means of illustrating the resultant harmonic structures. Some of the most concentrated tensive processes, however, do not rely solely on such frameworks, but rather employ multiple harmonic processes in the fulfilment of a single harmonic trajectory, as was seen in the development of the first movement. Kholopovian perspectives provide a means of broadening the scope of harmonic analysis of such passages, not only by providing the capacity to recognise interaction between different harmonic layers, but also by promoting consistent interpretation of seemingly chaotic or ambiguous processes by highlighting their formal purpose.
6 Concealed Structures

The preceding chapter investigated the nature of large-scale harmonic structures in Prokofiev’s Symphony No. 5 and Piano Sonata No. 8. This chapter presents a continuation of the enquiry into formal processes, with a specific focus on a selected number of extra-territorial subsections – namely codas, transitions and retransitions. While their traditional roles of concluding or connecting other subsections are clearly demarcated, the way in which they function is less so, especially in the case of transitional passages, which tend to be structured more freely than other subsections. This invites an analytical discussion of how compositional techniques encountered elsewhere in the two pieces may feature in such peripheral subsections, and if they do not, what replaces them.

The following analyses will tackle both aspects by drawing on material presented in the preceding four chapters as well as introducing new compositional techniques where necessary. In all cases, the analyses will aim to demonstrate that certain seemingly freely composed passages in fact have some element of harmonic structure that is concealed in various ways for formal and dramaturgical purposes. In Symphony No. 5, it will be shown that elements that have a destabilising effect, such as tritone-related harmonies and unexpected semitonal voice leading at cadences, suspend the sense of harmonic connection between tonally functional areas. Their destabilising force arises from their chromaticism, which gives them the capacity to create a sense of ambiguity and unpredictability. Firstly, the chromatic slipping involved in chordal tritone shifts and other transformations rich in semitonal movement quickly wipes away the trace of a previous tonal centre, cancelling the sense of grounded-ness that it had provided. Secondly, while semitonal voice leading in non-functional progressions creates linearly smooth chordal shifts that contribute to a sense of connectivity rather than disparity, the multiple transformational possibilities of such shifts create no expectations of particular resolutions. The lack of expectation in turn fosters a sense of unpredictability in the harmonic movement. When maximised, this sense of unpredictability can temporarily suspend the
audible logic of harmonic progression – not by forgoing constructive principles, but by employing them to form irregular patterns that emphasise their own disjunctive properties. Such patterns will be analysed with the aid of voice-leading zones depicted on Cohn’s Clock Face, introduced in section 2.2.1.1 (see especially Figure 2.6).

In Piano Sonata No. 8, it will be shown that the selected peripheral subsections tend to be characterised by compositional techniques that create the senses of harmonic stasis and ambiguity in specific ways that attribute special characteristics to these subsections within the overall formal and dramaturgical framework of the piece. This discussion will draw on theoretical concepts from Kholopov and Harrison to demonstrate alternative ways in which the harmonic structures in the selected subsections are concealed.

6.1 Symphony No. 5/I: Disjunctive Connections

In section 5.1.1 it was observed that hexatonic cycles in the dominant and subdominant zones are employed to create harmonic variety in the exposition’s first subject of the Symphony No. 5, first movement, and that an established pattern of transformations was broken at the transition to the second subject (see Figure 5.2 and corresponding discussion). This section will focus on an analysis of the extra-cyclic harmonic structure that connects the two subjects through the transition, by employing Cohn’s voice-leading distance analysis as introduced in section 2.2.1.1, above. Example 6.1, below, shows a reduction of the Symphony’s first movement transition and the bar immediately preceding it.
Ex. 6.1: Symphony No. 5/I, bb. 44-53, transition.

After the last bar of the first subject outlines the B major triad, the transition plunges directly into a highly chromaticised D minor via two chromatic slips in the outer voices: F♯-F in the melody and D♭-D in the bass. The melody proceeds along a number of descending passages delineating a D natural-minor scale chromatically embellished by scale-degrees ♯4, ♯2, ♭6 and ♭3, as shown in bb. 45-46 (see Example 6.1, above). A pedal D acting as base I supports the melody in bb. 45 and 47, helping to establish the D minor harmony amid the distorting influence of the inner-voice parts that expand into a progression of seemingly unrelated triads in b. 46. From b. 48 the bass line begins a steady crotchet ascent along the chromatic scale in contrary motion to the melody, which in turn slows its descent through two minor-third skips upwards in bb. 48-49 between the notes E-G and D-F, respectively (see Example 6.1). The
chromaticism of the rising bass line helps to wipe away fully the sound of the preceding d harmony and adds to the sense of harmonic disorientation by periodically clashing with the upper parts (for example on the second and fourth quavers of b. 48 and, more jarringly, the fourth quaver of b. 49, see Example 6.1). The F harmony in b. 50 appears as the goal of the converging outer voices that land on the notes A and C on the second beat, together with the figure of chromatic rising thirds in the inner voices of the same bar. While the D7-C melodic motion articulates a 6-5 discharge in F, the inner-voice EG♯ third connects with D♭ momentarily to form a d♭ harmony (D♭d♭ in b. 51), thus causing an H relation to obtain with the ensuing F, as annotated in Example 6.1, above, whose cadential role has been observed in preceding analyses. Two further features contribute to the articulation of F as a harmonic goal: the break in the pattern of converging outer voices immediately after F is sounded, and the mildly embellished repetition of these processes in the subsequent bar (b. 51). The transition tapers off with the oscillation between the last two harmonies of bb. 50 and 51 – F and e♭ – before the e♭ harmony drops out, leaving F for the start of the second subject.

The two most stable harmonies in the transition are d, as expressed by the chromaticised descending scale in the melody of bb. 45-49 and the bass pedal notes in bb. 45 and 47, and e♭ in bb. 50-52 that precedes the establishment of F as a tonal centre for the second subject. The manner in which they connect the B major of the first subject and the F major of the second subject can be seen by observing the voice-leading distance between all four harmonies with the aid of Cohn’s Clock Face, introduced in section 2.2.1.1 and employed in the analysis of the tritone-tone pattern in the development of the Piano Sonata’s first movement in section 5.2.1, above. Figure 6.1, below, shows a voice-leading distance analysis of the harmonies running through the Symphony’s first movement transition.
The harmonic progression depicted in Figure 6.1 starts on B in voice-leading zone 8, proceeds to d in zone 4, then to e in zone 10 (the chordal seventh is ignored for now, but will be accounted for later), and finally arrives on F in zone 2. The visible regularity of this progression reflects certain symmetries in voice-leading distance between the harmonies. For instance, the transformations B-d and e-F both traverse the voice-leading distance of four semitones. Likewise, the transformation d-e between the two most stable harmonies of the transition has a voice-leading distance of six semitones, which is the same as the distance
between the B and F harmonies connected via the transition, visible on Cohn’s Clock Face as zones 8 and 2, like 4 and 10, occupy directly opposing sides of the diagram.

Were the regularity of the voice-leading distances of the whole progression reflected also in the harmony, the two outer harmonies – B and F – would be connected via another tritone-relation, d-g♯. Furthermore, if this tritone-relation were in the major mode, the four harmonies would fully represent an octatonic cycle involving movement between adjacent like-mode triads such as have been observed in prominent positions within the Symphony and the Piano Sonata in the discussions in chapter 5. Instead, the harmonies of the Symphony’s first-movement transition make a departure from such regularity by virtue of being in the minor mode and involving the triadic substitution of e for g♯. This departure introduces harmonic variety into the progression, which fosters a sense of unpredictability that conceals the underlying harmonic logic as revealed by voice-leading distance analysis. At the same time, this departure does not weaken the constructive principles on which the harmonic progression is based.

Having established how constructive principles are employed to form an irregular harmonic pattern connecting the first and second subjects via the transition, it now remains to describe how this pattern’s disjunctive properties are emphasised to maximise the sense of harmonic unpredictability. This is chiefly done by avoiding for the most part the juxtaposition of the four harmonies forming the main progression, with the exception of F and e⁷, thereby making audible connections between them harder to form. The chords that appear between the main harmonies on the surface of the music further hinder the formation of audible harmonic connections in two ways. First, they bear no obvious relationship to the main progression chords beyond the fact that the melody they harmonise delineates a chromaticised d scale. Second, the progressions that the surface passing harmonies create are themselves highly disjunctive and irregular. A voice-leading distance analysis of these progressions unveils only one succession of triads that could be described as being in any way patterned. This occurs in
bb. 46-47 and again in bb. 48-49, with a variant in the last transformation (see Example 6.1, above). Figure 6.2, below, depicts the first of these progressions.

**Fig. 6.2: Symphony No. 5/I, surface progressions in bb. 46-47 of the transition.**

The irregularly zigzagging pattern shown above reflects the ever-widening voice-leading distance between the triads in the progression, beginning with B♭-f♯ from the adjacent zones 5 and 4 and ending with e-d from the diametrically opposed zones 10 and 4. There are two further small connections between the main transition harmonies, d and e: the brief juxtaposition of the two harmonies in bb. 46-47, as can be seen in Figure 6.2 and Example 6.1, above, and the retention of the note D that expands the e harmony into a seventh chord.
While present, these connections are so subtle as not to detract from the main disjunction-emphasising processes.

In summary, the disjunctive processes in the transition do not arise arbitrarily, but rather due to a high level of harmonic manipulation of a pattern connecting the first and second subjects. The resulting progressions foster a sense of unpredictability, which serves both the structural and dramatic goals of creating a momentary instability in contrast with the surrounding thematic sections of the exposition. At the same time, the integrity of the pattern running through the transition remains intact in the voice-leading distance between its harmonies.

6.2 Symphony No. 5/III: An unusual coda

An extended passage organised according to a concealed structure occurs towards the end of the third movement of the Symphony, within the formal space of a coda. The passage’s location is unusual as, by its very nature, its qualities are antithetical to those of a traditional coda; it is neither affirmatory nor harmonically stable. However, as the following analysis will show, this passage performs the role of movement closure in a unique way by virtue of three characteristics (refer to Example 3.13 above):

1. It balances the opening of the movement symmetrically by tracing a retrograde of its middleground harmonic pattern. (Compare bb. 171-191 with 1-26.)

2. It reverses the semitonal slip F-E, which is repeated throughout the movement in both the middle and backgrounds. (Compare bb. 180 and 191 with 1 and 17, and 1/39, 43 and 55.)

3. It diffuses the dominant tendency of the B major harmony towards E/e, with which it has been associated throughout the movement (in bb. 26, 48, 73, 169 and 171).

Example 6.2, below, provides a harmonic and voice-leading zone analysis of a reduction of the relevant passage in bb. 171-191.
Ex. 6.2: Symphony No. 5/III, coda, harmonic and voice-leading analysis.
The passage presents a harmonically wandering ten-bar pattern starting on B at b. 171 and ending on E at b. 180. Its first five bars are then repeated starting on C at b. 181, and an alternative progression concludes the passage in bb. 186-190, leading to the return of theme $A$ in F. Within the otherwise fluid harmony of this passage, B, E, C, and F are the closest to being stable harmonies, as points of departure and return. Together they form a pattern that corresponds with a retrograde of the middleground harmonies at the beginning of the movement (see Example 3.13, bb. 1-26). This shows not only that the passage’s roving harmonies are structurally underpinned, but also that this structure corresponds symmetrically with the opening of the movement. By virtue of this property, the middleground harmonic pattern performs the role of movement closure.

As a facet of its symmetry with the opening middleground pattern, it also reverses the semitonal slip F-E that was originally expressed with the first statement and subsequent repeat of theme $A$ (see Example 3.13, bb. 1 and 17). This slip further characterised the tonal shift from the F major of the opening section to the E minor of the middle section (see Example 3.13, bb. 39, 43 and 55). The passage in Example 6.2 reverses this slip by passing through the intermediate arrival harmony of E (b. 180) on its way back to F (b. 191). By so doing, it bears a symmetrical correspondence with the background harmonic pattern connecting the opening and middle sections of the movement. Thus the passage’s middleground harmonic pattern is structurally connected not only with the opening of the movement, but also with the first half of its background harmonic trajectory.

Once the passage’s most stable harmonies – B, E, C, and F – are considered as a middleground pattern, their links to harmonic phenomena earlier in the movement become apparent. What is less obvious is why this pattern should occur within a passage where it is concealed rather than emphasised by the musical surface. The answer lies in the harmonic role of the B harmony at the start of the passage (see Example 6.2, b. 171, above). In all the middleground appearances of B throughout the movement, it is associated strongly with the
dominant function, either following from or leading to E or e (see Example 3.13, bb. 26, 48, 73, and 169-171). Further to this, in the opening and bb. 140-170 of the closing sections, it is the harmony by means of which the music slips away from the F movement tonic. Conversely, the role of the passage in bb. 171-191 is to return to F. As the following analysis will demonstrate, the irregularly patterned surface progressions within these bars contribute to this structural goal by stripping the B harmony of its tendency towards E and turning it instead towards F.

First, the trace of the B harmony is wiped away by a harmonic progression in which the transformations involve irregularly alternating shifts of small and large voice-leading distance. Figure 6.3, below, traces these shifts by reproducing the voice-leading-zone numbers of the respective harmonies from Example 6.2, above, and indicating the distance in semitones between consecutive triads, with 0 being the smallest possible distance and 6 the largest. The alternation of shifts of small and large voice-leading distance gives a loose pattern to the progression, while the lack of a strict regularity gradually disperses harmonic expectations, first and foremost B’s tendency towards E.

**Fig. 6.3: Symphony No. 5/III, voice-leading distance pattern of harmonic progressions in bb. 171-175 and 181-185.**

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<td>11</td>
<td>10</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>10</td>
<td>10</td>
<td>8</td>
</tr>
</tbody>
</table>

| Voice-leading distance | 1 | 6 | 1 | 2 | 6 | 6 | 3 | 0 | 2 |

The most highly patterned feature of this progression is the bass line, which ascends chromatically throughout its duration, with the exception of one minor third skip in b. 174 (see Example 6.2 above). It also expresses a rhythmic pattern whereby crotchet movement in an antecedent bar leads in the manner of an extended up-beat to a held note in the consequent
bar. As the harmonic progression has shed its propensity to create musical expectations, the bass line becomes the chief agent of phrase closure. From b. 176, its melodic trajectory changes from ascending to descending, the rhythmic pace is quickened to one up-beat crotchet and a down-beat minim for three bars, and the intervallic distance between subsequent notes is suddenly widened. When the pattern of chromatic movement by crotchet-beat returns in b. 179 in the descending bass line, it forms a response to previous ascending patterns, suggesting imminent phrase closure, which is achieved in the next bar. This suggestion is strengthened by two aspects that feature strongly in Prokofiev’s cadences: namely, contrary motion in the outer parts and increased chromatic voice leading in the final harmonic transformation, in this case between the notes F–E, G–G♯, and A–G♯ (see Example 6.2, bb. 179–180, above). In summary, the irregular harmonic patterns in the first half of the passage of bb. 171-191 neutralise B’s dominant tendency towards E by dispersing musical expectations. E is marked as a harmonic arrival point by its appearance at the phrase closure, and since in the absence of patterned harmonic progression this has been achieved by linear and rhythmic means, no sense of connection to the opening B harmony exists. Without perfect pitch or prior knowledge of this passage, the listener may well perceive the arrival on E to be an arrival on the movement tonic of F.

The return of material from the opening of the passage in the subsequent bar (b. 181), now on C (a semitone higher than the initial progression), undermines any such false impression. It would then be a rather simple matter to repeat the opening ten bars in their entirety such that the phrase that achieved E at b. 180 would now lead to F at the end of the passage. However, Prokofiev’s strategy involves greater complexity, with alterations to the original progression that bring about a greater sense of closure with the return of the F harmony supporting theme A from b. 191. The harmonic progression departs from the original scheme from the second beat of b. 186, emphasised by the textural enrichment of triplets in the inner voice. The harmonic content becomes consistent as the next three bars outline only simple triads, where the original pattern interspersed them with seventh- and added-note-chords (compare bb.
187-189 with 177-179 of Example 6.2, above). When this consistency is then broken as the harmonies are enriched by the added G♭ in the melody at b. 190, which only becomes consonant with the C♭(7) chord on the final beat, this signals imminent closure. The latter is achieved via a T-shift, a transformation that has been observed in cadential and pre-cadential contexts in preceding analyses in this dissertation (for instance, see Examples 4.6, 4.12 and 4.17, above), and whose highly chromatic voice-leading properties were discussed in section 2.4, above. Example 6.3, below, gives a Harrisonian functional analysis highlighting this voice leading at the cadence into F major, bb. 190-191.

**Ex. 6.3: Symphony No. 5/III, cadence in bb. 190-191.**

![Ex. 6.3: Symphony No. 5/III, cadence in bb. 190-191.](image)

The above process marks a significant harmonic re-invention within the coda: having lost its tendency towards E in the preceding half of the passage (see the discussion above) B, in its harmonic manifestation as C♭, now gains a new tendency towards F in the context of the preceding non-functional harmonic progression. The T-shift from C♭(7) to F, shown using Harrisonian scale degrees in Example 6.3, and highlighted in the score of Example 6.2, bb. 190-191, above, satisfies this tendency and solidifies the sense of closure by virtue of three features:
1. Its inwards contrary motion voice leading, $\sharp 4-\flat 5$ and $\sharp 2-1$, which balances the extended outwards contrary motion of the outer voices in bb. 186-190 (see Examples 6.3 and 6.2, respectively).

2. The fact that it balances two preceding $T$-shifts in this passage, $d-e$ and $e-b$, (highlighted in bb. 171-172 and 178-179 of Example 6.2, respectively), which performed the first large voice-leading leaps in the harmonic progressions departing the B and C tonal centres.

3. Its strong association with cadential progressions in Prokofiev’s music, as discussed in chapter 4 (see the above-mentioned examples).

Rather than reinforcing the stable tonality, then, the unusual coda of the Symphony’s third movement draws a path towards it, from a point of instability. This process achieves closure without the assertiveness of a typical coda; instead, through avoidance of harmonic stability and repetition, it creates a sense of uncertainty that serves to heighten the dramatic narrative. At the same time, the process does not abandon structural integrity in order to forestall musical expectations that create the sense of uncertainty. Rather, the harmonic structure of this section is de-emphasised by surface progressions involving shifts creating an irregular pattern in terms of voice-leading distances, such that it cannot create a sense of musical drive or expectation.

6.3 Piano Sonata No. 8/III: Movement that accomplishes no Motion

The retransition of the Piano Sonata’s Vivace is of particular analytical interest, as it bears the heaviest formal burden of the entire movement: mediating between the psychologically intense development, which brings about a return of the first movement’s mournful second-subject theme $C$, and the third movement’s recapitulation, which poses a complete contrast with its light-hearted character. Indeed, by forging a link between the musical material of the outer movements, the retransition could be said to have a global formal significance in
the piece. Example 6.4, below, provides a score of the retransition, labelling the harmonies shown in the movement’s middleground tonal layout in bb. 343-358 of Example 3.31, above.

Ex. 6.4: Piano Sonata No. 8/III, retransition.
Observing the root motion of the French sixth harmonies reveals organisation by major thirds, familiar from Symphony No. 5 (see section 5.1). What is unusual, however, is the extent to which the compressed manifestation of the major-third structure – the augmented triad, in particular BD♯G (see bb. 344, 347 and 349 in Example 6.4, above) – appears on the surface of the music, an uncommon feature with Prokofiev. The following analysis will demonstrate that the two harmonic entities of French sixth and augmented triad are composed out of three major thirds progressions that manifest a whole-tone scale dominating this passage and creating a profound harmonic stasis due to its intrinsic symmetric properties.

The discussion will evoke the idea furthered in neo-Riemannian theories that pitch-class sets that evenly divide the octave have stability properties, and argue that these can be exploited to create harmonic stasis. In support of this, the discussion will draw on an observation made by Richard Taruskin of how a particular use of tritones – dyads which evenly divide the octave – in Skryabin’s music creates harmonic progressions with ‘a trajectory that contains movement … but accomplishes no motion’.\(^\text{212}\) It will be argued that the profound sense of stasis created in the third movement retransition through the use of such harmonic devices is antithetical to the harmonic drive of the background octatonic-cycle progression extending from the beginning of the piece to the end of the third movement development, which directly precedes the retransition (section 5.2, above, provides a detailed discussion of this progression). Additionally, it will be shown how certain musical features that do not contribute to the creation of a sense of harmonic stasis in the relevant passages instead help to conceal the structures that do so. In the process, they can moderate the impact of these structures, tie them in with material of the surrounding sections and create variety in the music.

In the Piano Sonata’s third-movement retransition, the primary means by which the underlying harmonic structure is concealed is through a phenomenon that Kholopov terms ‘flowing harmonies’ [tekuchiye garmonii], whereby the rhythmic disposition of the notes of different

harmonies, especially complex ones, blurs the point at which one harmony ends and another
begins. The phenomenon also describes progressions in which it is not clear-cut which
notes contribute to the local harmony and which merely embellish it. This is evident in the
possibility of an alternative labelling of the harmonies in the retransition, as demonstrated in
Example 6.5, below, showing the first phrase.

Ex. 6.5: Piano Sonata No. 8/III, retransition, bb. 343-345, alternative labelling.

![Retransition](image)

This labelling gives a closer approximation of the immediate aural impact of the harmonies as
they unfold in time. For instance, on the first beat of b. 343 the notes B, D♯ and A suggest an
emerging B7, the addition of C♯ on the second beat expands this to a B9, and it is only when F
appears with the notes B, D♯ and A on the third beat that the French sixth on B is spelled out.
The fourth beat, however, instantly departs from this harmony via the enharmonically
respelled G♯ and b triads. The first harmony in b. 344, which had been labelled as a Baug
in Example 6.3, above, could be considered an e7 if E within the falling triplet in the bass is
counted as a harmonic note, after which the harmony on the second beat of the bar recalls B7,
but now without a third (although, depending on the performance, the sound of the D♯ in the
preceding chord might have sufficient sway to affirm a B7 harmony). Bar 344 could even be
considered a tonal-functional allusion due to its harmonic semblance with a V6-7 cadence. The
following harmony in b. 345 could then be called a fifth-less C♯7, again, enharmonically
respelled and, finally, the C major on the last three beats of the bar is beyond dispute.

213 Kholopov, Sovremennye cherty garmonii Prokofieva, 1967, 90-95.
Contextually, however, the harmonic labelling shown in Example 6.4, above, is more convincing as, later in the passage, the notes belonging to French sixth chords and $B^{aug}$ appear more prominently on the surface of the music, asserting these two harmonies. For instance, in Example 6.4, b. 346, the F of the French sixth on B now appears in the bass as well as the treble, and in b. 349, $B^{aug}$ appears with no added notes such as the E that hinted at an $e^7$ in b. 344. Nevertheless, in the first phrase especially, interpreting the notes suggesting the alternative harmonic labelling given in Example 6.5 as mere embellishments removes the opportunity of observing their role in how the French sixth and augmented chords are presented. Treating this passage as an instance of flowing harmonies allows the observation that the French sixth on B that opens the passage slips in via the $B^7$-$B^9$-$B^{fr6}$ progression, and that the tonal allusion in b. 344 diverts attention away from $B^{aug}$ on the first beat, while introducing a minor-mode tinge to the music. In this passage, the process of flowing harmonies is used to unfold the structural harmonies temporally, while creating musical variety on the surface, which initially conceals them.

Looking now beyond the concealments, the following analysis will demonstrate how the retransition composes out two features associated with its thematic material that create patterns outlining a single whole-tone scale. The first feature supports the analytical isolating of the French sixth harmonies in this passage, as theme $C^2$ prominently outlines this harmony in the exposition, as can be seen from the extract shown in Example 6.6/a, below. The second feature concerns the descending pattern of major thirds observable in this example that connects theme $C^2$ with the opening theme $A$, in which they first appear as part of the descending succession of triads in the bass part, as shown in Example 6.6/b, below.
Ex. 6.6: Piano Sonata No. 8/III, major-thirds pattern.

/a: Exposition, theme $C^2$, bb. 59-60.

The way that theme $A$’s major thirds pattern maps onto $C^2$ in the exposition changes which thirds are metrically accented. While in their original appearance, shown in Example 6.6/b, above, the second and last thirds fall on the downbeats, in theme $C^2$ the first three are metrically accented, while the fourth is associated with the quaver upbeat figure in the top part (see Example 6.6/a). This emphasises the point at which the sequence of descending movement by major second breaks, as the final third is achieved by a downward shift of the minor second. The retransition composes out this major thirds pattern, as highlighted in Example 6.7, below, with an even greater emphasis on the last third’s role as the element that concludes the sequence.
Ex. 6.7: Piano Sonata No. 8/III, major-third patterns in the retransition.

The brackets in the above example indicate separate instances of the major thirds pattern. They show three different thirds progressions in total – starting with the thirds F–A, (D♭)–F\textsuperscript{214}.

\footnote{The D♭ is omitted, but the pattern remains otherwise intact.}
and A-D, – each of which is repeated twice before proceeding from a new point of initiation. The first two progressions, in bb. 343-347 and 348-352, emphasise the last third in their first iteration, making it a clear structural marker for the end of the phrase, as can be seen in bb. 345 and 350. In both instances, the thirds are expanded into a major triad – C and A, respectively – a harmony notable through its absence in the surrounding bars, and extended for three beats. Having thus articulated the parameters of the phrases spanning separate instances of the thirds progressions, the repetitions of the phrases in bb. 346-347 and 351-352 revert to the original metre of theme C, in which the last thirds last a mere crotchet upbeat. This metre is retained in the last thirds progression initiating on the third A-D in bb. 355-358, creating a rhythmic regularity that injects a hitherto abandoned sense of drive in the music.

The purpose of elaborating on the role of the last thirds in the three progressions is to justify their subsequent analytical isolation from the preceding thirds in the pattern, by showing that the former have an individual, well-defined function in the retransition. It is the preceding three thirds whose progression throughout the subsection creates its whole-tone structure, as illustrated in Example 6.8, below.

**Ex. 6.8: Piano Sonata No. 8/III, whole-tone structure of the retransition.**

/a Summary of major thirds structure.

/b Whole-tone scale.

Example 6.8/a shows each thirds progression, omitting the repeats, with the thirds contributing to the whole-tone structure bracketed, while Example 6.8/b illustrates the scale thus created. Its starting note and particular enharmonic spellings are not significant to the analysis, and both were chosen from the roots of the major thirds in Example 6.8/a for easy
comparison. By traversing this whole-tone scale in the retransition, the structure avoids establishing a tonal centre and creates no tendency towards any particular harmony, thereby engendering a sense of harmonic stasis throughout the passage. This is due to the whole-tone scale’s abundant symmetric properties. Firstly, it evenly divides the octave into six major seconds, meaning that when a whole-tone scale is transposed by a major second, it maps onto itself in a different inversion, a feature that can be represented by observing that transposing the first six notes of Example 6.8/b by a downward major second produces the last six notes of the same example. Secondly, every non-stepwise movement along a whole-tone scale represents an interval that also evenly divides the octave. Skipping one note in the scale achieves the movement of a major third, which divides the octave into three equal parts, representing an augmented triad which, when transposed by a major third, maps onto itself. Skipping two notes in the scale achieves the movement of a tritone, which divides the octave into two equal parts, and maps directly onto itself when transposed by a tritone. These properties entail that movement along a whole-tone scale preserves an exceptional harmonic consistency that, when exploited, can foster a sense of profound harmonic stasis.

The retransition contains a number of manifestations of such consistency, in addition to the thirds progressions discussed above that produce the whole-tone scale shown in Example 6.8/b. One of these is the augmented triad – D♭GB – formed by the roots of the three French sixth chords in the passage, which also appears as a surface harmony, as mentioned above (see Example 6.4, above), and belongs to the same whole-tone scale as the major third progressions. Another manifestation of consistency resides in the French sixth chords themselves. As four-note harmonies that can be conceptualised as constituting two major thirds a major second apart or two tritones overlapping by a major second, their transposition by any of these intervals will produce a full whole-tone scale with two doubled notes when the initial and transposed chords are taken together (two successive transpositions are required when transposing by tritone). As the roots of the three French sixth chords in the retransition belong to the same whole-tone scale, so must the remaining members of the chords.
Nevertheless, a demonstration of how this occurs will serve to illustrate the link with Taruskin’s work on Skryabin, quoted above, which focuses specifically on the tritone’s invariance properties, that is its ability to map onto itself when transposed by a tritone. As shown in Example 6.9, below, each of the retransition’s French sixth chords shares an invariant (or common-note) tritone with the next chord in the sequence, such that the transformation from one to the next can be described by the downward transposition of the top tritone by a minor sixth.

Ex. 6.9: Piano Sonata No. 8/III, retransition, French-sixth structure.

As each French sixth chord latches onto another via their shared tritone, the progression reproduces expressions of the same whole-tone scale that was shown in Example 6.8/b (indicated by brackets), representing an instance of what Taruskin refers to as ‘movement … [that] accomplishes no motion’.215

As noted towards the beginning of this section, such abundant expressions of whole-tone structure are scarce in Prokofiev’s music, and such as there are do not always appear so on the surface of the music as, for example, the tritone-tone cycle analysed in section 5.2.1, above (see Figure 5.11). Considering the formal role of the retransition in light of the harmonic and thematic analyses presented in sections 5.2 and 3.2.3, respectively, suggests that the use of whole-tone structure here has a specific purpose: to mark the end of the tensive processes developed throughout the piece up to this point. In terms of its formal role, the preceding development section is highly cumulative, both harmonically and thematically, as can be observed in Example 3.31, above: it summarises the tonal shift between the first two

movements by transforming onto D♭ after the exposition’s B♭ centre, it then completes the background octatonic cycle pattern that has been dormant since the second movement by building to a dramatic climax that leads into a shift to d♭, and with this shift it brings back the second subject theme C♯ which heralded the first movement’s climax in the development, (see Example 3.24, above). No such thematic resonances occur in the subsequent recapitulation, which reverts to the jocular character and largely major-mode harmonies of the third movement’s exposition throughout. The retransition’s whole-tone structure endows it with the ability to mediate between these two sections precisely because it has not occurred so prominently in any previous part of the piece. Its profound harmonic stasis is antithetical to the harmonic drive of the piece-wide octatonic cycle pattern, completed in the preceding development. Furthermore, the placement of the retransition before the exuberant Vivace recapitulation recalls the lesser stasis of the first movement recapitulation’s second subject, which preceded a turbulent coda, marking the third movement recapitulation as a higher-level coda in terms of the piece-wide formal process.

That the harmonic stasis of the retransition is achieved through a whole-tone structure is also significant in terms of the dramaturgy of the piece. Boris Berman comments that ‘[a]t times [Piano Sonata No. 8] seems to grow numb, as if abandoning itself to the relentless march of time’, and while he is likely referring to surface textural or thematic features, his comment also rings true in light of the harmonic analyses offered above. Numbness, or the deprivation of feeling or responsiveness, makes a good metaphor for a harmonic structure that remains motionless despite its own internal movement.

6.4 Piano Sonata No. 8/I: Disconnecting Tonics

The Vivace retransition is not the only section of the Piano Sonata to express the properties of numbness through its harmonic structure, although contextually it can be argued to have the most profound effect. In the Andante dolce, harmonic structures based around an ostinato in the codetta and retransition employ a combination of techniques familiar from earlier discussions to create a sense of harmonic stasis. Rather than embodying a cumulative aspect and performing a hyper large-scale formal function with regard to formal processes initiated in a preceding movement, however, these structures serve the more local purpose of disconnecting adjacent tonics by employing techniques to suspend expectations of particular harmonic phenomena, an effect that was observed in the coda-like passage of the third movement of Symphony No. 5 in section 6.2, above. Unlike in this passage, however, harmonic structures in the Piano Sonata’s first movement achieve this effect by minimising and at times completely eradicating harmonic movement, rather than employing progressions with trajectories ambiguous due to the multiple transformational possibilities created by successive harmonic shifts. Example 6.10, below, shows the score of the codetta which ends the exposition, whose D-F♯ ostinato and trajectory of descending three-beat chords return in the retransition.

Ex. 6.10: Piano Sonata No. 8/I, exposition codetta, bb. 83-89.

One aspect of this passage’s static quality is created through its use of augmented triads, unveiled by a registral de-layering of bb. 86-87 of the above example: B♭D♯F in the top voices of b. 86 and AC♯F in the lower voices of b. 87. The stasis-inducing properties of augmented
triads and other harmonies that evenly divide the octave were discussed in relation to the Sonata’s third-movement retransition (see section 6.3, above); but while the augmented triads in the Vivace drew on the invariant property of the whole-tone scale to create a sense of harmonic stasis, the first-movement codetta’s augmented triads draw instead on high common-note retention between the complex harmonies that embody them. This is evident in bb. 86-87 of Example 6.10, when they are analysed according to their harmonic de-layering, rather than the above-mentioned registral de-layering or the readily apparent textural de-layering that splits them into held chord and ostinato. The harmonic de-layering highlights the fact that between the two five-note sonorities in these bars, four notes – C#/D, D, F and F# – are held in common, while one moves by semitone: B–A. This maximises the Cohnian principle of parsimonious voice leading between triads by adding two more common-notes between successive harmonies, creating a sense of extreme harmonic proximity and, consequently, negligible harmonic motion.

This underlying harmonic stasis is concealed by outwardly-apparent movement observable in a number of different features. One such is the semitonal shift between the constituent B♭ and A augmented triads (highlighted by the annotation 6–5 in Example 6.11, below). Another is the inversionsal relationship between the two five-note sonorities, whose moving notes – B♭ and A – are major-third distant from the top (F#) and bottom (C#) of the common-note collection, respectively. By distancing them registrally by an octave (see Example 6.10, bb. 86-87, bottom stave, above), the music places them in positions highlighting the sonorities’ inversionsal relationship, which in turn emphasises the sense of a broad movement upon the thick hinge of four common-notes. Finally, movement is apparent in the downward registral trajectory in the two bars. As with the invariant whole-tone structure of the Vivace retransition, none of this movement accomplishes significant harmonic motion. The movement conceals but does not counteract the stasis created by common-note retention between the harmonies in bb. 86-87. A Harrisonian functional analysis of the whole codetta, given in Example 6.11, below, contextualises these two bars, showing that they temporarily
suspend the centricity of the bounding G tonics of the passage by briefly offering D as an alternative tonic.


The three opening harmonies establish a G tonic via the D-T discharge 7-1 with accompaniments 2-1 and 4-3 from a functionally-mixed DS harmony, whose subdominant base, 4, which would normally be inclined towards dominant function within this context, gains greater subdominant expressivity due to the supporting presence of 1, acting as subdominant associate. The entrance of the D-F♯ ostinato does not initially perturb the G centricity of the opening harmonic progression, beyond contributing a dominant aspect to the prevailing tonic harmony in bb. 84-85, by virtue of F♯ acting as the dominant agent. However, when the G major dyad in the top part is replaced by a b♭ triad in b. 86, the resulting sonority encompassing the ostinato notes (bracketed above the stave in Example 6.11) abruptly becomes functionally complex from the G major perspective, casting doubt on the key’s continued centricity. Within this context, the ostinato notes express the greatest aspect of stability due to their repetition and registral prominence in the upper voices, and consequently attract tonic status. Their likeness with the preceding GB notes, by virtue of being the stable
major-third dyad in the upper voices, suggests they should be analysed similarly, as the tonic-functioned ¹, ³ dyad in D. In b. 87, the voice-leading shift onto note A brings in the final constituent of the D major triad, suggesting the shift’s rationalisation as the normative S-T/S-D discharge ⁶-⁵ in D major.

The impulse to hear a continuity of tonic function while the key expressing this function changes corresponds with Harrison’s method of ‘accumulative analysis’, which interprets such passages as either intensifying a given function or, in the case of tonic at the ends of formal sections, ‘giving rhetorical weight to a conclusion’.²¹⁷ Labelling the two harmonies in bb. 86-87 as TSD and TD, respectively, describes in terms of functional mixture the particular character given to them by the combination of the ostinato DF# dyad and the remaining chordal notes, thereby elaborating on the simple analytical label of ‘tonic’. At the same time, the latter function’s primacy remains intact due to the prominent registral and intervallic placing of the DF# dyad. This analysis gains support from one of Kholopov’s observations that ‘[s]imilarly to other complex chords, [elaborated trichords] are used [by Prokofiev] not only in the role of modally-unstable elements, but can also perform a tonic function’.²¹⁸ For the above analysis, this entails that the chromatic scale degrees creating functional mixture in the five-note sonorities in bb. 86-87 do not detract from the tonic status of the DF# dyad, but rather partake of it in a way analogous to how subdominant base ⁴ partakes of dominant function in a dominant-seventh chord.

D’s ability to temporarily eradicate G’s tonic centricity, despite being its dominant in functional harmony, arises due to the fact that it is achieved through a functional reinterpretation of a static entity – the D-F# ostinato – rather than any voice-leading features, whether functional or chromatic, that would forge a direct connection between the two tonal centres. As D major is expressed more strongly in b. 87 than 86 due to the preponderance in the former of D’s tonic-triad constituents, it can be argued that its tonic status is only heard

²¹⁸ Kholopov, Sovremennye cherty garmonii Prokofieva, 1967, 37.
retrospectively in b. 86. This further severs a sense of connection between the D and the preceding G harmonies, supporting the interpretation that D replaces G as tonic, rather than being the latter's subordinate harmony. That G is brought back in b. 89 via the chromatic voice leading indicating a T-shift (see Example 6.11, bb. 88-89, analysis above the stave) is telling: the maximal voice-leading distance traversed by the shift promotes the sense that the return to G has been achieved from a remote location, harmonically disconnected from the recovered tonic.

It may be argued that the seven-bar codetta presents a musical span too short to establish the senses of relative harmonic stasis and of a new D tonic in bb. 86-87, facets upon which the analysis of the bounding G tonics as being disconnected relies. However, observing even the minimal influence of these features in the codetta provides a means of understanding the musical processes in the longer, analytically challenging retransition, which is based on the same ostinato figure. The following analysis will build on the observations made in sections 3.2.1 and 5.2, which proposed that the retransition works as a disjunctive passage disconnecting the tonal centres of E(e) of the development and B of the recapitulation, so that there can be no reconciliation between them in the first movement. It will be argued that this is achieved by eradicating harmonic expectations through creating harmonic stasis and then confounding them by suggesting three alternative tonics as the retransition gives way to the recapitulation.

Example 6.12, below, shows the score of the retransition and the bars surrounding it, picking up from the discussion of Example 3.27, which noted the oscillation between the E and g harmonies in bb. 187-190. From b. 191, the process of disconnecting from the E harmony begins preparing the first alternative tonic, D, by sounding its base in the lowest part, while juxtaposing the C♯-F♯ dyad (D's 7 and 3, respectively) emphatically above a g triad in the inner voices, producing the dissonant S-join, highlighted in b. 191. In b. 195, the new D tonal centre is confirmed via a position-finding tritone, 7-4 resolving to 1-3 between the bass and middle
voice. From b. 196, the ostinato figure hails the start of the retransition, where D centrality is perpetuated for four bars by position-asserting techniques that become evident with a Harrisonian functional analysis, given in Example 6.13, below.
Ex. 6.12: Piano Sonata No. 8/I, retransition.

Retransition

Andante dolce, come prima
Ex. 6.13: Piano Sonata No. 8/I, retransition analysis.

As the top-line functional analysis of the first four harmonies in the retransition progression shows, while each sonority has a different scale-degree basis, the effect this has on the sonorities’ functional aspect is one of extent rather than kind: each represents a tonic-dominant functional mixture. In the first sonority, the dominant is more prominent due to the presence of both modal variants of the dominant agent, 5, encompassing the dominant base 5 between them, so that it is harder to hear the latter as the tonic associate in relation to the upper notes belonging to the ostinato. In the second sonority, dominant function is more ambiguous: the base 5 is in its optimal position in the lowest part, but is unsupported by any other natural constituents of the dominant triad. The chromaticised 2 and 4 can be interpreted as expressing 5’s projected dominant function; however, this relationship is not reciprocal, meaning the chromaticised scale degrees cannot in turn boost 5’s dominant functional expressivity. The latter is therefore much more susceptible to the upper 1 and 3’s tonicising power, and can be heard as the tonic associate, despite lying in the optimal position to be interpreted as a dominant base. The third sonority strongly expresses tonic function by doubling the unequivocally-functioning agent, 3, in the outer voices and thereby boosting its support of inner-voice tonic base, 1. While dominant function is not expressed as strongly in this sonority by virtue of being represented by the weaker modally-mixed agent 5 with the support of the associate 2 rather than base 5, it is nevertheless more clearly articulated than in
the second sonority, which contained two chromaticised scale-degrees. The fourth sonority flips the tonic-dominant expressive hierarchy by bringing back the strongly dominant position-finding tritone, \( \hat{4} \hat{7} \), from b. 195, whose functional allegiance subsumes \( \hat{4} \) contextually into dominant, even though it is a subdominant scale-degree in the abstract sense. The tritone is *accompanied* by the special chromatic projection \( \hat{2} \) in the bass, which likewise expresses dominant function in this context. Tonic is only maintained by the two ostinato notes, and is thus represented less strongly than dominant.

The harmonic process in bb. 196-199 (see Example 6.12, above) is analogous to that of ‘movement … [that] accomplishes no motion’, introduced previously in section 6.3. In the retransition, lack of motion is represented by the unchanging functional contents of its four opening sonorities, while movement is evident in their shifting hierarchies of expressivity. The effect closely resembles Harrison’s third rhetorical device, whereby harmonic stasis and immobility attract tonic function (see opening of chapter 3), although contextually it would be more accurate to term it a functionally-mixed tonic. This notwithstanding, the opening of the retransition expresses D centrality and, by generating a sense of harmonic stasis, negates expectations of harmonic progression. This creates a functional blank slate for the following bars which, through the use of normative *discharges* and voice-leading progressions, can rapidly suggest alternative tonics, as will be shown below.

The first normative *discharge* connects the fifth and sixth sonorities shown in Example 6.13, above, confirming the D centrality by the S-T/D shift, \( \hat{6} \hat{5} \) between the notes B\( \natural \) and A. This first instance of harmonic motion within the overall progression is an echo of the same *discharge* occurring in the codetta in bb. 86-87 suggesting D centrality (see Example 6.11, above). The \( \hat{6} \hat{5} \) *discharge* having been made prominent by embodying harmonic motion and introducing the first strongly subdominant element into the progression, it then becomes compelling to hear it repeated in the following two sonorities, between the notes F and E in the inner voices. Doing so indicates the alternative tonic of A major, which is supported by
the interpretation of a simultaneous voice leading between the notes A and G♯ as normative discharge 1-7 in the same key. The two discharges are further emphasised by being the only moving parts within the transformation between the seventh and eighth sonorities shown in Example 6.13, above, the other notes acting as static accompaniments.

The following two bars (bb. 204-205 in Example 6.12, above) that end the retransition abruptly condense the texture from five- to two-note sonorities, which proceed from a D unison before expanding to a CD dyad. They represent the final step in the larger process of disconnecting the E and B♯ tonics, by drawing on tonal expectations created in the preceding bars to create a sense of harmonic disorientation that is antithetical to cadential drive. The D unison invites with equal force two alternative harmonic interpretations: as 4 in A major, drawn out as a static voice leading from the preceding sonority (eighth in Example 6.13, appearing in b. 203 of Example 6.12, above), and as 1 in D major, representing a return to the tonic harmony of the opening of the retransition. Without any other features in b. 204 to sway interpretation one way or the other, the D unison’s harmonic allegiance remains ambiguous and any clarification must therefore come from subsequent musical material. The introduction of the note C in b. 205, however, fails to confirm either of the two possible tonics by being the more unusual modal variant 3/7 of A/D respectively, which does not form part of any normative discharges or their common projections or accompaniments. The appearance of the note C thus undermines expectations of either of the preceding tonics, while simultaneously withholding any alternative suggestions due to the restricted number of immediate expressive elements (the notes C and D only) and the possibility of multiple functional interpretations of the voice-leading motion of a downward tone. This point in the retransition expresses the highest degree of harmonic disorientation. The functional allegiance of the D-C voice leading in bb. 204-205 only becomes apparent retrospectively with the entry of the recapitulation in the following bar, whose bass B♯ and upper-voice D are instantly indicative of a B♯ tonic not only by their optimal registral and intervallic placing, but also by virtue of initiating the return of the movement’s opening B♯-grounded theme. The possibility of such retrospective hearing
is defended by Kenneth Smith in relation to Skryabin’s music when he argues that ‘as listeners we want to process out harmony functionally, not just as after-the-fact analysis but as an integral part of the listening experience’, which is possible in the context of Skryabin’s music ‘when, after a chain of chords, a cadence point clinches a particular tonic and retroactively confirms the harmonic function of the previous elements in the sequence’. The compulsion to hear the bass B♭ as 1 overrides the more unlikely interpretations offered from the perspective of the other two alternative tonics of A and D (see Example 6.13, above, analysis below the stave). Being so far removed from the E harmonies earlier in the development by processes creating harmonic stasis and ambiguity, the recovered B♭ tonic at b. 206 bears no traces of connection with the preceding tonal centre of E(e).

6.5 Summary

The analyses in this chapter present a number of ways in which a methodology employing Cohnian, Harrisonian and Kholopovian perspectives can illuminate the structure and musical processes in disjunctive passages in Symphony No. 5 and Piano Sonata No. 8. In section 6.1, applying Cohn’s voice-leading zone analysis to the transition of the Symphony’s first movement showed that patterns of voice-leading distance remain intact even where those of harmonic progression do not, retaining a strand of consistency through a harmonically unstable passage. Section 6.2 discussed in relation to the Symphony’s third-movement coda how such patterns can be observed in progressions geared towards dissipating harmonic expectations rather than creating them. These progressions in turn were seen to conceal a deeper harmonic structure, thus retaining structural consistency without perturbing the dramatic sense of harmonic ambiguity on the surface of the music. Section 6.3 focused on the Piano Sonata’s third-movement retransition, and explored the effect that harmonic stasis created through drawing on the invariance properties of the whole-tone scale can have on the

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formal and dramaturgic aspects of the piece. Finally, section 6.4 argued with the aid of Harrisonian scale-degree analysis that functional stasis can perform a similar formal role to harmonic stasis. Without the presence of the latter, it can create tonal ambiguity by offering viable alternative tonics through use of brief functional indicators.
Conclusion

In this dissertation, I set out to explore two broad questions: what is the essence of Prokofiev’s mature harmonic language, and what is his approach to large-scale tonal design in the two pieces selected for analysis? As part of this exploration, it has been my aim to demonstrate that Kholopov’s theories of Prokofiev’s music, with which Anglo-American analytical accounts have yet to engage, have much to contribute. Accordingly my findings agree with Kholopov in the following respects: that Prokofiev’s music draws on the expanded sound-world of the twentieth century while retaining some characteristic principles of the common-practice period, such as ‘triadicism’, harmonic functionality and established formal parameters (for a more detailed discussion of Kholopov’s conclusions, see section 1.1.3). Furthermore, by developing a methodology that combines Kholopov’s theory with the neo-Riemannian theories of Cohn and Harrison, I have been able to provide further insights into Prokofiev’s harmonic style, which I lay out below.

My analyses show that the diatonic-chromatic mix that many scholars have observed in Prokofiev’s music operates not only on the surface but also at deeper levels of harmonic structure. In broad terms this view is shared by Bass, Minturn and Rifkin. However, my work makes a departure from theirs by proposing that the essence of this mix lies in the intertwining of two principles of harmonic proximity: the common-practice functional principle based on the circle of fifths and the non-functional principle of semitonal voice leading between harmonies, as highlighted by neo-Riemannian theories. Perceiving the diatonic-chromatic mix in this way allows phenomena such as chromatic slips shifting tonality to be ‘accomplish[ed] fluently and without preparation, often in mid-phrase’.²²⁰ It also provides a broader theoretical vocabulary for discussing Prokofiev’s ‘expansion of functional harmony’, as demonstrated, for example, with regard to Brown’s analysis of the final cadence of the Piano Sonata’s first movement (see section 4.4).

My view regarding the diatonic-chromatic mix in Prokofiev’s music may seem similar to Bass’s, who suggests that the music is composed along a principle of chromatic equivalence whereby functional diatonic systems lying a semitone apart can freely exchange notes that become *chromatic displacements* in their neighbouring system (for a discussion of Bass’s theory, see section 1.2). The crucial difference is that Bass combines the concept of a functional diatonic system with the *principle* of chromatic equivalence, whereas I propose the combination of two independent systems of harmonic organisation, one according to functional diatonic forces and one according to semitonal voice leading. As such, any discussion of chromatic elements using Bass’s theory must always attribute them to some functional system in which they serve a diatonic role, while my theory suggests that certain musical contexts completely suspend functional principles of organisation. My approach therefore proposes that Prokofiev’s harmonic language stands at a greater distance from common-practice functional principles than Bass suggests. While my work problematizes his theory, it also responds to his call for analyses that explore ‘the inter-relationships between … seemingly extraneous elements within complete, cohesive structures’ (see the end of section 1.1.3) by examining small-, medium- and large-scale structures in Piano Sonata No. 8 and Symphony No. 5. With regard to the latter, I build on William Austin’s early account of the work, quoted by Bass (see section 1.2), that likewise highlights the necessity of addressing large-scale structure in Prokofiev’s works. My analyses engage with Austin’s contention that ‘the whole symphony coheres and progresses in relation to the tritone’ by showing how the tritone-related  is a ‘strand’ by appearing in different roles throughout the Symphony (see especially sections 3.1 and 5.1).\footnote{William Austin, ‘Prokofiev’s Fifth Symphony’, *The Music Review*, 17/3 (August 1956) 220.} I expand on his work by basing this claim on background analyses of the Symphony with a firm theoretical grounding on the concept of tonal centricity (discussed at the beginning of chapter 3) as opposed to a ‘harmonic abstraction … [that] shows … merely a strand of coherence’.\footnote{See musical example in *ibid.*}

My assessment of the diatonic-chromatic mix in Prokofiev’s music diverges from Rifkin’s at a similar point: like Bass, she proposes a combination of the functional diatonic system with an
extraneous musical strand, in this case *structural motifs*, which can be functional or non-functional (for a detailed discussion of Rifkin’s theory, see section 1.4). I argue that, rather than belonging to a separate strand, the harmonies that do not conform to the functional diatonic system arise due to the music’s following the principles of semitonal voice leading (see section 2.1). According to my view, certain sections of Prokofiev’s music suspend the principles of the functional diatonic system, as opposed to expressing a version of it elaborated by an additional layer of *structural motifs*. With respect to my analyses in chapter 5 especially, I propose that this is a more efficient theoretical perspective than Rifkin’s, as it locates the origin of chromatic features in Prokofiev’s music *within* an intertwined system combining two principles of harmonic proximity, as opposed to *beyond* the single functional diatonic system.

My thesis also challenges Minturn’s position, that the diatonic-chromatic mix in Prokofiev’s music is best understood from the perspective of pitch-class set theory, by arguing that his methodology does not fulfil his analytical intentions (see section 1.3), especially with regard to the *tonal interpreter*. The concept of this special pitch-class set, central to understanding the interplay of diatonic and chromatic elements throughout a Prokofiev work according to Minturn’s theory, relies on the listener’s ability to re-interpret what sound like extraneous dissonant notes in a diatonic context as members of a structural non-diatonic harmonic collection – the *structural set* – by the end of hearing a composition. I argue that, given the strength of diatonic contexts in many of Prokofiev’s works, there are at least equal grounds for claiming that the listener will simply hear repetitions of dissonant notes, without perceiving them as belonging to the *structural set* governing a piece’s harmonic organisation (see the end of section 1.3.2). My analysis of harmonic structure in the first movement of Symphony No. 5 further suggests that there are greater analytical gains in adopting my methodology for Prokofiev analysis, such as the ability to connect middleground and surface harmonic structures to the harmonic pillars of the piece (compare my analysis in section 5.1.1 with Minturn’s, given in section 1.3.2).
While chromatic slipping in Prokofiev’s music has been commented on by numerous scholars, another recurring feature highlighted by my analyses has received much less analytical attention in previous accounts: namely Prokofiev’s use of harmonic ambiguity as a compositional device. Besides Bass’s theory, the discussion of ambiguity in Prokofiev’s music is only briefly touched upon in Rifkin’s analysis of ‘Masks’ from *Romeo and Juliet*, which highlights the presence of a basic harmonic ambiguity in an ‘enharmonic pun’ between two pitches that she suggests may be the composer’s way of reflecting the title of the movement. However, my analyses unveil the presence of harmonic ambiguity at the deeper level of key relations, for instance in the enigmatic retransition of the Piano Sonata’s first movement (see section 6.4). My analyses suggest that harmonic ambiguity in Prokofiev’s music can obtain between any keys, not just semitonally-related ones, as Bass theorises. Some of the uses of ambiguity discussed in this dissertation relate to passages that provide equally viable conflicting cues for ensuing harmonic progression solely as a means of (dis)connecting two keys, for example at cadential points such as the one introducing the repeat of theme A at the opening of the Symphony’s third movement (see section 3.1.3, especially Example 3.14).

Other uses of ambiguity, such as the ones encountered in the Piano Sonata’s first movement retransition and the Symphony’s third movement coda (see section 6.2), are unveiled by my analyses as performing larger, well-defined roles within the formal and dramaturgic layouts of the movements in which they occur. The action of this compositional device becomes perceptible upon adopting my proposal that a combination of a functional and non-functional system of harmonic organisation is an essential feature of Prokofiev’s mature musical language. Its explanatory power within musical passages that resist straightforward analysis, such as the Piano Sonata’s first movement retransition and the Symphony’s third movement coda, corroborates the suitability of my methodology for the present study.

As was noted at the beginning of chapter 3, a number of scholars, including Kholopov, have commented on Prokofiev’s use of conventional forms of the common-practice period, indicating (explicitly or implicitly) his lack of innovation in this area. While my findings in this
dissertation largely agree with them with regard to Symphony No. 5, my analysis of the background octatonic cycle running across all three movements of the Piano Sonata No. 8 suggests a more progressive approach to large-scale tonal design. The use of this cycle as an overarching harmonic structure not only incorporates the tritone within the wider chromatic-diatomic context of the piece, but also articulates a special relationship between the overall tonic and its tritone-related harmony, which would be ill-served by designating the latter simply as a substitute dominant. Instead, my analyses trace the tensive process that emphasises the polar aspect of this relationship in the first movement, and features contributing to its harmonic proximity (such as semitonal voice leading) in the last (see sections 3.2 and 5.2).

Where Prokofiev does employ conventional harmonic schemes, my analyses demonstrate that a refinement to the above-mentioned observations in existing literature can be made by adopting the concept of *layered tonality* (as discussed in section 2.2.3). This draws attention to the transformational harmonic processes often encountered closer to the surface of Prokofiev’s music, which elaborate the harmonic pillars of traditional forms and connect them in unconventional ways, as was seen in particular in the discussion of hexatonic cycles in Symphony No. 5’s first movement (see section 5.1.1). The presence of such harmonic processes suggests that, in his mature compositions at least, Prokofiev has gone far beyond creating a ‘veneer of harmonic daring’ (a comment Taruskin makes with regard to the composer’s conservatory-period works – see the beginning of chapter 3). It also builds on Morrison’s observation that ‘[i]n the Fifth Symphony, the destabilizing enrichment of the syntax has a dramatic purpose, lending the placid texture a strange feeling of disquiet’, by arguing that this enrichment also has a formal purpose.\footnote{Morrison, *The People’s Artist*, 2009, 251.} Likewise, the quality of numbness that Berman attributes to the Eighth Piano Sonata after a discussion of its thematic and textural features is shown by my analyses to proceed in large part from deploying musical structures expressing harmonic stasis at formally significant points (see section 6.4 and

\footnote{Morrison, *The People’s Artist*, 2009, 251.}
especially 6.3). Meanwhile, the prevalence of third-related surface and middleground harmonic structures throughout the Symphony and in certain places in the Piano Sonata (see for example section 5.2.3) supports the use of transformational theories such as that of Cohn in the analysis of Prokofiev’s mature works.

The exploration of harmonic structures within Symphony No. 5 and Piano Sonata No. 8 in my analyses also highlights the special importance of considering musical context in the discussion of stable and unstable elements; I propose that this arises due to the varied means of establishing harmonic and tensive relationships at Prokofiev’s disposal. This perspective promotes the qualifying of general observations about his music: for instance, my analyses show that it would be too simplistic to say that his use of #4 represents a dissonant incursion. The latter is only true in predominantly diatonic contexts, such as in the Symphony’s second movement (see section 3.1.2), whereas in others #4 may form part of a stable sonority while other features embody instability, as was seen with regard to the Symphony’s fourth movement and the Piano Sonata’s first (see sections 5.1.4 and 5.2.1, respectively). This perspective is made possible by adopting Kholopov’s and Harrison’s principles of contextual analysis and the former’s theory that elaborated triads can act as stable sonorities in Prokofiev’s music. It engages with Kholopov’s initially puzzling statement that ‘by contrast with [Wagner, late Liszt, Skryabin and Debussy], the fundamental idea behind Prokofiev’s modernisation of [musical] functionality consists in the strongest affirmation of the sovereignty of the tonic’ by pointing out that ‘tonic’ in Prokofiev does not necessarily relate to the common-practice understanding of the term (a view also expressed by Kholopov), but rather designates a stable harmony, whose unconventional properties increase with those of its surrounding unstable elements.224

In summary, this dissertation offers a theoretical framework for analysing Prokofiev’s music that addresses existing gaps in the field, as well as bringing the work of a prominent Russian musicologist into the sphere of Anglo-American theoretical research into the composer’s

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224 Kholopov, Sovremennye cherty garmonii Prokofieva, 1967, 450.
music. Its findings would be relevant to Anglo-American Prokofiev scholars who have not encountered Kholopov’s work on the composer due to the lack of English-language translations, for whom it would act as an introduction and show how Kholopov’s theoretical ideas may be integrated with those familiar from Western musical thought. Likewise, my findings may be of interest to Russian Prokofiev scholars already well-acquainted with Kholopov’s writings but less aware of Western analytical theories, especially developments in neo-Riemannian theories and their potential for analysing non-functional tonal music. To Russian scholars, my thesis would serve as a useful introduction in how the latter may be employed in Prokofiev analysis, as well as evaluating the relative merits and shortcomings of other Western analytical offerings.

In the wider field of musicology, my thesis may contribute to the work of scholars seeking to situate Prokofiev within a historical framework on the basis (at least partially) of an assessment of his harmonic style. My findings suggest that the origins of his chromaticisms, which previous studies have struggled to account for, derive more from ‘the alternative syntax’ of nineteenth-century music as articulated by Cohn in his recent monograph,225 than from manipulating the common-practice diatonic system, and that such manipulation, where it exists, frequently involves the act of layering it with musical strands following the principles of the alternative syntax, in one expression of polyphony. This provides grounds for distancing Prokofiev conceptually from the musical practices of classical composers, with whom he is sometimes compared in existing literature.226

Finally, this thesis may be of interest to musicians seeking new interpretations of Symphony No. 5 and Piano Sonata No. 8, who may choose on the basis of the structural and dramaturgic features highlighted in my analyses to bring out particular musical strands in performances of the two compositions. For instance, my re-interpretation of where the climax of the Sonata’s first-movement development falls (see section 5.2.1) may influence how a pianist chooses to

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225 Cohn, ‘Introduction’ in *Audacious Euphony*, 2012, x.
226 For instance, Bass compares Prokofiev’s use of chromaticism to shift tonality with Beethoven’s in ‘Prokofiev’s Technique of Chromatic Displacement’ (1988) 119.
articulate the passage in question and balance the expression of the development’s tensive process.

As a result of my work, further research might be conducted into the harmonic properties and large-scale structures of other Prokofiev compositions to determine the extent to which semitonal voice-leading frameworks define the background harmonic organisation of his pieces as opposed to traditional STD-based structures. Likewise, future studies might explore more fully the concept of polyharmony in Prokofiev’s music, and test its potential to describe the formation of complex sonorities in more heavily chromatic contexts, present in works such as the Sixth Piano Sonata, for instance. With the application of my analytical methodology to Prokofiev’s compositions preceding his mature period, such research could also unveil patterns in his compositional thought over time, which may then be explored in conjunction with other features, such as reception.

Further research could also continue the exploration into intersections between Russian and Western analytical thought about music of the first half of the twentieth century. Such studies may consider Kholopov’s work in more depth as well as engaging with the works of other Russian theorists, such as Boleslav Yavorsky, whose theory of modal rhythm is explored in the analysis of short works from Prokofiev’s early compositional period by Michael James Thibodeau.277 The work of Russian theorists can be considered not only in relation to recent developments in neo-Riemannian theory, as shown in this dissertation, but also to earlier accounts such as those of David Lewin,228 and the nineteenth-century treatises that precede the establishment of neo-Riemannian and transformational theories, such as the works of Jean-Philippe Rameau, Moritz Hauptmann and Hugo Riemann himself, to name but a few.229

In conclusion, I will make some remarks on the research process that culminated in this dissertation itself since, due to the particular nature of the present study, it has been

229 Many of these treatises are discussed in existing literature: see n. 106.
impossible to pursue the usual linear process beginning with a full literature review and proceeding to the development of my own ideas and their subsequent execution. The central concern governing my research has been to find the best way to test, express, demonstrate, then justify my analytical intuitions, which has required a revolving process of revisions and re-considerations both of my analyses and of my assessment of the literature upon which this study is based. The latter has resulted in my re-appraisal of the early contributions to Prokofiev analysis by Austin and Brown; the merit of their expressed analytical intuitions, which have since helped to guide my own interpretations, was too easy to dismiss at first due to the inadequacies of their analytical methods as highlighted both in existing literature and in the present study (see, for instance, sections 1.1.1, 1.2, 1.3 and 4.4). Upon re-considering their contributions, I have been able to build on some of their ideas, equipped with an analytical toolkit that was not at their disposal.

The revision of my own analyses has been both a positive and an unavoidable aspect of my research process, since I dispersed the exploration of various literatures throughout the course of my study in order that I could develop my own analytical ideas with regard to the two focal works, as opposed to perceiving them initially through the lens of existing theoretical accounts. Most fortuitously, conducting such revisions suggested that my initial findings were symptoms of larger processes, indicating deeper levels of coherence. For instance, in my essay based on early research for this dissertation, I argue that a combination of Bass’s and Rifkin’s theories provides a good way to analyse harmonic structure in the Piano Sonata’s second movement. However, I later discovered that a more elegant explanation of structure in the same movement that loses none of the crucial elements of the former interpretation (namely the importance of semitonal movement) is available from a Cohnian perspective, which I present in section 5.2.2.

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This reflection on the research process culminating in the present study concludes my discussion. Having presented the possibilities for expanding the field of Prokofiev analysis with a methodology combining neo-Riemannian and Kholopovian perspectives, I look forward to joining other scholars in delving deeper into the harmonic intricacies of the music of one of the most popular and enduring, yet patchily understood, composers of the first half of the twentieth century.


Hwang, Yun-Young, ‘Prokofiev Piano Sonatas No.2, No.5, And No.8: Comparison And Performance Strategies’, D.M.A. diss., The Ohio State University, 2002.


Kholopov, Yuri, Sovremennye cherty garmonii Prokofieva (Modern Traits in Prokofiev’s Harmony), Moscow, 1967.

Kholopova, Valentina and Yuri Kholopov, Fortepiannie sonaty Prokofieva (Prokofiev’s Piano Sonatas), Moscow, 1961.


**Scores**
