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Scriabin's transpositional wills : a diachronic approach to Alexander Scriabin's late piano miniatures (1910-1915)

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SCRIABIN'S TRANSPOSITIONAL WILLS: A DIACHRONIC APPROACH TO
ALEXANDER SCRIABIN'S LATE PIANO MINIATURES (1910 – 1915)

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The School of Music

by

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ABSTRACT

Alexander Scriabin's late music has long fascinated music theorists by its unprecedented exploration of harmony. Accordingly, many analysts have attempted to capture Scriabin's self-professed theoretical system, in which he states, "there is not one note unaccounted for." However, no theorist has currently developed a comprehensive system of analysis for this music. While scholars have succeeded in relating members of the same set class through maximally invariant transposition, there are persistent issues in relating members of different set classes. The variety of conflicting methods of analysis attempting to relate members of different set classes suggests the following conclusion: there is no purely music-analytical theory that can explain Scriabin's post-tonal compositional language.

However, new analytical approaches to Scriabin's late music have been achieved by consulting his philosophical influences. The benefits of this diachronic approach to Scriabin's late music are shown in the works of Richard Taruskin and Anna Gawboy, who analyze large passages of Scriabin's music through maximally invariant transposition. This study extends this diachronic approach to develop a comprehensive system of analysis for relating different set classes in Scriabin's late music. This study compares Scriabin's most significant philosophical influences of Vladimir Solovyov, Arthur Schopenhauer, Friedrich Nietzsche, Vyacheslav Ivanov, and Helena Blavatsky to uncover his underlying principle of unifying desire. This desire to create unity is then related Scriabin's use of maximally invariant transposition, suggesting that each collection has a will to create unity based on its maximally invariant transpositions.

This theory of transpositional will is combined with Straus's fuzzy transposition to create a comprehensive and hermeneutical system of analysis of Scriabin's late music. My study finds the intervals of fuzzy transposition are related to the maximally invariant transpositions of the

underlying collections, which represents their transpositional wills. Since different set classes can have different maximally invariant transpositions, the interval of transposition may exclusively satisfy the transposition will of one collection, while rejecting the transpositional will of the other collection. In turn, one can use this theory to completely analyze Scriabin's late works through a series of unifying or competing transpositional wills, based on the similar and different maximally invariant transpositions of the collections in the pcset structure.

INTRODUCTION

Scriabin's compositional output is traditionally divided into three periods: Early Period: Opp. 1-29, 1886-1901; Middle Period: Opp. 30-57, 1903-1908; and Late Period: Opp. 58-74, 1910-1915.¹ Each period is clearly defined by a year-long break in his compositional output and a distinct change in harmonic materials. Scholars generally agree on how to describe the harmony of the opening two periods.² The first period uses a late Romantic harmonic language with clear tonal cadences. The second period is transitional, featuring post-tonal aspects such as whole-tone and other chromatic harmonies, but retaining the tonal aspect of ending on a tonic triad. Scriabin's third period, however, is difficult to summarize. With the exception of his *Prometheus*, all of Scriabin's late-period works lack a final triadic chord. Diatonic collections are replaced by various large post-tonal collections, such as mystic-chord collections, acoustic collections, and octatonic collections, whose interactions are widely theorized, but ultimately hypothetical.

This problematic period has generated a relentless analytical study of Scriabin's technical language,³ which is ultimately driven by his own theoretical statements. At the dawn of his post-tonal period, Scriabin stated that he had created an underlying system of composition, in which

¹ James Baker, *The Music of Alexander Scriabin* (New Haven: Yale University Press, 1986); Varvara Dernova, "Garmoniia Skriabina," in *A. N. Skriabin: Sbornik statei*, eds. Sergei Pavchinsky and Viktor Tsukkerman (Moscow: Sovetskii kompozitor, 1991); Philip Ewell, "Scriabin and the Harmony of the 20th Century" Annotated Translation of Article by Yuri Kholopov, *Journal of the Scriabin Society of America* 11, no. 1 (Winter 2006-2007): 12-27.

² Baker, *The Music of Alexander Scriabin*; Dernova, "Garmoniia Skriabina."

³ Baker, *The Music of Alexander Scriabin*; Clifton Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," *Journal of Music Theory* 42, no. 2 (1998): 219-33; Dernova, "Garmoniia Skriabina," Ewell, "Scriabin and the Harmony of the 20th Century," 12-27; Vasilis Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period: The Piano Miniatures," *Music Theory Online* 14, no. 3 (2008). <http://www.mtosmt.org/issues/mto.08.14.3/mto.08.14.3.kallis.html>; George Perle, "Scriabin's Self-Analyses," *Music Analysis* 3, no. 2 (1984): 101-22; Anthony Pople, "Skryabin's Prelude, Op. 67, No. 1: Sets and Structure," *Music Analysis* 2, no. 2 (1983): 151-73; Jay Reise, "Late Skriabin: Some Principles Behind the Style," *Nineteenth-Century Music* 6, no. 3 (1983): 220-31; Peter Sabbagh, *The Development of Harmony in Scriabin's Works* (Boca Raton: Universal Publishers, 2003); Cheong Wai-Ling, "Orthography in Scriabin's Late Works," *Musical Analysis* 12, no. 1 (1993): 47-69.

“there is not one note unaccounted for.”⁴ Naturally, this created a great interest in analyzing Scriabin’s music in the hopes of finding his self-professed system of composition. While scholars have had success in relating members of the same set class through maximally invariant transposition,⁵ there are persistent issues in relating members of different set classes, which are only partially explained by the parsimonious voice-leading theories of Clifton Callender.⁶ The variety of conflicting methods of analysis that attempt to relate different set-class members suggests the following conclusion: there is no purely music-analytical theory that can explain Scriabin’s post-tonal compositional language.⁷

However, new analytical approaches to Scriabin’s late music may be informed by consulting his philosophical influences. Many of Scriabin’s close family and friends noted how his musical and his philosophical aims were intimately entwined.⁸ His common brother-in-law Boris de Schloezer states,

Unlike most specialists, who regard philosophy merely as a professional occupation separate from everyday lay, Scriabin was constantly immersed in philosophical speculation. Whatever he was doing or saying, an intense inner process of reasoning accompanied his actions, which never ceased and of which he was seldom aware himself ... This is not to say that Scriabin’s philosophy was

⁴ Philip Ewell, “Analytical Approaches to Large-Scale Structure in the Music of Alexander Scriabin.” (Ph.D. diss., Yale University, 2001), 163; Leonid Sabaneev, *Vospominaniya O Scriabine* (Moscow: Klassika-XXI, 2000), 54.

⁵ Richard Bass, “Models of Octatonic and Whole-Tone Interaction: George Crumb and His Predecessors,” *Journal of Music Theory* 38, no. 2 (1994): 155-86; Dernova, “Garmoniia Skriabina; Ewell, “Scriabin and the Harmony of the 20th Century,” Perle, “Scriabin’s Self-Analyses,” Richard Taruskin, “Scriabin and the Superhuman: A Millennial Essay,” in *Defining Russia Musically: Historical and Hermeneutical Essays* (Princeton: Princeton University Press, 1997), 308-359; Richard Taruskin, *Oxford History of Western Music*, vol. 4 (Oxford: Oxford University Press, 2005), 191-229; Cheong Wai-Ling, “Orthography in Scriabin’s Late Works,” *Musical Analysis* 12, no. 1 (1993): 47-69.

⁶ Callender, “Voice-Leading Parsimony in the Music of Alexander Scriabin,” Kallis, “Principles of Pitch Organization in Scriabin’s Early Post-Tonal Period,” Fred Lerdahl, *Tonal Pitch Space* (New York: Oxford University Press, 2001); Anthony Pople, *Skryabin and Stravinsky, 1908-1914: Studies in Theory and Analysis* (New York: Garland Pub., 1989); Reise, “Late Skriabin: Some Principles Behind the Style.”

⁷ Richard Taruskin, review of *The Music of Alexander Scriabin* by James Baker and *Scriabin: Artist and Mystic* by Boris de Schloezer, trans. Nicolas Slonimsky, *Music Theory Spectrum* 10, 144-45; Anna Gawboy, “Alexander Scriabin’s Theurgy in Blue: Esotericism and the Analysis of *Prometheus: Poem of Fire*, op. 60.” (Ph.D. diss., Yale University, 2010), 11-21.

⁸ Boris de Schloezer, *Scriabin: Artist and Mystic*, trans. Nicolas Slonimsky (Berkeley: University of California Press, 1987), 53-146; Sabaneev, *Vospominaniya*, passim.

secondary to his artistic activity and that it performed merely an ancillary or auxiliary function—that would be to underestimate the importance of his beliefs. But the coincidence of his desiderata and aspirations with the results he obtained is explainable by the existence of a special relationship between his philosophy and his artistic aims, a relationship different from that of subordination.⁹

Taruskin's essay, "Scriabin and the Superhuman" serves as a model example of how the knowledge of Scriabin's philosophical influences reveals a deeper understanding of Scriabin's late music and its structure.¹⁰ He shows how Scriabin's use of symmetrical collections and maximally invariant transpositions represent a singular philosophical idea: the negation of the 'petty' I. Yet, Taruskin stops at this point without relying the underlying purpose of negating one's individual will. According to a wide array of Scriabin's philosophical influences, the rejection of individual desire results in the return to the blissful state of primordial unity.¹¹ In short, the negation of individual desire results in the fulfillment of unifying desire.

This concept of unifying desire can be used to generate a more comprehensive and engaging understanding of Scriabin's late music. Scriabin stated that he created desire in his music, saying: "The universe represents the unconscious process of my creative work...I have a will to live. Through the force of my desire I create myself and my feeling for life...I know that I wish to create. I create already. The desire to create is creation."¹² Accordingly, Scriabin's use of maximally invariant transposition manifests this unifying desire in two clear ways. First, Scriabin's collections are unified in terms of pitch-class content, which is prominent in both

⁹ Schloezer, *Artist and Mystic*, 54-56.

¹⁰ Taruskin, "Scriabin and the Superhuman," 308-359; *Oxford History of Western Music*, vol. 4, 191-229.

¹¹ Helena P. Blavatsky, *The Secret Doctrine: The Synthesis of Science, Religion, and Philosophy* (Los Angeles: The Theosophy Company, 1947); Viacheslav Ivanov, *Selected Essays*, ed. Michael Wachtel (Evanston, IL: Northwestern University Press); Friedrich Nietzsche, *Basic Writings of Nietzsche*, trans. and ed. Walter Kaufmann (New York: The Modern Library, 2000); Arthur Schopenhauer, *The World as Will and Idea*, trans. R. B. Haldane and J. Kemp (London: Kegan Paul, Trench, Trübner, 1909); Vladimir Solovyov, *Russia and the Universal Church*, ed. Herbert Rees (London: The Centenary Press, 1948); Don Wetzel, "Alexander Scriabin in Russian Musicology and its Background in Russian Intellectual History," (Ph.D. diss., University of Southern California, 2009).

¹² Faubion Bowers, *Scriabin, a Biography* (New York: Dover, 1996), vol. 2, 54; Schloezer, *Artist and Mystic*, 122.

maximally invariant transposition and parsimonious voice leading. Second, the crisp transposition on the musical surface represents unity through parallel voice leading, just as parallel voice leading represents dependence in tonal music.¹³ Collectively, this correspondence implies that unifying desire is represented in Scriabin's music through maximally invariant transposition, thus suggesting that each collection has a will to create unity based on its maximally invariant transpositions.

This theory of transpositional will can be combined with Straus's fuzzy transposition to create a deeper and more comprehensive system of analysis of Scriabin's late music.¹⁴ As with members of the same set class, members of different set classes are connected by parallel voice leading on the musical surface, except with minor offset. Consequently, fuzzy transposition precisely conveys the voice leading between members of different set classes in Scriabin's music. As with crisp transposition, the intervals of fuzzy transposition reflect the maximally invariant transpositions—that is, the transpositional wills—of the underlying collections. In some cases, the interval of transposition matches a shared maximally invariant transposition, thus mutually satisfying the transpositional wills of both collections. In other cases, the interval of transposition matches the maximally invariant transposition of only one collection, thus exclusively satisfying the transposition will of the one collection and negating the will of the other.

Ultimately, this correlation suggests that the transpositional structure of Scriabin's late works is based on the maximally invariant transpositions of the underlying pcsets, which

¹³ David Huron, "Tone and Voice: A Derivation of the Rules of Voice Leading from Perceptual Principles," *Music Perception* 19, no. 1 (2001): 1-64.

¹⁴ Joseph N. Straus, "Uniformity, Balance, and Smoothness in Atonal Voice Leading," *Music Theory Spectrum* 25, no. 2 (Autumn, 2003): 305-52; "Voice Leading in Atonal Music," in *Music Theory in Concept and Practice*, eds. James M. Baker, David W. Beach, and Jonathan W. Bernard, 237-74 (Rochester: University of Rochester Press, 1997).

represents each collection's transpositional will. In turn, one can use this approach to analyze Scriabin's late works completely through a series of unifying or competing transpositional wills, based on the similar and different maximally invariant transpositions of the collections in the pcset structure.

The first chapter of this study compares the various analytical theories on Scriabin's music in order to find areas the strongest and weakest areas of analysis. The strongest area of analysis involves relating members of the same set class through maximally invariant transposition, which encompasses the analytical studies of Varvara Dernova, Yuri Kholopov, Richard Taruskin, George Perle, and others.¹⁵ Conversely, the weakest area of analysis involves relationships among members of different set classes.¹⁶ While Callender's theory is effective in relating some passages, many other passages cannot be related through parsimonious voice leading, or do not feature parsimonious voice leading on the musical surface.

The second chapter explores how the operations of maximally invariant transposition and parsimonious voice leading relate to Scriabin's philosophical influences through pitch-class invariance. A wide exploration of Scriabin's philosophical influences reveals a strong correlation between the concept of unifying desire and shared pitch-class content.¹⁷ This correlation is ultimately connected to the theory that individual collections have transpositional wills based on their maximally invariant transpositions.

¹⁵ Dernova, "Garmoniia Skriabina;" Ewell, "Scriabin and the Harmony of the 20th Century;" Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period;" Perle, "Scriabin's Self-Analyses;" Anthony Pople, "Skryabin's Prelude, Op. 67, No. 1: Sets and Structure," *Music Analysis* 2, no. 2 (1983): 151-73; Reise, "Late Skriabin;" Taruskin, "Scriabin and the Superhuman;" Wai-Ling, "Scriabin's Octatonic Sonata."

¹⁶ Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin;" Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period;" Lerdahl, *Tonal Pitch Space*; Pople, *Skryabin and Stravinsky*; Reise, "Late Skriabin: Some Principles Behind the Style."

¹⁷ Blavatsky, *The Secret Doctrine*; Ivanov, *Selected Essays*; Nietzsche, *Basic Writings*; Schopenhauer, *The World as Will and Idea*; Solovyov, *Russia and the Universal Church*; Wetzel, "Alexander Scriabin in Russian Musicology."

The third chapter explores how the concept of transpositional will explains both fuzzy and crisp transpositional relationships between members of different set classes. First, it establishes how Straus's fuzzy transposition conveys precisely the voice leading on the musical surface.¹⁸ Second, the interval of fuzzy transposition is related to the maximally invariant transpositions of the underlying collections. This theory is then used to supply three complete transpositional analyses of Scriabin's late music, which show how the different transpositional wills of the underlying collections represent unity and opposition in the transpositional structure. Chapter four extends the theory of transpositional will to independent transposition, in which the material in each hand is transposed independently. Finally, chapter five summarizes the findings and relates to the concept of transpositional will to Scriabin's other works and to the music of Scriabin's contemporaries, Nicolai Rimsky-Korsakov and Igor Stravinsky.

¹⁸ Straus, "Uniformity, Balance, and Smoothness in Atonal Voice Leading," 305-52; "Voice Leading in Atonal Music," 237-74.

CHAPTER ONE THEORETICAL LITERATURE REVIEW

Fundamentals

Over the past twenty years, scholars have claimed that there is a problem with the theories on Scriabin's late works: none of the conflicting methods of analysis on Scriabin's music convincingly and comprehensively captures Scriabin's harmonic practice. This problem is most clearly voiced by Richard Taruskin, who states, "Every musical scholar who has looked into Scriabin's scores has drawn different conclusions about his technical idiom ... That idiom has proved to be uncannily refractory, resistant to explication."¹ This thinking has led to the belief that previous theories are problematic, and that new theories on Scriabin's late music are needed. Conversely, the addition of new theories further compounds Taruskin's problem by adding to the number of conflicting conclusions.

Instead of creating new analytical systems to explain Scriabin's late harmonic practice, I propose a reexamination of the literature to establish what theories are currently effective in studying Scriabin's late music. This review shows that there are two compelling theories that effectively analyze some areas of Scriabin's late music: maximally pitch-class invariant transposition and parsimonious analysis. The reasons for maintaining these theories is natural because they are widely accepted by scholars and clearly relate to the voice leading on the musical surface. For over forty years, theorists from Russia to the U.S. have agreed that crisply related collections in Scriabin's late works are related through maximal pitch-class invariance, which is manifested on the musical surface through parallel voice leading.² In addition,

¹ Richard Taruskin, review of *The Music of Alexander Scriabin* by James Baker; *Scriabin: Artist and Mystic* by Boris de Schloezer, trans. Nicolas Slonimsky, *Music Theory Spectrum* 10, 144-45.

² Richard Bass, "Models of Octatonic and Whole-Tone Interaction: George Crumb and His Predecessors," *Journal of Music Theory* 38, no. 2 (1994): 155-86; Varvara Dernova, "Garmoniia Skriabina," in *A. N. Skriabin:*

parsimonious voice leading is increasingly recognized as one method of relating different collections and is similarly exhibited on the musical surface.³ However, parsimonious voice leading does not explain every transformation where different collections are involved because many transformations require more than a semitone motion and the musical surface features non-parsimonious voice leading.

By maintaining the theories of maximally invariant transposition and parsimonious voice leading, the problem of analyzing Scriabin's late music is clarified: there is a need for an additional transformation that relates different collections when parsimonious voice leading is ineffective. Instead of developing a new theory to fill this void, I suggest extending the maximal pitch-class invariance theories on crisp transposition to include Straus's fuzzy transposition. Like the previous two theories, fuzzy transposition is highly convincing since it is clearly expressed on the musical surface. This extension allows one to finally analyze complete late works by Scriabin and establish significant deep relationships across entire pieces.

The goals of this chapter are to establish the effectiveness of maximally invariant transposition and parsimonious voice leading in analyzing Scriabin's music and to show the need for an addition transformation to relate different collections. This review is grouped into three sections. The first section establishes the fundamentals for pcset theory in Scriabin's late works by covering common collections and segmentation procedures. The second section shows the

Sbornik statei, eds. Sergei Pavchinsky and Viktor Tsukkerman (Moscow: Sovetskii kompozitor, 1991); Philip Ewell, "Scriabin and the Harmony of the 20th Century" Annotated Translation of Article by Yuri Kholopov, *Journal of the Scriabin Society of America* 11, no. 1 (Winter 2006-2007): 12-27; George Perle, "Scriabin's Self-Analyses," *Music Analysis* 3, no. 2 (1984): 101-22; Taruskin, Review of Baker, 158-62; "Scriabin and the Superhuman: A Millennial Essay," in *Defining Russia Musically: Historical and Hermeneutical Essays*, 308-359 (Princeton: Princeton University Press, 1997); *Oxford History of Western Music*, vol. 4 (Oxford: Oxford University Press, 2005); Cheong Wai-Ling, "Orthography in Scriabin's Late Works," *Music Analysis* 12, no. 1 (1993): 47-69.

³ Clifton Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," *Journal of Music Theory* 42, no. 2 (1998): 219-33; Fred Lerdahl, *Tonal Pitch Space* (New York: Oxford University Press, 2001); Taruskin, *Oxford History of Western Music*, vol. 4.

consistency and development of maximally invariant transposition theories from the earliest Russian scholars to contemporary Western scholars.⁴ The third section shows the discrepancies amongst scholars on relating members of different set classes in Scriabin's late works and the limited effectiveness of Callender's parsimonious voice leading theory.

This study will involve a pitch-class set (pcset) analysis of Scriabin's post-tonal works. While this approach has been fruitfully used by a number of prominent scholars, the justification of using pcset theory on Scriabin's music is often unquestioned, leaving the use of many contentious techniques, such as non-chord tones and implied tones, insufficiently substantiated.⁵ This section attempts to validate the use of pcset techniques in Scriabin's music by examining their use by scholars, their affinity to Scriabin's comments on his music, and their effectiveness in describing the musical surface.

Perhaps the most basic question regarding Scriabin's late-period music is what taxonomy should be used to classify his post-tonal sonorities. Classifications of Scriabin's harmonies have run the gamut in construction, including step-wise scalar collections, tonally affiliated tertian stacks, and experimental quartal stacks.⁶ Given Scriabin's tonal origins, tertian interpretations of his harmony are certainly sound. Some authors have cited examples of mystic-chord and whole-tone collections that act as altered dominants.⁷ For example, Jim Sampson shows an example of

⁴ Dernova, "Garmoniia Skriabina;" Perle, "Scriabin's Self-Analyses."

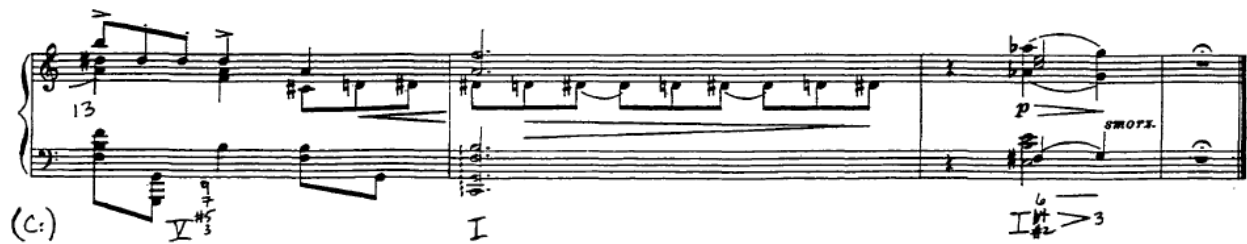
⁵ James Baker, *The Music of Alexander Scriabin* (New Haven: Yale University Press, 1986); Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin;" Vasilis Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period: The Piano Miniatures," *Music Theory Online* 14, no. 3 (2008), <http://www.mtosmt.org/issues/mto.08.14.3/mto.08.14.3.kallis.html>.

⁶ Baker, *The Music of Alexander Scriabin*; Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin;" Dernova, "Garmoniia Skriabina;" Gordon McQuere, *Russian Theoretical Thought in Music* (Ann Arbor: UMI Research Press, 1983), 168-74; Peter Sabbagh, *The Development of Harmony in Scriabin's Works* (Boca Raton: Universal Publishers, 2003), 13-14;

⁷ Baker, *The Music of Alexander Scriabin*; Dernova, "Garmoniia Skriabina;" Jim Sampson, *Music in Transition* (London: J. M. Dent & Sons Ltd., 1977).

a whole-tone dominant sonority resolving to a tonic at the end of Scriabin's Op. 45, No. 2 (Example 1-1).⁸

Example 1-1: Sampson's Analysis of Scriabin's Op. 45, No. 2, mm. 13-16



While this analysis is convincing in Scriabin's transitional works, it is not commonly used to describe Scriabin's late-period music.⁹ One reason why tertian constructions are often avoided is because scholars often vary widely in their tertian interpretations of Scriabin's harmonies, especially regarding the mystic chord.¹⁰ For example, Carl Dahlhaus calls the mystic chord a dominant ninth with a suspension, Manfred Kelkel calls it a dominant thirteenth without a fifth, and Varvara Dernova refers to it as either a dominant thirteenth with a missing eleventh or a dominant seventh with a split third and a raised *and* lowered fifth.¹¹ Likewise, the quartal construction of Scriabin's mystic chord has long been proposed as the crux of Scriabin's late harmonic practice and has been subsequently propagated through numerous theory and history textbooks.¹² However, the manifestation of this quartal stacking is almost exclusively related to one piece, *Prometheus*.¹³

⁸ Sampson, *Music in Transition*, 85.

⁹ In particular, James Baker moves from dominant interpretations of Scriabin's mystic and whole-tone collections to purely pcset interpretations starting with Scriabin's Op. 60; *The Music of Alexander Scriabin*.

¹⁰ Because of its common use in analytical literature, this study will use the term mystic chord, first introduced by Scriabin's biographer and friend Leonid Sabaneev "'Prometheus' von Skrjabin," *Almwnach der blaue Reiter*, eds. W. Kandinsky and F. Marc (Munich: Piper Verlag, 1912). Scriabin's actual name for this chord is the "chord of pleroma," Taruskin, "Scriabin and the Superhuman," 340-41.

¹¹ Sabbagh, *The Development of Harmony in Scriabin's Works*, 5-6; Dernova, "Garmoniia Skriabina," 27; Robert Guenther, "Varvara Dernova's *Garmoniia Skriabina*: A Translation and Critical Commentary," (Ph.D. diss., Catholic University of America, 1979).

¹² Mark Evan Bonds, *A History of Music in Western Culture* (Upper Saddle River, NY: Prentice Hall, 2003); Donald Grout, *A History of Western Music* (New York: Norton & Company Inc., 1973); Stefan Kostka and Dorothy

Secondary accounts of Scriabin's construction of the mystic chord suggest a scalar understanding of this collection.¹⁴ Scriabin's biographer, Leonid Sabaneev, recounts that Scriabin listed his mystic chord in a linear fashion:

"Here is why this [the mystic chord] represents the key [tonalnost] of A. In C major it would be this!" Scriabin played the notes C-D-E-F#-A-Bb. "Here are the notes all in a row." Then he played one of the passages from *Prometheus*.¹⁵

As many scholars have noted, this profile of the mystic chord resembles a gapped scale from C to Bb.¹⁶ This linear understanding of the mystic chord correlates with other statements by Scriabin, which imply a scalar conception of his collections.

"For every note there is a corresponding color," [Scriabin] announced, as if this was a widely-known axiom. "Actually, not for every note, but for every key. For example, I mix the keys of A and F# at the beginning of *Prometheus*."¹⁷

Likewise, each member of Scriabin's color wheel is associated with a major key. As one can see, each color is associated with a specific key signature, whose associated pitch is its major-key tonic (Example 1-2).¹⁸

Given the scalar understanding of Scriabin's post-tonal harmonies, it is natural to depict them as pcsets. The benefits of this taxonomy are twofold. First, it features a similar, linear

Payne, *Workbook for Tonal Harmony, with an Introduction to Twentieth-Century Music* (Boston: McGraw-Hill, 2004).

¹³ Simon Morrison, "Skrjabin and the Impossible," *Journal of the American Musicological Society* 51, no. 2. (Summer, 1998), 314.

¹⁴ Sabaneev's biography of Scriabin suggests that it was Petrov who first noticed the link between the mystic chord and the harmonic series, a theory that was later expanded by Sabaneev himself: Leonid Sabaneev, *Vospominaniya O Scriabine* (Moscow: Klassika-XXI, 2000), 73, 133, and 264.

¹⁵ Sabaneev, *Vospominaniya*, 54; Philip Ewell, "Analytical Approaches to Large-Scale Structure in the Music of Alexander Scriabin," (Ph.D. diss., Yale University, 2001), 163.

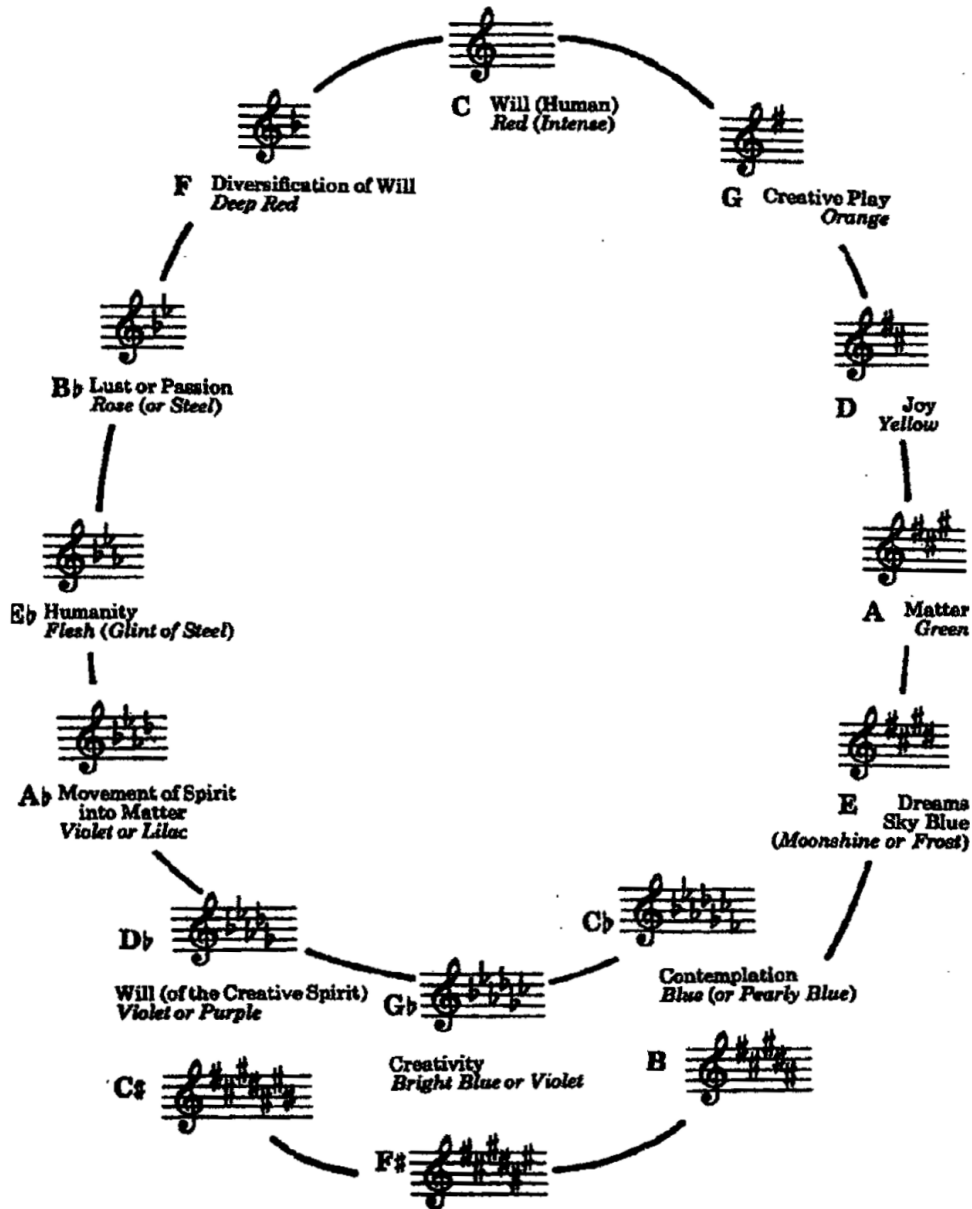
¹⁶ Anna Gawboy, "Alexander Scriabin's Theurgy in Blue: Esotericism and the Analysis of *Prometheus: Poem of Fire*, op. 60." (Ph.D. diss., Yale University, 2010), 183; Marina Lobanova, "Zahlen, Mystik, Magie: Neueste Erkenntnisse zu Skrjabins Prométhee." *Das Orchester* 50, no. 1 (January 2002): 8.

¹⁷ Sabaneev, *Vospominaniya*, 53. This statement likely refers to the F# and A in the opening *luce* part.

¹⁸ This model is not directly from Scriabin, but is rather the widely accepted theory of color-key interactions developed by Irina Leonidovna Vanechkina, "On Scriabin's Colored Hearing," in *Proceedings of the Third 'Light and Music' Conference* (Kazan: KAI, 1975), 33.

construction to Scriabin's spelling of the mystic chord.¹⁹ Second, it classifies chords in a system widely known by music analysts.

Example 1-2: Vanechkina's model of Scriabin's color-key correspondences in *Prometheus*



Certainly, an important issue surrounding any pcset analysis is setting the parameters of segmentation. The differences in segmentation of Scriabin's music vary widely amongst

¹⁹ Sabaneev, *Vospominaniya*, 54; Ewell, "Analytical Approaches to Large-Scale Structure in the Music of Alexander Scriabin," 163.

scholars. In particular, Gawboy shows how six different scholars provide six different central collections to Scriabin's Op. 67, No. 1 (Example 1-3).²⁰

Example 1-3: Gawboy's chart of conflicting pcset analyses of Scriabin's Op. 67, No. 1

6-31: C, D, E, F#, A♭, B♭	6-34: E♭, E♯, F#, A♭, B♭, C
7-34: C, D♭, E, F#, A♭, B♭	8-28: C, D♭, E♭, E♯, F#, G, A♭, B♭
9-10: C, D♭, E♭, E♯, F#, G, A♭, A♯, B♭	9-12: C, D♭, D♯, E, F♯, F#, A♭, A♯, B♭

As one can see, all these interpretations reveal a large disagreement amongst analysts regarding proper segmentation, including both the proper pitch-class content and cardinality.

While it would be an impossible task to establish an unequivocal method of segmentation for Scriabin's work, it is possible to establish some guidelines for segmentation by following the most common approaches by previous scholars and cross-referencing their procedures with Scriabin's own theoretical statements. The vast majority of scholars parse Scriabin's late works with time-span segmentation, whereby the entire texture is parsed chronologically, often with vertical lines or large boxes that encompass all voices.²¹ This method is often convincing because the segmentations commonly correlate metrical divisions with transpositional changes in pitch space. A clear example of this procedure can be seen in George Perle's analysis of Op. 74, No. 5, mm. 5-8 (Example 1-4).²² This segmentation is very persuasive because each measure change coincides with a transformation by T_3 . In contrast to many post-tonal transpositional analyses, the transformation is directly realized on the musical surface, with the entire musical texture being transferred up a minor third.

²⁰ Gawboy, "Alexander Scriabin's Theurgy in Blue," 17, ex. 1.1.

²¹ Dernova, "Garmoniia Skriabina;" Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period;" Perle, "Scriabin's Self-Analyses;" Anthony Pople, "Skryabin's Prelude, Op. 67, No. 1: Sets and Structure," *Music Analysis* 2, no. 2 (1983): 151-73; Jay Reise, "Late Skriabin: Some Principles Behind the Style," *Nineteenth-Century Music* 6, no. 3 (1983): 220-31; Cheong Wai-Ling, "Scriabin's Octatonic Sonata," *Journal of the Royal Musical Association* 121, no. 2 (1996): 206-28.

²² Perle, "Scriabin's Self-Analyses;" 107, ex. 1.1.

Example 1-4: Perle's analysis of Op. 74, No. 5, mm. 5-8

[Bar]

6:	C#	D#	E	F#	G	A	Bb	
7:	E	F#	G	A	Bb	C	Db	
8:	G	A	Bb	C	Db	Eb	Fb	Gb

As Perle notes, Scriabin underscores the transpositional relationships in this passage through uniform pitch-class orthography.²³ Each voice that maps at T_3 is related by a specific interval, i.e. always a minor third and never an augmented second. For example, the progression by minor thirds in the bass line is replicated in every voice mapping in the passage. This finding leads to Perle's provocative—yet convincing—claim that this idiomatic use of orthography serves as Scriabin's own analysis of his music.

In fact, Scriabin himself was historically known as being very insistent on his orthography. This fact is relayed through Scriabin's biographer who states:

Alexander Nikolayevich [Scriabin] even attached value to the notation itself, especially the notation of pitch: for him there was an essential difference between notating a pitch as C# or Db ... He carefully distinguished where it was "necessary" to put this or that enharmonic designation, and it seemed at times that he was fully guided by his own theory, the essence of which still remains unknown to me.²⁴

Perle's finding on Scriabin's orthography suggests that some of the essence of Scriabin's enharmonic practice is based in maintaining a strict orthographical link between transposed collections.²⁵

²³ Perle, "Scriabin's Self-Analyses."

²⁴ Sabaneev, *Vospominaniya*, 172.

²⁵ Inessa Bazayev has also found uniform orthography in the music of Scriabin's contemporary Nicolai Roslavets; see Inessa Bazayev, "Composing with Circles, Spirals, and Lines of Fifths," (Ph.D. diss., City University of New York, 2009).

A side effect of this orthographical relationship is that pitch classes are commonly respelled between segmentations. For example in the previous passage, pc1 is spelled as C# in m. 6, D \flat in m. 7, and C# again in m. 8. Accordingly, enharmonic respellings can be a useful tool in delineating changes in harmony, even between members of different pcsets. For example, there is an unusual shift in orthography at the opening of Scriabin's Op. 67, No. 1: the E3 in the opening chord is suddenly changed to F \flat 3, a considerably more unusual spelling of pc 4 (Example 1-5).

Example 1-5: Pitch-class set analysis of Scriabin's Op. 67 No. 1, m. 1

Mystic Chord
6,-34 [3,4,6,8,t,0]

Octatonic Subset
7-31 [1,3,4,6,7,9,t]

This change in spelling suggests a change in harmony within the first measure after the first dotted-quarter note, which subsequently yields the common collections of the mystic chord and the octatonic subset 7-31.²⁶

The elements of time-space segmentation, as well as transposition and orthography, are all implied by Scriabin's scoring of the *tastiera per luce* instrument in opening of *Prometheus*. The *luce* was a machine created by Scriabin's friend Alexander Mozer, which displayed different colors when different keys were pressed (Example 1-6).²⁷

²⁶ This analysis falls in line with Anthony Pople's analysis of Op. 67, No. 1, who Gawboy considers one of the most convincing theorists concerning the segmentation of Scriabin's music. Gawboy, "Alexander Scriabin's Theurgy in Blue," 14-16.

²⁷ The importance of the *tastiera per luce* was only recently reevaluated by Gawboy, "Alexander Scriabin's Theurgy in Blue," 42.

Example 1-6: Picture of Mozer's *tastiera per luce* from the Scriabin State Museum²⁸

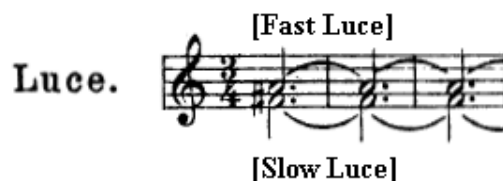


By Scriabin's own account, the *luce* part in *Prometheus* signifies the harmonic motion of the work:

It's very simple. You see, I have two lines of light throughout the poem. The first [faster moving line] corresponds to the music, that is the harmonies, and therefore is often the harmonic bass. The second [slower moving line] matches the whole-tone scale [*celotonnoi gamme*], which starts and ends on F \sharp .²⁹

As one can see, the *luce* part at the beginning of *Prometheus* features two distinct parts: a faster moving line beginning on A4 and a slower moving line beginning on F \sharp 4 (Example 1-7). It is easy to identify the A4 line as the harmonically affiliated *luce* part, since the other line is obviously the beginning of the second *luce*'s F \sharp whole-tone scale.

Example 1-7: Scriabin's Op. 60, mm. 1-3, *luce* part



²⁸ Anna Gawboy and Justin Townsend, "Scriabin and the Possible," *Music Theory Online* 18, No. 2. http://www.mtosmt.org/issues/mto.12.18.2/mto.12.18.2.gawboy_townsend.php.

²⁹ Sabaneev, *Vospominaniya*, 261.

The association of the fast *luce* with the harmonic motion is evident in the one-to-one correspondence of the intervallic movement of the fast *luce* part with the transpositional structure of the “theme of will” (Example 1-8).³⁰

Example 1-8: Reduction of Scriabin’s Op. 60, mm. 9-20

Specifically, both parts transpose by T_6 , T_9 , T_9 , T_9 , and T_9 . In addition, both the *luce* part and the theme of will maintain the same orthographical link, if one accounts for octave displacement.

Listed as ascending intervals, the progression in both parts is d5, M6, M6, M6, and M6.

The tight correlation of the fast *luce* to the transpositional structure in the opening of *Prometheus* nicely correlates with common segmentation techniques. The *luce* part changes chronologically, suggesting a time-span segmentation. Each change in the *luce* part occurs with a barline, showing a preference for changing collections by measure. Finally, the preservation of a uniform orthography between transpositionally related thematic statements highlights the importance of orthography in segmentation.

The effectiveness of segmenting through time-span segmentation is illustrated by contrasting it with other, multi-dimensional segmentation techniques. Following the segmenting techniques of Christopher Hasty and Allen Forte, James Baker segments Scriabin’s music across a number of different parameters, such as registral placement, instrument groupings, and rhythmic groupings, while covering both larger and smaller cardinality groupings. The benefit of this rigorous approach is that it gives the analyst a number of different angles to perceive the

³⁰ Sabaneev, “Scriabin’s ‘Prometheus,’” 137.

music's delineation. On the other hand, the abundance of information can obscure any consistent segmentation technique, which is seen in Baker's analysis of Scriabin's Op. 58 (Example 1-9).³¹

Example 1-9: Baker's pcset analysis of Scriabin's Op. 58

The image displays a musical score for Scriabin's Op. 58, annotated with pcset analysis. The score is written for piano and includes various performance instructions and dynamic markings. The annotations include pcset numbers (e.g., 4-11, 5-30, 6-34, 7-26, 8-24, 4-19, 6-34 without pc 5, 6-34, 6-z26, 8-19, 6-34, 4-19, 6-z10, 6-34, 8-27, 8-19, 4-19, 6-z10, 8-19, 4-5, 8-19, 6-z10) and transformations (e.g., m. 1, T₂, m. 2, T₂, m. 3, T₂, m. 4, T₂). The score is divided into four systems, each with a measure number in a box (6, 9, 12, 15, 18). The annotations are placed above and below the staff, often with lines connecting them to specific notes or measures. The score includes markings such as "Con delicatezza", "pp legato", "con voglia", "poco poco", "poco cresc.", "dim. pp", "molto pp", "lento", "rit.", "ppp", and "smorz.". The pcset numbers are often grouped by brackets or lines, indicating their relationship to the music.

In contrast, Anthony Pople's time-span segmentation of the same work reveals a remarkably consistent and convincing segmentation of the work.³² As a starting point for

³¹ Baker, *The Music of Alexander Scriabin*, 129.

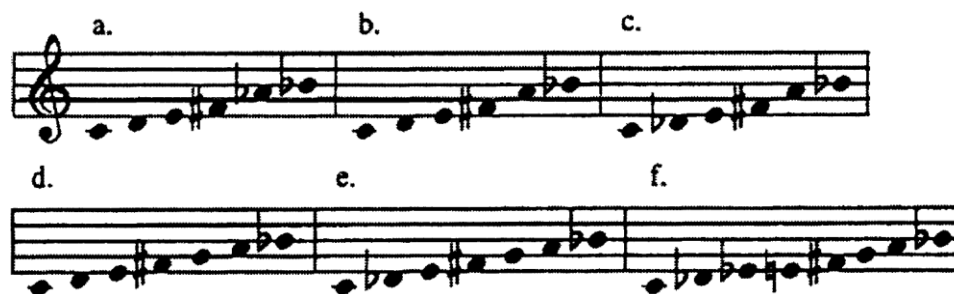
³² Anthony Pople, *Scriabin and Stravinsky, 1908-1914: Studies in Theory and Analysis* (New York: Garland Pub., 1989), 43-70. I have edited Pople's original example to clearly fit on one page.

Example 1-10: Pople's pcset analysis of Scriabin's Op. 58

19

Pople achieves an elegant analysis of the pcset structure of this piece by coupling segmentation procedures with the knowledge of Scriabin's historically recognized collections. In order to attain this clarity, Pople reduces each segmentation to an underlying mystic-chord collection, which is also frequently found in Baker's analysis of the piece. Any notes that lie outside of this collection are categorized as non-chord tones, which are convincing since they are prepared and resolved on the musical surface. For example, the very notes that Baker avoided in his analysis of Op. 58, m. 4 are clearly marked as standard non-chord tone operations in Pople's analysis that occurs in pitch space. Specifically, the F5 is analyzed as an anticipation of the F5 in m. 5, and the C#4 is analyzed as part of a passing-note group from D#4 to C4 in mm. 4-5.

Example 1-11: Callender's list of common pcsets in Scriabin's post-tonal music



Primary pc-collections:

- a) 6-35 (whole-tone); b) 6-34 (mystic); c) 6-Z49
- d) 7-34 (acoustic); e) 7-31; and f) 8-28 (octatonic)

In his article, "Voice-Leading Parsimony in the Music of Alexander Scriabin," Clifton Callender provides the following list of the common set classes in Scriabin's late music (Example 1-11).³³ The collections contained in this list closely correlate with those mentioned by other scholars.³⁴ In addition, some of these collections are identified by Scriabin himself, who explicitly mentioned both the mystic-chord and whole-tone collections.³⁵ Other collections,

³³ Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," 220.

³⁴ Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period," Lerdahl, *Tonal Pitch Space*; Reise, "Late Scriabin," Taruskin, "Scriabin and the Superhuman," Wai-Ling, "Scriabin's Octatonic Sonata."

³⁵ Sabaneev, *Vospominaniya*, 261.

such as the octatonic scale, were widely known at the turn of the twentieth century in Russia and are consistently identified by both earlier and current scholars in Scriabin's late music.³⁶

Does this mean that scholars should limit themselves to only these collections when analyzing Scriabin's music? Not necessarily. While these collections are certainly the most common in Scriabin's music, he is known to be inventing collections late into his compositional career.³⁷ However, it follows that these collections would feature a similar construction to the ones already identified in his music, which feature two shared characteristics. First, none of the collections found in Callender's list feature consecutive semitones. Technically speaking, none of the collections contain sc 3-1 subsets. Second, most of the collections contain either six or seven notes. For example, the mystic chord, the whole-tone collection, the acoustic collection, and the common octatonic subsets of 6-Z49 and 7-31 are all between six and seven pcs. Conversely, cardinalities of five or less are typically associated with Scriabin's early and transitional works, opp. 1-57. This also includes the four-note tritone link, popularized by Varvara Dernova, which is abandoned as a stand-alone collection by Dernova herself in Scriabin's pieces after Op. 57.³⁸ Accordingly, cardinalities of eight or more are primarily used as supersets, rather than individual chords. For example, the sc 9-10 that Pople uses as the central collection in Scriabin's Op. 67, No. 1 is further broken down by Pople into mystic-chord and octatonic subsets (Example 1-12).³⁹ Of course, a notable exception to six-seven cardinality rule is the octatonic collection, which is found both in its entirety and as a background superset.⁴⁰

³⁶ Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," Philip Ewell, "Scriabin and the Harmony of the 20th Century," *Journal of the Scriabin Society of America* 11, no. 1 (Winter 2006-2007): 12-27; Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period;" Reise, "Late Skriabin;" Taruskin, "Scriabin and the Superhuman;" Wai-Ling, "Scriabin's Octatonic Sonata."

³⁷ Sabaneev, *Vospominaniya*, 323-34 and Taruskin, "Scriabin and the Superhuman," 348.

³⁸ Dernova, "Garmoniia Skriabina;" Guenther, "Varvara Dernova's 'Garmoniia Skriabina.'"

³⁹ Pople, "Skryabin's Prelude, Op. 67, No. 1," 169.

⁴⁰ Uses of the octatonic collection as a superset are discussed at length in Wai-Ling "Orthography in Scriabin's Late Works."

Example 1-12: Pople's analysis of Scriabin's Op. 67, No. 1, mm. 1-7

- A denotes the set class 6-34, the mystic chord
- B denotes the set class 7-31, the octatonic collection's seven-note subset

The problem of non-chord tones is a critical issue in not only Scriabin's music, but twentieth-century music analysis in general. In his article, "The Problem of Prolongation in Post-Tonal Music," Joseph Straus identifies four basic problems for establishing chord tones and non-chord tones in a post-tonal idiom:⁴¹

- 1) The lack of a consonant-dissonant relationship.
- 2) The lack of a clear pc hierarchy.
- 3) The lack of defined operations for non-chord tones.
- 4) The lack of a distinction of the horizontal and vertical.

Naturally, these conditions are difficult to meet in post-tonal music because it is difficult to establish a background collection without the aid of traditional consonance-dissonant relationships.⁴² Accordingly, if one is not able to distinguish a hierarchical background sonority, one cannot establish subsidiary foreground events such as non-chord tones.

However, two of Straus's conditions for prolongation can be met in Scriabin's post-tonal music: pcset hierarchy and defined non-chord-tone operations. Straus himself states that the

⁴¹ Joseph N. Straus, "The Problem of Prolongation in Post-Tonal Music," *Journal of Music Theory* 31 no. 1 (1987): 1-21.

⁴² Even James Baker, the largest proponent of prolongation in Scriabin's music, avoids evoking prolongation in works after Op. 59 in *The Music of Alexander Scriabin*.

octatonic collection, as well as any other non-diatonic collection, can be used to meet some of the conditions for prolongation.⁴³ This concept naturally applies to Scriabin's late-period music because it is widely accepted that he used non-diatonic collections as a harmonic resource. Once a background sonority is established, one can identify embellishing tones as those lying outside a clearly defined referential collection, especially if such non-chord tones are realized in pitch space. Accordingly, many scholars evoke tonal non-chord-tone operations when analyzing Scriabin's post-tonal music.⁴⁴ The only distinction is that most scholars limit non-chord tones in Scriabin's music to semitones, thus avoiding intervals of a whole-tone or larger.

The last issue regarding segmentation in Scriabin's post-tonal music is the use of implied tones. While implied tones are commonly an issue in tonal music—especially in Schenkerian analysis, their use is commonly accepted in Scriabin's late music.⁴⁵ The most in-depth discussion of implied tones in Scriabin's post-tonal works is featured in Wai-Ling's article "Orthography in Scriabin's Late Works." In this article, Wai-Ling expands on Perle by using orthography to establish transpositional links between implied octatonic supersets, thus allowing for transformations between various octatonic subsets of different cardinality. This relationship can be seen in Scriabin's Op. 63, No. 2, mm. 14-17 between the larger octatonic subsets of sc 7-31 and the smaller octatonic subsets of sc 5-32 (Example 1-13). In mm. 14-15, three large octatonic subsets (sc 7-31) are connected by two T_3 transformations. This section is followed by three smaller octatonic collections (sc 5-32) in mm. 16-17 that are transposed down by two T_3 transformations. What links these two sections is the chord on the downbeat of m. 16,

⁴³ Straus, "The Problem of Prolongation in Post-Tonal Music," 7.

⁴⁴ Ewell, "Scriabin and the Harmony of the 20th Century;" Perle, "Scriabin's Self-Analyses;" and Pople, "Scriabin's Prelude, Op. 67, No. 1,"

⁴⁵ Examples include Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin;" Ewell, "Scriabin and the Harmony of the 20th Century;" Perle, "Scriabin's Self-Analyses;" and Wai-Ling, "Scriabin's Octatonic Sonata."

which serves both as a registrally and orthographically invariant subset of the previous collection, and as the basis of the following transpositions.

Example 1-13: Scriabin's Op. 63, No. 2, mm. 14-17

14. *cresc.* *sc 7-31 [0, 2, 3, 5, 6, 8, 9]*

15. *sc 7-31 [3, 5, 6, 8, 9, e, 0]*

16. *cresc.* *sc 7-31 [6, 8, 9, e, 0, 2, 3]*

17. *sc 5-32 [9, e, 2, 3, 6]*

18. *sc 5-32 [6, 8, e, 0, 3]*

19. *sc 5-32 [3, 5, 8, 9, 0]*

This passage also exemplifies two previously mentioned features in Scriabin's post-tonal music. First, that most transpositions in Scriabin's music are realized on the musical surface. For instance, the segmentations in mm. 14-15 are literally block repetitions of the music by T_3 . Second, transpositions between members of the same set class are underscored by uniform orthography. For example, the descending transpositions in m. 17 are respectfully connected by the orthography of a descending minor third and a descending augmented second.

Given the prominence of transposition and its manifestation in pitch space in Scriabin's late works, it is important to capture this trait in analysis. Straus's atonal voice-leading diagrams are ideal for this purpose for two reasons: (1) his model shows transpositional—and inversional—relationships between pcsets; (2) Straus's model presents a reduction of the voice-

leading motion in pitch space.⁴⁶ Thus, the parallel motion on the musical surface is neatly captured by the mapping pitch-classes in Straus's diagram. For example, an atonal voice-leading reduction of Scriabin's Op. 63, No. 2, m. 17 clearly reflects both the voice leading on the musical surface, as well as the underlying transformation by transposition (Example 1-14).

Example 1-14: Atonal voice-leading reduction of Scriabin's Op. 63, No. 2, m. 17

The musical score shows three systems of music for measures 17A, 17B, and 17C. Below the score is a pitch-class diagram with two transposition operations, T_9 , mapping pitch classes from the first system to the second and third systems.

D	_____	B	_____	A \flat
B	_____	G \sharp	_____	F
A	_____	F	_____	E \flat
F \sharp	_____	D \sharp	_____	C
E \flat	_____	C	_____	B $\flat\flat$
	T_9		T_9	

mm.	17A	17B	17C
Normal Form	[9,e,2,3,6]	[6,8,e,0,3]	[3,5,8,9,0]
Set Class	5-32	5-32	5-32

In fact, the only significant difference between the musical surface and its representation in Straus's diagram is that the various pitch-class members are reduced down to singular pitch classes.

Theories on Maximally Invariant Transposition in Scriabin's Late Music

As the previous section has shown, crisp transposition is an important element in Scriabin's post-tonal music. The manifestation of crisply related collections is clearly established by the orthography between collections, the complete transposition of the musical

⁴⁶ Joseph N. Straus, "Uniformity, Balance, and Smoothness in Atonal Voice Leading," *Music Theory Spectrum* 25, no. 2 (2003): 305-52.

surface, as well as the correspondence between Scriabin's theoretically-derived *luce* part and the transpositional structure of the "theme of will." Accordingly, scholars ranging from Russian music theorists to American musicologists have studied the logic behind Scriabin's transpositional networks.⁴⁷ Despite these scholars' differences in discipline and approach, they all suggest a similar relationship between crisply related collections in Scriabin's music: maximal pitch-class invariance.⁴⁸ Specifically, that crisp transpositions of mystic-chord, whole-tone, and octatonic collections typically preserve the maximum possible number of common tones under transposition. The evidence of this practice is not isolated to a few bars of music, but can readily be found in most of Scriabin's late works. Case in point, in the previous section each example featuring crisply related collections is maximally invariant.

The goals of this section are two-fold: first, to show that there are a number of prominent scholars who agree that collections in Scriabin's late works are related through maximally invariant transposition; and second, to illustrate the development of this analysis in Scriabin's late works from the enharmonic equivalence theories in early Russian scholarship to the transpositionally invariant theories in contemporary Western scholarship.

The notable Russian scholars on Scriabin's music are Boris Yavorsky, Varvara Dernova, and Yuri Kholopov.⁴⁹ Naturally, these scholars give special insight into Scriabin's harmonic practice due to their historical connection to Scriabin's music and their access to Scriabin's writings and manuscripts. They make two important claims regarding Scriabin's post-tonal

⁴⁷ Bass, "Models of Octatonic and Whole-tone Interaction;" Dernova, "Garmoniia Skriabina; Ewell, "Scriabin and the Harmony of the 20th Century;" Perle, "Scriabin's Self-Analyses;" Taruskin, Review of Baker, 158-62; "Scriabin and the Superhuman," 329-49; *Oxford History of Western Music*, vol. 4; Wai-Ling, "Orthography in Scriabin's Late Works."

⁴⁸ Henceforth, pitch-class invariance will be reduced to invariance.

⁴⁹ These authors are deemed to Scriabin analysis in the dissertations of Ewell, "Analytical Approaches to Large-Scale Structure in the Music of Alexander Scriabin," 162-209; and Gawboy, "Alexander Scriabin's Theurgy in Blue," 146-60. An in-depth discussion of both Yavorsky and Dernova appears in McQuere, *Russian Theoretical Thought in Music*, 109-216.

music. First, that Scriabin's music can be understood as functional harmony. Second, that Scriabin uses invariant progressions to connect his collections.

These two claims both find their genesis in the theoretical work of Boris Yavorsky.⁵⁰ His main contribution to music analysis is his theory of modal rhythm, a universal theory of music in which harmonic function is derived from individual intervals and their resolution. By focusing on intervals, Yavorsky's theory can assign harmonic functions—such as tonic, subdominant, or dominant—to non-tertian chords, such as those in Scriabin's late music. The most basic element in Yavorsky's theory is the single symmetrical system, which consists of a tritone and its semitonal resolution (Example 1-15).⁵¹ Referencing common practice tonality, Yavorsky suggests that the dominant function of the major-minor seventh chord is based on the symmetrical resolution of the tritone to either a major third or minor sixth.

Example 1-15: Yavorsky's single symmetrical system



Yavorsky then extends this concept beyond common practice music by claiming that any chord containing a tritone inherits a dominant function.⁵² Naturally, this theory allows Yavorsky to assign a dominant function to many of Scriabin's tritone-rich collections.

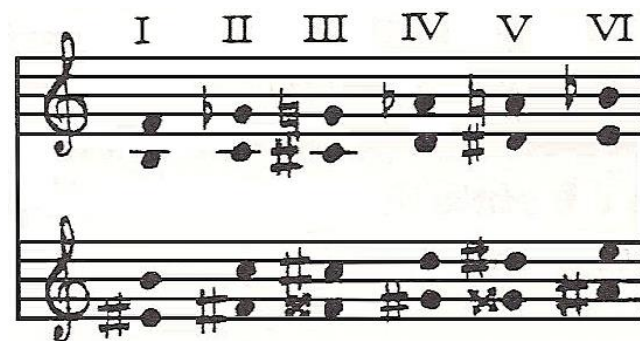
⁵⁰ Yavorsky was an extremely accomplished and multifaceted Russian scholar whose work on contemporary Russian music influenced generations of Russian scholars. He attended at the Kiev College of Music, the Kiev University, and the Moscow Conservatory where he studied subjects from mathematics to musical composition. Yavorsky's teachings brought him to a number of prestigious institutions, including the Moscow People's Conservatory, Kiev University, Moscow University, the Bolshoy Theater, and the Moscow State Conservatory where he taught piano, conducting, composition, history, and theory. Tatyana S. Kyuregyan. "Yavorsky, Boleslav Leopoldovich" in *Grove Music Online*, *Oxford Music Online*, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/30691>; and McQuere, *Russian Theoretical Thought in Music*, 109-13.

⁵¹ McQuere, *Russian Theoretical Thought in Music*, 113.

⁵² Furthermore, any chord containing two tritones has a doubly dominant function, and any chord containing three tritones has a triply dominant function. Surprisingly, chords may also have a simultaneously dominant and

A second important element in Yavorsky's theory is the connection of tritones through pitch-class invariance, which he refers to as enharmonic equivalence.⁵³ Yavorsky notes that most intervals have twelve unique members. For example, one can derive twelve different groups of major seconds by building a major second on each member of the chromatic scale. However, he notes that the tritone is unique because there are only six different tritones because tritones are enharmonically equivalent a tritone away (Example 1-16).⁵⁴

Example 1-16: Protopopov's comparison of enharmonically equivalent tritones



Yavorsky uses this common-tone relationship to link enharmonically equivalent tritones together, which provides the foundation for invariance-based analyses by later Russian theorists.

The lasting significance of Yavorsky's theory is elegantly presented by Gordon McQuere, Yavorsky's primary American scholar and translator, as follows:

Like other deductive systems, his is dependent upon the validity of his premises, some of which are unproven and unprovable. To the extent that we accept his premises, his theory is remarkably consistent and believable. To the extent that we question them, the results seem far-fetched and invalid.⁵⁵

subdominant function. These concepts are explained in depth in McQuere, *Russian Theoretical Thought in Music*, 114-17.

⁵³ Russian scholarship in the early twentieth century did not use pcset theory, and therefore lacks the specific terminology of pc invariance. Instead, enharmonic equivalence was used to describe common-tone relationships.

⁵⁴ This chart comes from *The Elements of Musical Speech* by Sergei Vladimirovich Protopopov, who elucidated and expanded many of Yavorsky's ideas. *Elementy Stroyeniya Muzykalnoy Rechi*, 2 parts (Moscow: Gos. izd. Muz. sektor, 1930 and 1931); Gordon D. McQuere, trans., "*The Elements of the Structure of Musical Speech* by S. V. Protopopov: A Translation and Commentary" (Ph.D. diss., The University of Iowa, 1978).

⁵⁵ McQuere, *Russian Theoretical Thought in Music*, 109.

In other words, Yavorsky presents a well-formed system of analysis, but the theory itself is seldom substantiated through musical evidence or historical precedence. Most of his writings feature abstract theoretical examples and rarely feature musical examples. The ideas introduced by Yavorsky did, however, have a significant influence on later theorists, most importantly his protégé Protopopov.⁵⁶ In addition to introducing the importance of pitch-class invariance and function into Russian post-tonal music analysis, Yavorsky also developed a taxonomy for many important post-tonal collections, including the diminished (octatonic) and augmented (whole-tone) collections.⁵⁷

Following Yavorsky, later scholars use enharmonic equivalence to relate larger groups of pitches together into functional progressions. The first scholar to extensively apply this concept to the music of Scriabin was Varvara Dernova.⁵⁸ Dernova's main theoretical contribution is the tritone link: a progression between two enharmonically equivalent chords a tritone apart. The tritone link is traditionally shown through two $V_{\flat 5}^7$ chords a tritone away (Example 1-15).⁵⁹ The first chord is designated the initial dominant (Da), whereas the second chord is designated the derived dominant (Db). As with Yavorsky's tritones, these dominant chords are enharmonically equivalent a tritone away. Dernova suggests that this feature, i.e. enharmonic equivalence, is the logic that guides Scriabin's tritone progressions.

⁵⁶ Protopopov, *The Elements of Musical Speech*.

⁵⁷ While both Dernova and Kholopov use Yavorsky's taxonomy, e.g. diminished mode for octatonic, I will refer to these collections according to their typical names in Western music theory, e.g. whole-tone collection instead of augmented mode. Dernova, "Garmoniia Skriabina," 14-15; Ewell, "Scriabin and the Harmony of the 20th Century;" Guenther, "Varvara Dernova's 'Garmoniia Skriabina': A Translation and Critical Commentary," 57-62.

⁵⁸ Dernova was a highly accomplished and respected theorist in Russia throughout the mid- to late twentieth century. She spent most of her career as a music professor at the Kurmangazy Conservatory in Alma-Ata, Kazakhstan, where she published on Scriabin's music and Kazakhstan's folk music. Her dissertation work on Scriabin's harmonic system, entitled "The Harmony of Scriabin," led to her doctorate from the Leningrad Conservatory in 1974. Roy Guenther, "Varvara Dernova's 'Garmoniia Skriabina': A Translation and Critical Commentary;" McQuere, *Russian Theoretical Thought in Music*, 165-216.

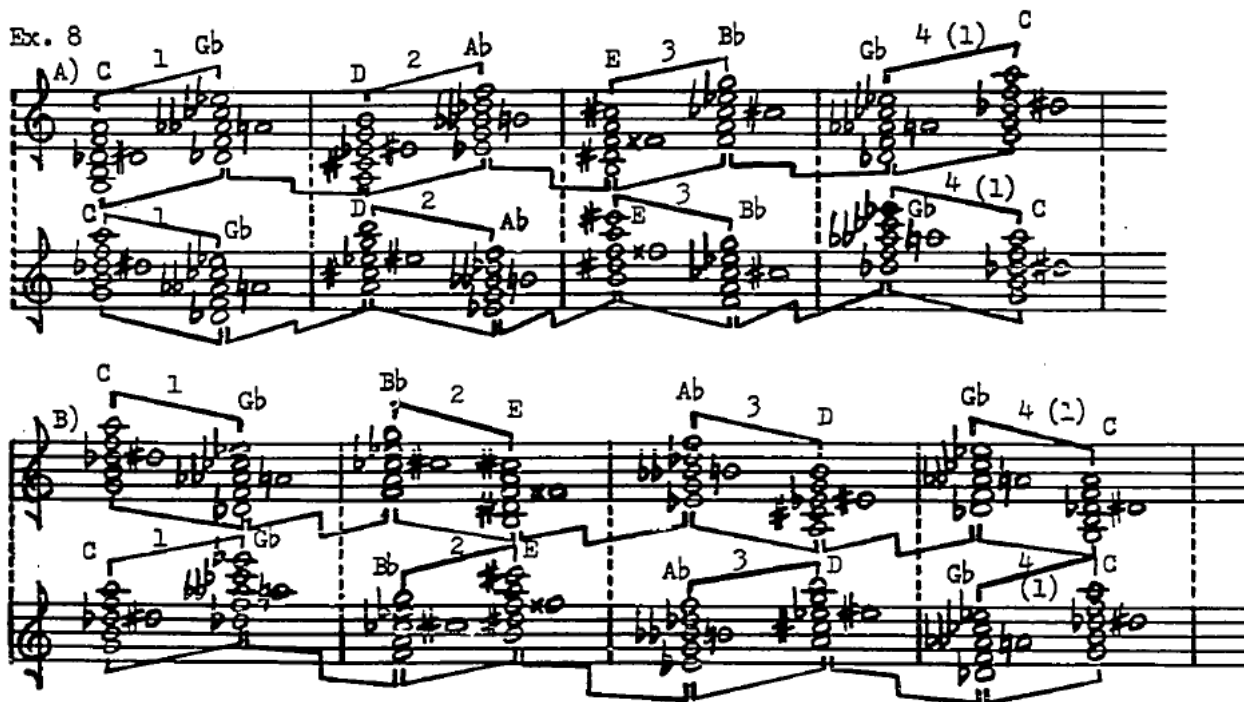
⁵⁹ Dernova, "Garmoniia Skriabina," 27; Guenther, "Varvara Dernova's 'Garmoniia Skriabina,'" 87.

Example 1-17: Dernova's tritone link



The enharmonic equivalence of the tritone link is the basis for the Dernova's second harmonic progression: the major enharmonic sequence. The major enharmonic sequence is a series of major-second progressions that expand to a tritone in each direction (Example 1-18). As one can see, the chord that Dernova uses is actually a tertian version of a full whole-tone collection, which is entirely invariant under each progression. Thus, Dernova calls this progression enharmonic because the whole-tone collections in the sequence are all enharmonically equivalent to each other.

Example 1-18: Dernova's major enharmonic sequence



Dernova's final progression is the linked progression, which is a series of tritone progressions connected by minor thirds (Example 1-19). As opposed to the previous two progressions, the linked progression is not based on enharmonic equivalence. Instead, the rationale for this progression is based on the minor third's location between the tritone link.

Example 1-19: Linked progression in Scriabin's Op. 63, No. 2, mm. 14-15

The image shows a musical score for Scriabin's Op. 63, No. 2, measures 14-15. It features a piano (p) and a forte (f) part. The piano part consists of a series of chords, each a tritone away from the previous one, connected by a minor third interval. The chords are: Ab major, D major, Cb major, F major, D major, and G# major. The forte part consists of a series of chords, each a tritone away from the previous one, connected by a minor third interval. The chords are: Ab major, D major, Cb major, F major, D major, and G# major. The score is labeled "Linked (minor) sequence".

One may be surprised that Dernova does not mention enharmonic equivalence in this example since it prominently features the octatonic collection, which actually is enharmonically equivalent at the minor third.⁶⁰ The likely reason Dernova avoids this claim is because the passage features octatonic subsets, which are only *partially* enharmonically equivalent at a minor third.

The most commonly cited issue with Dernova's theory is her claim that these post-tonal collections have a dominant function.⁶¹ Dernova's English translator, Roy Guenther, has the following comment on Dernova's functional claims:

Furthermore, if such a chord [Scriabin's tritone-infused collections] seems to be a point of focus, both as to structure and as to root location (i.e., the same transposition of a chord structure appearing at both the beginning and end of a work), the term *tonic* would seem more appropriate than *dominant*.⁶²

⁶⁰ Dernova notes that this passage uses the semi-tone-tone (i.e. octatonic) scale. Dernova, "Garmoniia Skriabina," 53-54; Guenther, "Varvara Dernova's 'Garmoniia Skriabina,'" 217.

⁶¹ Ewell, "Scriabin and the Harmony of the 20th Century," 16; Gawboy, "Alexander Scriabin's Theurgy in Blue," 155-56; Sabbagh, *The Development of Harmony in Scriabin's Works*, 11-12.

⁶² McQuere, *Russian Theoretical Thought in Music*, 169.

There are two strong reasons why Dernova asserts a dominant function in Scriabin's music. First, Dernova's functional theory is based on Yavorsky, who assigned a dominant function to the tritones within Scriabin's post-tonal collections. Second, many of whole-tone based collections in Scriabin's transitional period function as dominants. For example, at the end of Scriabin's Op. 51, No. 4, the altered dominant chord on D is comprised of a five-note whole-tone collection (sc 5-33) (Example 1-20).

Example 1-20: Scriabin's Op. 51, No. 4, final measures



GM: Whole-tone Dominant Tonic

Nevertheless, any claim of dominant function actually runs contrary to Scriabin's own statements on his late-period music. Scriabin explicitly states that the mystic chord, an exemplar of Scriabin's post-tonal collections, does not function as a dominant:

"You see, here is the main chord," and he played the *Prometheus* six-note chord ... "Don't you think that this represents the key [*tonalnost*] of D," he added, seeing my expression of bewilderment as to how this chord, having all the signs of a dominant ninth chord built on the fifth scale degree of D major, could represent the key of A ... "This is not a dominant harmony, but rather a fundamental one, and a consonance."⁶³

While there is good reason to dispute Dernova's dominant function claims, this does not invalidate Dernova's theory as a whole. In fact, her most important claim was not the dominant function of these collections, but rather that chords were connected through enharmonic

⁶³ Revised translation of Ewell, "Analytical Approaches to Large-Scale Structure in the Music of Alexander Scriabin," 163; Sabaneev, *Vospominaniya*, 47.

equivalence. On one hand, this theory is solid because it accurately relates many popular collections in Scriabin's late music, such as the whole-tone collection. On the other hand, this theory is problematic because it cannot relate non t-invariant collections such as the mystic chord and many octatonic subsets, which have no transpositions that result in complete pitch-class invariance.

Thus, there are two significant issues regarding Dernova's theory: one, the dominant status of Scriabin's post-tonal collections; and two, the relationship of octatonic collections, which have previously been shown to be prevalent in Scriabin's late music.⁶⁴ These two issues are addressed in the theoretical work of Yuri Kholopov.⁶⁵ The first change Kholopov makes to Dernova's theory is transforming the primary harmonic function of Scriabin's collections from dominant to tonic. Rather than completely refuting Dernova's dominant claim, Kholopov suggests that these large, dissonant chords evolved from altered dominants in the transitional works to dissonant tonics in the late works.⁶⁶ This evolution is described in three parts. First, the dominant undergoes functional inversion, in which the dominant of a tonal piece becomes the focus of tonal activity. To quote Kholopov, "The tonic ... acquires the 'status of an English queen'—she rules but does not govern."⁶⁷ In other words, the piece remains focused on the dissonant, yearning dominant for much of the piece with only occasional tonal resolution.

Second, there is a departure to the dominant, in which the work ends on a dominant chord with

⁶⁴ Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," 219-33; Baker, *The Music of Alexander Scriabin*, 145-68.

⁶⁵ Kholopov was an important theorist and composer in Soviet Russia. For most of Kholopov's life, he studied and worked at the Moscow Conservatory, where he earned his PhD on his work on Prokofiev in 1977. He has published hundreds of articles on a wide range of musical and theoretical topics that include reviving forgotten Soviet composers from Soviet Realism, translating important Western treatises, including Schenker's *Harmonielehre* (2006), and developing of a new theory on mode, among others. His most important theoretical works include his earlier *Exercises in Harmony* (1983) and his later *Harmonic Analysis* (1996). While his work on Scriabin was only a small facet of his output, it stands as an important development of Dernova's theory. Tatyana S. Kyuregyan, "Kholopov, Yury Nikolayevich," *Grove Music Online*, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/48252>.

⁶⁶ Ewell, "Scriabin and the Harmony of the 20th Century," 15-16.

⁶⁷ *Ibid.*, 15.

no tonal resolution. This phase squares with Dernova, in which the tonic is absent, while the dominant retains a desire for resolution. Finally, these dominant-like collections lose their gravitation for tonic and become stable sonorities, i.e. tonics. Naturally, this causes Kholopov to change the functional designations provided in Dernova's theory by referring to her initial dominant (Da) and derived dominant (Db) as an initial tonic (Ta) and a derived tonic (Tb).

Kholopov makes a second change to Dernova's theory by establishing an enharmonically equivalent relationship for the octatonic collection. Kholopov achieves this by referencing Dernova's linked progression, whose minor-third and tritone progressions keep the octatonic collection invariant. This concept easily applies to Scriabin's late music since he is known for using the octatonic collection. For example, Scriabin clearly relates two different octatonic collections by a minor third at the end of his Op. 74 No. 5 (Example 1-21).⁶⁸

Example 1-21: Scriabin's Op. 74, No. 5, mm. 15-18

A	_____	G \flat
G	_____	F \flat
E	_____	D \flat
A \sharp	_____	G
C \sharp	_____	B \flat
F \sharp	_____	E \flat
D \sharp	_____	C
B \sharp	_____	A

Descending augmented second (T₉)

⁶⁸ This example featuring two full octatonic collections is rare, as Perle states in "Scriabin's Self-Analyses," 101-22.

Each segment in this example features a complete octatonic collection with no implied or embellishing notes. The two collections are clearly related by T_9 , which is precisely underscored by descending augmented second orthography between mapping pcs.⁶⁹

Although Kholopov's approach is illuminating, it is similarly limited to completely invariant transpositions and does not cover all of Scriabin's music. This limitation causes two problems. First, one cannot relate many common collections in Scriabin's music because they are not entirely pitch-class invariant, such as the mystic-chord collection. Second, Kholopov is unable to explain when collections eschew invariant transpositions, which can be seen in his analysis of Scriabin's Op. 74, No. 1 (Example 1-22).⁷⁰ In m. 5 of his analysis, Kholopov puts a question mark where the octatonic collection transposes down a major third from a C to A \flat . This question mark suggests that Kholopov has difficulty with this progression because it is not pitch-class invariant, which contradicts his theory.

Example 1-22: Kholopov's Analysis of Scriabin's Op. 74, No. 5

⁶⁹ In fact, every descending augmented second in pitch-class space correlates with at least one representative motion in pitch space except $D\sharp \mapsto C$.

⁷⁰ Yuri Kholopov, *Harmony* (Moscow: Muzyka, 1988), 418-24. For a deeper understanding of Kholopov's harmonic taxonomy, see Ewell, "Analytical Approaches to Large-Scale Structure in the Music of Alexander Scriabin," 197-206

As shown, t-invariance is considered an essential characteristic of Scriabin's late music throughout Russian scholarship. Accordingly, these ideas have been further disseminated and developed by Western scholars, most notably by Richard Taruskin. Taruskin's contribution to the analysis of Scriabin's music is two-fold.⁷¹ First, his earlier research on Stravinsky's octatonic practice shows a clear historical precedent for the use of invariant transpositions, especially in twentieth-century Russian music.⁷² Like Stravinsky, Scriabin was highly influenced by the works of Franz Liszt and Rimsky-Korsakov, whom Taruskin cites as clear precedents in maintaining the pitch-class invariance of the octatonic collection through invariant transpositions.⁷³ Liszt's music was highly regarded in Russia at the end of the nineteenth century through his tours through the region, and Scriabin had an indirect connection to Liszt through his first serious piano teacher, Georgy Konyus, who was a pupil of Liszt's best student, Paul Pabst.⁷⁴ Accordingly, Scriabin was closely affiliated with Rimsky-Korsakov, whom reviewed and edited many of Scriabin's early works.⁷⁵ In fact, Scriabin directly mentioned some of Rimsky-Korsakov's works that used the octatonic collection, such as *Sadko* and *Kashchey the Immortal*.⁷⁶

Taruskin's second contribution was relaying the importance of enharmonic equivalence theory on Scriabin from Russian music theory to Western music theory.⁷⁷ While most Western scholars at the time were focused on purely pcset analyses, Taruskin countered that Western scholars should turn to the existing Russian research by Dornova, which Taruskin argues gives

⁷¹ An extended discussion of Taruskin's musicological contribution is provided in chapter two.

⁷² Richard Taruskin, "Chernomor to Kaschei: Harmonic Sorcery; or, Stravinsky's 'Angle,'" *Journal of the American Musicological Society* 38, no. 1 (1985): 72-142.

⁷³ Taruskin, "Stravinsky's 'Angle.'"

⁷⁴ Faubion Bowers, *Scriabin, a Biography* (New York: Dover, 1996), vol. 1, 126-27.

⁷⁵ Bowers, *Scriabin* vol. 1, 235-38.

⁷⁶ Sabaneev, *Vospominaniya*, 122 and 327.

⁷⁷ While Dornova's theories were already present in the works of Faubion Bowers and Roy Guenther, Taruskin was critical in bringing Dornova's ideas to the forefront in his Review of Baker, 143-169; "Scriabin and the Superhuman: A Millennial Essay," and *The Oxford History of Western Music*.

special insight into Scriabin's process. Taruskin then beautifully encapsulated Russian theory by stating, "Harmonic invariance is the key to Scriabin's special musical universe."⁷⁸ An especially significant aspect of this statement is that Taruskin effectively draws a clear connection between the enharmonic language of his Russian sources and Western concept of pitch-class invariance, opening up the field of pcset analysis.

Accordingly, many post-tonal theorists have suggested that pitch-class invariance is the basis of Scriabin's late harmonic practice. For example, Richard Bass claims that Scriabin's music is based on t-invariant whole-tone and octatonic collections.⁷⁹ Even when scholars focus on different elements of Scriabin's late music, they still note the prominence of t-invariance in his late works. For instance, James Baker's study of Scriabin's late music is primarily interested in finding the most common set classes and their similarity through Fortian pcset theory, including similarity, K/Kh, and nexus relationships.⁸⁰ However, in the process of discussing these other relationships, Baker still highlights the prominence of t-invariant passages in Scriabin's music.⁸¹

An important expansion of transpositional theory in Scriabin's late works is found in Perle's article, "Scriabin Self-Analyses."⁸² In this article, Perle extends the concept of invariance from complete pitch-class invariance—suggested by Derriva, Kholopov, and Taruskin—to maximal pitch-class invariance. In other words, Perle does not require that the relationship be entirely invariant, but rather that the relationship is as highly invariant as possible under transposition. For example, Perle relates the two octatonic subsets of 6-Z49 in Scriabin's Op. 74, No. 5, mm. 6-7 by the maximally invariant transposition of T_3 , noting that the transformation is

⁷⁸ Taruskin, "Scriabin and the Superhuman," 329.

⁷⁹ Bass, "Models of Octatonic and Whole-Tone Interaction," 155-866.

⁸⁰ Baker, *The Music of Alexander Scriabin*, 145-68.

⁸¹ *Ibid.*, 92-98.

⁸² Perle, "Scriabin's Self-Analyses," 101-22.

underscored by uniform orthography between mapping voices (Example 1-23).⁸³ The importance of this development is that asymmetrical collections, such as the mystic chord, are now relatable through invariance.

Example 1-23: Perle's pcset analysis of Scriabin's Op. 74, No. 5, mm. 6-7

[Bar]

6:	C#	D#	E	F#	G	A	Bb
7:	E	F#	G	A	Bb	C	Db

One can derive the maximally invariant transpositions of any collection by observing its interval-class vector (ic-vector). As many scholars have demonstrated, the number of common tones under transposition follows the corresponding interval-class (ic) member in the ic-vector.⁸⁴ For example, the mystic chord's ic-vector of 142422 shows one instance of ic1. Accordingly, each transposition by a member of ic1, T_1 and T_{11} , results in one common tone (Example 1-24).⁸⁵

Example 1-24: Common tones between mystic chords under T_1 and T_{11}

⁸³ Ibid., 107.

⁸⁴ Allen Forte, *The Structure of Atonal Music* (New Haven: Yale University Press, 1973), 28-37; Joseph N. Straus, *Introduction to Post-Tonal Theory* (Englewood Cliffs, N.J.: Prentice Hall, 1990), 78-80.

⁸⁵ Henceforth, I will use the phrase "transposed by ic1" instead of "transposed by a member of ic1."

The graph below summarizes the transpositions of the mystic chord and the number of common tones under transposition.

Example 1-25: Graph showing the correlation of a collection's ic-vector to its common tones under transposition

Mystic chord's ic vector	ic1	ic2	ic3	ic4	ic5	ic6
	1	4	2	4	2	2
Common tones under transposition	T _{1/11}	T _{2/10}	T _{3/9}	T _{4/8}	T _{5/7}	T ₆
	1	4	2	4	2	4

As one can see, the one-to-one correspondence between interval-class content and the number of common tones holds firm except for at T₆, where the number of common tones is twice the number listed in the vector because of the tritone's inversive symmetry.⁸⁶ Ultimately, this graph shows that the mystic chord is maximally invariant under transpositions by ic2, ic4, and ic6, which all maintain the highest possible number of common tones: four.

The use of maximally invariant transpositions of the mystic chord is clearly evident in Scriabin's late works. For example in Scriabin's Op. 69, No. 1, mm. 21-24, two mystic chords are connected by the maximally invariant transposition of T₆ (Example 1-26). As in previous examples, the connection maintains a uniform orthography, in this case a descending augmented fourth, which clearly correlates with the descending bass motion.

Example 1-26: Maximally invariant transposition of the mystic chord in Scriabin's Op. 69, No. 1, mm. 21-24

- Invariant pcs: 2, 4, 8, and 10

F #	_____	C
D	_____	A ♭
C #	_____	G
G #	_____	D
A #	_____	E
E	_____	B ♭

Descending augmented fourth (T₆)

⁸⁶ Straus, *Introduction to Post-Tonal Theory*, 80.

Another example of a maximally invariant transposition of the mystic chord in Scriabin's late works occurs in his Op. 58, mm. 1-8. In this case, the two mystic chords are connected by the transposition of T_2 , which clearly correlates with the repetition of mm. 1-4 a diminished-third higher in mm. 5-8.⁸⁷

Example 1-27: Maximally invariant transposition of the mystic chord in Scriabin's Op. 58, mm. 1-8

- Invariant pcs: 0, 6, 8, and 10

Con delicatezza

33 *pp* *p* *legato* 1 2 5 1 3 1 1 2

5 1 3 1 1 2

N N PTs

N N PTs

D # ————— F
 G # ————— B b
 E ————— G b
 A # ————— C
 C ————— E b
 F # ————— A b

Ascending diminished third (T_2)

mm. 1-4 mm. 5-8

Perhaps the most interesting aspect of Perle's theory is that it was developed independently of any previous invariant theory. Perle's article does not mention any other scholarship on Scriabin's t-invariant practice and his bibliography shows his limited access to the

⁸⁷ Furthermore, if one accepts the opening pcset of Op. 65, No. 3 as a mystic chord subset, as others have done, there is a large pc-invariant transpositional structure extending from mm. 1-16.

enharmonic equivalence theories in Russian scholarship.⁸⁸ This further underscores the significance of maximally invariant transposition in Scriabin's post-tonal works, since multiple, highly-regarded scholars separately developed an invariant-based theory on Scriabin's music. As will be shown later, this academic overlap and agreement do not occur in other areas of Scriabin analysis.

In summary, this section has shown that there is wide-spread acceptance on what governs crisply related collections in Scriabin's late music: pcsets are related through transpositions that maintain maximum pitch-class invariance. This idea has persisted for over forty years from the earliest functional theories of Dernova and through pcset analyses of today. Over this forty-year period, the theories have evolved from exclusively t-invariant relationships and to the more encompassing theory of maximally invariant transposition.

Other Set Class Theories on Scriabin's Late Music

As the previous section has shown, one aspect of Scriabin's post-tonal language, i.e. maximally invariant transition, is widely proposed by many prominent scholars. Conversely, no one suggests that this one element explains all of Scriabin's late music.⁸⁹ The reason for this is clear: Scriabin's late works feature a number of different collections, which cannot be related through crisp transposition.⁹⁰ As a result, theorists have devised various theories on how to relate members of various set classes in Scriabin's late music. As previously discussed, authors such as Baker have generally applied Forte's pcset theory to examine Scriabin's late works.⁹¹ However, outside of this general pcset study, there are two primary groups of inter-collectional

⁸⁸ Perle's only access to Dernova's theory is through a brief description provided in Robert Guenther, "An Examination of Analytical Approaches to Harmonic Organization in the Late Piano Works of Alexander Scriabin" (M.A. diss., The Catholic University of America, 1974). However, nowhere in the article does he mention Dernova.

⁸⁹ Only two works have been analyzed purely through maximally invariant transposition, Scriabin's Op. 58 and Op. 74, No. 3. Gawboy, "Alexander Scriabin's Theurgy in Blue," 136-38; Pople, *Skryabin and Stravinsky*, 43-70.

⁹⁰ In this section, I use the term different collections to refer to non-transpositionally related pcsets.

⁹¹ Baker, *The Music of Alexander Scriabin*, 145-68.

theories. The first claims that large supersets, which contain different prominent set classes, serve as structural background collections in Scriabin's late works.⁹² The second claims that different set-class members are related through parsimonious voice leading.⁹³ In comparison to the relative homogeneity of transpositional theories, these two inter-collectional theories considerably differ. The first assumes that large sections of Scriabin's late music consist of a singular collection, in which any semitonal motions are non-chord tones. The second suggests that there is a quick succession of different collections, which are based on significant semitonal motions.

The main goal of this section is to explain each of these two inter-collectional theories and critique their effectiveness in explaining Scriabin's late music. This exploration will reveal that structural background theory is questionable since different theorists come to opposite conclusions on what sets are structural, and that parsimonious theory only explains some transformations between different collections. This analysis reveals that there is a need for an additional relationship that links different collections in order to thoroughly analyze Scriabin's late works.

One of the earliest inter-collectional theories on Scriabin's late music suggests that large sections of Scriabin's works are based on large, structural supersets.⁹⁴ In this analysis, the authors establish a small number of significant supersets in Scriabin's late music, which range from the typical octatonic and acoustic collections to larger supersets such as sc 9-10. The authors then claim that one of these collections serves as a referential collection for an entire piece or passage. Any pitch classes that lie outside of this background collection are

⁹² Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period," Pople, *Skryabin and Stravinsky*; Reise, "Late Skriabin: Some Principles Behind the Style."

⁹³ Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," Lerdahl, *Tonal Pitch Space*.

⁹⁴ Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period," Pople, *Skryabin and Stravinsky*; Reise, "Late Skriabin: Some Principles Behind the Style."

subsequently explained away as non-chord tones or collection variants. This approach is drawn from tonal music, in which chromatic foreground elements are considered to be outside of an essentially diatonic background.

One issue with this form of analysis is that it often results in a numerous pitch-class outliers, which are not convincingly understood as non-chord tones. This problem can be seen in Reise's analysis of Scriabin's Op. 73, No. 1, mm. 1-6 (Example 1-28).⁹⁵ In this passage, the author adopts a background collection of Oct_{0,1}, circles the resulting non-chord tones, and shows the resolution of these non-chord tones with arrows. However, several of these embellishing tones do not resolve in the typical fashion, i.e. they do not resolve in pitch space. For instance, note the unusual resolution of the B4 in m. 1 up a diminished octave to B^b5. In addition, some non-chord tones never resolve, such as the two G[#]5s in m. 3.

Example 1-28: Reise's analysis of Scriabin's Op. 73, No. 1, mm. 1-6

The image shows a musical score for Scriabin's Op. 73, No. 1, measures 1 through 6. The score is written for piano in 4/4 time. Above the first staff, the tempo/mood is indicated as "Avec une grâce languissante". The title "Op. 73 Nr. 1" is written above the second staff. The score includes various musical notations such as notes, rests, and fingerings. Reise's analysis is overlaid on the score: non-chord tones are circled, and arrows indicate their resolutions. A dashed line connects a circled note in measure 1 to a circled note in measure 2. Another dashed line connects a circled note in measure 3 to a circled note in measure 4. A circled note in measure 5 is not resolved. The annotation "poco cresc." is written below the second staff in measure 4.

Scholars who support the theory of a structural background collection also disagree on which pcsets are fundamental in Scriabin's late music. A case in point is the opposing

⁹⁵ Reise, "Late Skriabin: Some Principles Behind the Style," 227.

interpretations of Scriabin's Op. 69, No. 1 by Reise and Kallis.⁹⁶ Both authors identify mystic-chord, whole-tone, and octatonic collections in the opening measures of the piece, but disagree on which collections are structural. Reise states that the main collections in this work are the whole-tone collection and the octatonic collection. Accordingly, Reise interprets that the non-whole-tone note in the opening mystic chord is a non-chord tone that "resolves" into the following whole-tone collection in mm. 3-4 (Example 1-29A). Conversely, Kallis states that the main collection in Scriabin's work is sc 9-10, which features the subsets of the mystic-chord, acoustic, and octatonic collection, but not the whole-tone collection⁹⁷ Thus, Kallis concludes that the whole-tone collections in this work are actually a variant of an underlying mystic-chord collection, instead of a distinct, fundamental collection in Scriabin's post-tonal music (Example 1-29B).

Example 1-29: Conflicting Interpretations of the opening of Scriabin's Op. 69 No. 1

- A) Reise's Whole-Tone Interpretation
- B) Kallis' Mystic-Chord Interpretation

A)

B)

⁹⁶ Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period;" Reise, "Late Skriabin: Some Principles Behind the Style."

⁹⁷ Kallis's basis for the importance of sc 9-10 is found in Pople, "Skryabin's Prelude, Op. 67, No. 1," 168-69.

There are problems with the pcset hierarchy claims of each analyst because the chords they consider foreign are actually acknowledged by Scriabin himself. For instance, Reise's claim that the mystic chord has a voice-leading tendency runs contrary to Scriabin's own comments on the collection. Scriabin refers to the mystic-chord collection—in fact, this very pcset—as consonant:

“This is not a dominant harmony, but rather a fundamental one, and a consonance. Isn't it true that it sounds smooth and completely consonant ... Here is why this represents the key of A. In C major it would be this!” Scriabin played the notes C-D-E-F[#]-A-B^b.⁹⁸

Regarding Kallis, his relegation of the whole-tone collection to a mystic-chord variant is also questionable. As Taruskin and others have shown, the whole-tone collection was widely used as a referential sonority at Scriabin's time.⁹⁹ In fact, Scriabin himself frequently mentions the whole-tone collection in his works, specifically in *Prometheus*.¹⁰⁰

The other prevailing theory of inter-collection analysis of Scriabin's late music is the parsimonious voice-leading theory of Clifton Callender.¹⁰¹ In his theory, Callender defines a number of common set classes in Scriabin's music and relates them through parsimonious motion, which he defines as a transformation that only employs half steps. Parsimonious transformations are labeled Pⁿ, in which n = the number of individual semitone motions either up or down. For example, he shows Pⁿ transformations between a mystic chord (sc 6-34), a whole-tone collection (sc 6-35), and another mystic chord (Example 1-30). Note that the parsimonious motions move in either direction with the first parsimonious motion (P¹) going down a half step,

⁹⁸ Sabaneev, *Vospominaniya*, 46. English translation found in Ewell, “Analytical Approaches to Large-Scale Structure in the Music of Alexander Scriabin,” 163.

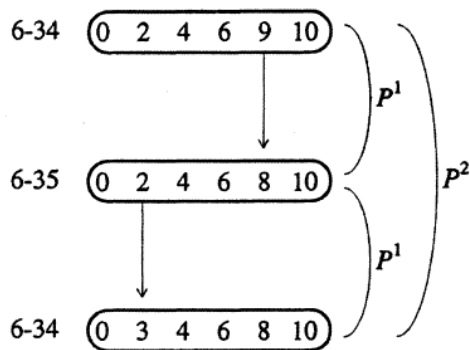
⁹⁹ Taruskin, “Chernomor to Kaschei,” 86-87. In fact, Mikhail Glinka, one of the most influential Russian composers in Scriabin's time, famously used the whole-tone scale in his opera *Ruslan and Lyudmilla*.

¹⁰⁰ Scriabin mentions the whole-tone scale (*celotonnoi gamme*) by name in Sabaneev, *Vospominaniya*, 261-62.

¹⁰¹ Callender, “Voice-Leading Parsimony in the Music of Alexander Scriabin.”

pc9 \mapsto pc8, whereas the second goes up a half step, pc2 \mapsto pc3. In addition, Callender shows that one can parsimoniously move from mystic chord to mystic chord by P^2 .

Example 1-30: Callender's example of parsimonious (P^n) relationships



Callender's theory on Scriabin's music is especially significant because parsimonious voice leading can relate both t-related pcsets and non t-related pcsets.¹⁰² For example, the two t-related diatonic collections of C major and G major are connected by the parsimonious motion of $F \mapsto F^\sharp$ (Example 1-31A). Likewise, the mystic-chord collection can transform into a different collection, such as the octatonic subset 6-Z49, through a single semitonal motion (Example 1-31B).

Example 1-31: Examples of parsimonious relationships between pcsets

- A) Between members of the same set class
- B) Between members of different set classes

A) C Major:

G Major:

B) Mystic Chord: [9,10,0,2,4,6]

6-z49: [9,10,0,1,4,6]

¹⁰² This aspect of Callender's theory has been significantly expanded and developed by Dmitri Tymoczko in *A Geometry of Music: Harmony and Counterpoint in the Extended Common Practice* (New York: Oxford University Press, 2011).

Callender also establishes two operations that parsimoniously connect collections of different cardinality: splits (S) and fuses (F). Splits are transformations where a single pitch-class expands chromatically to two different pitch-classes (Example 1-32). Fuses are the opposite transformation, in which two pitch-classes contract into a singular pitch-class.¹⁰³ As before, these transformations are validated by the voice leading on the musical surface.

Example 1-32: Examples of Callender's splits and fuses



The effectiveness of Callender's theory is ultimately related to the level to which it is implemented. To the extent that parsimonious voice leading is considered a singular aspect of Scriabin's compositional technique, it is entirely valid and convincing. Two clear examples of parsimonious transformation occur in the beginning of Scriabin's Op. 74, No. 5. In the first measure, the acoustic collection [9,10,0,1,3,5,7] is connected to the mystic-chord collection [2,3,5,7,9,11] through a P¹ and fuse (Example 1-33). Note how most of the parsimonious voice leading is manifested on the musical surface. The only exception is the C5 that resolves to B3, which only occurs in pitch-class space. In the second measure, the motion from the E^b to E^{bb} causes the shift from a mystic-chord collection [10,11,1,3,5,7] to the octatonic subset [10,11,1,2,5,7].¹⁰⁴ As before, this analysis is convincing because the voice leading directly corresponds with the musical surface.

¹⁰³ N.B. These definitions of split and fuse differ from Joseph Straus's use of the same terms in "Uniformity, Balance, and Smoothness in Atonal Voice Leading," *Music Theory Spectrum* 25, no. 2 (2003): 305-52.

¹⁰⁴ This transformation is shown within a single segmentation to avoid implying the B^{b4}. The dotted line is used to designate where the parsimonious change from E^b to E^{bb} occurs.

Example 1-33: Parsimonious voice leading in the beginning of Scriabin's Op. 74, No. 5¹⁰⁵

E \flat	E \flat	C \flat	C \flat
D \flat	D \sharp	B \flat	B \flat
C	B \sharp	G	G
B \flat	B \sharp	F	F
A	A	E \flat	E $\flat\flat$
G	G	D \flat	D \flat
F	F		

Conversely, Callender's theory does not explain Scriabin's entire compositional procedure because it cannot encompass many common crisply transposed passages. As shown earlier, parsimonious voice leading can relate some crisply related pcsets, such as the mystic-chord collection (see Example 1-30). However, some crisply related collections cannot be described as parsimonious using Callender's definition because they require motions larger than a semitone.¹⁰⁶ For example, Callender's theory cannot relate two maximally invariant octatonic subsets of sc 7-31 because a whole step would be needed (Example 1-34).¹⁰⁷

Example 1-34: Non-parsimonious progressions in Scriabin's music

¹⁰⁵ Here I have slightly changed Callender's system by showing voice leading from left to right, rather than high to low. Like Callender, I list the notes in ascending alphabetical order starting with the bass note.

¹⁰⁶ Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," 221.

¹⁰⁷ While this progression is only shown under the maximally invariant transposition of T_3 , it would also require a whole-step at the maximally invariant transpositions of T_6 and T_9 as well.

Example 1-35: Comparison of parsimonious and transpositional analyses

- A) Parsimonious Analysis
- B) Transpositional Analysis

A)

D 5	D 5
B \flat 4	B \flat 4
E 4	E 4
F \sharp 3	G \flat 3
A 3	A \flat 2
C 3	C 4

Displaced in
pitch space

B)

F \sharp 5	D 5
D 5	B \flat 4
A 4	E 4
E 4	C 4
B \flat 3	G \flat 3
C 3	A \flat 2

*T₈
(1)

Furthermore, Callender's system does not always convincingly relate different collections, especially in comparison to other methods of analysis. For example, in Scriabin's Op. 69, No. 1, mm. 1-4 a near transpositional analysis is more convincing than a parsimonious analysis (Example 1-35). To be clear, a parsimonious analysis of this passage is valid. As

shown, each voice maps under parsimonious transformations in pitch-class space. However, this transformation is not completely realized in pitch space because $C3 \mapsto C4$ and $A3 \mapsto A\flat2$ require octave displacement. In comparison, a near transpositional analysis of this passage precisely reflects the musical surface. Each pitch maps at a descending major third except for $A4 \mapsto E5$, which is only offset by one semitone (shown by a dotted line).

Furthermore, many of the parsimonious examples provided by Callender are problematic, and are better understood as crisp transpositions. For example, Callender's analysis of the opening of Scriabin's Op. 65, No. 3 is not possible without the implied notes of G and C# (Example 1-36).¹⁰⁸ In addition, some of the parsimonious relationships shown in the example are not parsimonious on the musical surface. For instance, the B4 in the right hand is connected to the distant C \flat 4 in the left hand. If the basis for Scriabin's voice leading is truly the musical surface, a transpositional analysis of this passage by T_6 is more convincing because it corresponds with the tritone motion down in the left hand and up in the right hand.

Example 1-36: Callender's Analysis of Scriabin's Op. 65, No. 3, mm. 1-2

The image shows a musical score for the first two measures of Scriabin's Op. 65, No. 3. The score is in 2/4 time and features a complex texture with triplets and sixteenth notes. Below the score is a pitch-class diagram consisting of two rows of boxes. The top row contains the notes g, a, b, (c#), e, f. The bottom row contains the notes (g), b \flat , c \flat , d \flat , e \flat , f. Vertical lines connect the notes in the top row to those in the bottom row, illustrating the voice leading and the implied notes mentioned in the text.

¹⁰⁸ Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," 223.

In fact, this transposition is further supported by the fact that each voice that maps under a tritone uses the orthography of an ascending diminished fifth or its intervallic complement of a descending augmented fourth.

In summary, there is no current inter-collectional theory that completely captures Scriabin's late harmonic practice. Superset analyses are generally over-reductive resulting in the unjustified dismissal of post-tonal collections mentioned by Scriabin himself, as well as resulting in an abundance of unqualified non-chord tones. Parsimonious analyses do capture an element of Scriabin's late works, but it does not explain every transformation between different collections.

Summary

Taruskin is indeed correct in stating that the various theories on Scriabin's late music reveal an inability amongst scholars to comprehensively explain Scriabin's harmonic language. Yet, the effectiveness of maximally invariant transposition and parsimonious voice leading suggests our understanding of Scriabin's harmonic idiom is not flawed, but rather incomplete. The strong evidence for relating transpositionally related pcsets through maximal invariance suggests that it should be maintained as a means of analyzing Scriabin's music. Not only has this theory persisted over forty years, it appears to have a direct relationship to the musical surface and to Scriabin's own theoretically derived *luce* part in *Prometheus*. In addition, Callender's parsimonious voice leading theory was shown to be effective in relating different collections when the musical surface was truly parsimonious, whereas the deep divisions in relating different set classes through a structural background pcset suggests that it should not be maintained in future theoretical systems on Scriabin's late music.

Thus, the problem with the analysis of Scriabin's late music is clear: analysts need an additional method of relating different collections. Ideally, this method would contain the following two properties. First, this theory should correspond with Scriabin's idiomatic philosophical beliefs, which are widely accepted to have influenced Scriabin's harmonic thinking. Second, this theory should attempt to extend current maximal invariant theories, rather than introduce yet another system of analysis.¹⁰⁹ Accordingly, the next two chapters will correlate maximally invariant transposition with Scriabin's philosophical influences and extend the theory of maximally invariant transposition by incorporating Straus's fuzzy transposition to explain non-parsimonious transformations between members of different set classes.

¹⁰⁹ Maximally invariant transposition and parsimonious voice leading are unified in chapter three by relating them to tonal means of relating keys: closely-related keys and parallel keys.

CHAPTER TWO UNIFYING Scriabin's PHILOSOPHICAL INFLUENCES

Scriabin's Philosophical Influences

Over the course of the past twenty years, the scholarship on Scriabin's work has undergone a remarkable change. Up to the 1990s, the analysis of Scriabin's late music consisted of two separate approaches: Music theorists analyzed Scriabin's music with little to no mention of his philosophical beliefs,¹ whereas musicologists attempted to understand Scriabin's philosophical beliefs with only a cursory application towards Scriabin's actual music.² This approach changed with a series of essays by Richard Taruskin, who found the separation of theory and historical context as anathema to musical scholarship.³ Taruskin's argument is exceptionally strong with Scriabin, who himself viewed music as the tool to fulfill his eschatological desires and usher in a new generation of unification upon the astral plane.⁴

¹ James Baker, *The Music of Alexander Scriabin* (New Haven: Yale University Press, 1986); Clifton Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," *Journal of Music Theory* 42, no. 2 (1998): 219-33; Varvara Dernova, "Garmoniia Skriabina," in *A. N. Skriabin: Sbornik statei*, eds. Sergei Pavchinsky and Viktor Tsukkerman (Moscow: Sovetskii kompozitor, 1991); Philip Ewell, "Scriabin and the Harmony of the 20th Century" Annotated Translation of Article by Yuri Kholopov, *Journal of the Scriabin Society of America* 11, no. 1 (Winter 2006-2007): 12-27; Vasilis Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period: The Piano Miniatures," *Music Theory Online* 14, no. 3 (2008). <http://www.mtosmt.org/issues/mto.08.14.3/mto.08.14.3.kallis.html>; George Perle, "Scriabin's Self-Analyses," *Music Analysis* 3, no. 2 (1984): 101-22; Anthony Pople, "Skryabin's Prelude, Op. 67, No. 1: Sets and Structure," *Music Analysis* 2, no. 2 (1983): 151-73; Jay Reise, "Late Skriabin: Some Principles Behind the Style," *Nineteenth-Century Music* 6, no. 3 (1983): 220-31; Peter Sabbagh, *The Development of Harmony in Scriabin's Works* (Boca Raton: Universal Publishers, 2003); Cheong Wai-Ling, "Orthography in Scriabin's Late Works," *Music Analysis* 12, no. 1 (1993): 47-69.

² Lincoln Ballard, "Defining Moments: Vicissitudes in Alexander Scriabin's Twentieth-Century Reception," (Ph.D. diss., University of Washington, 2010); Malcom Brown, "Skriabin and Russian 'Mystic' Symbolism," *Nineteenth-Century Music* 3, no. 1 (1979): 42-51; Ralph Matlaw, "Scriabin and Russian Symbolism," *Comparative Literature* 31, no. 1 (1979): 1-23; Irina Leonidovna Vanechkina, "On Scriabin's Colored Hearing," in *Proceedings of the Third 'Light and Music' Conference* (Kazan: KAI, 1975), 33; Bulat Galeev and Irina Leonidovna Vanechkina, "Was Scriabin a Synesthete?" *Leonardo* 34, no. 4 (2001): 357-61; Don Wetzel, "Alexander Scriabin in Russian Musicology and its Background in Russian Intellectual History," (Ph.D. diss., University of Southern California, 2009).

³ Richard Taruskin, review of *The Music of Alexander Scriabin* by James Baker; *Scriabin: Artist and Mystic* by Boris de Schloezer, trans. Nicolas Slonimsky, *Music Theory Spectrum* 10, 144-45; "Scriabin and the Superhuman: A Millennial Essay," in *Defining Russia Musically: Historical and Hermeneutical Essays* (Princeton: Princeton University Press, 1997), 308-359; *Oxford History of Western Music*, vol. 4 (Oxford: Oxford University Press, 2005);

⁴ Leonid Sabaneev, *Vospominaniya O Scriabine* (Moscow: Klassika-XXI, 2000), 285.

In recent years, there has been a surge of scholarship that approaches Scriabin's compositional practice through his various philosophical influences.⁵ Accordingly, there is a wide discrepancy between these scholars on what are Scriabin's philosophical beliefs because they often invoke different philosophical influences, anywhere from Helena Blavatsky to Sigmund Freud.⁶ Taruskin himself states that Scriabin's friend Vyacheslav Ivanov best represents Scriabin's philosophical beliefs because he personally knew Scriabin during his late period and shared many of Scriabin's other philosophical influences, such as Vladimir Solovyov, Arthur Schopenhauer, and Friedrich Nietzsche.⁷

However, the association of Scriabin's personal system of beliefs to a singular philosopher is problematic for two reasons. First, Scriabin was known to read lightly and conform his readings to his own beliefs. Sabaneev states:

Boris Fedorovich was Scriabin's first systematic tutor in philosophy. But I highly doubt that his lessons had a great impact on Scriabin, who did not really know how to read philosophy... Alexander looked at books as a source of hidden knowledge: scattered and isolated, gleaned in various books, which for him were not part of some foreign ideology, but elements of his own fascinating thoughts... Over the course of my acquaintance with him, I rarely saw him reading something regularly—in fact, I never did.⁸

Accordingly, it is unlikely that Scriabin ascribed to the specifics a singular philosophy, but rather a few general principles amongst a number of different philosophies. A second issue is that

⁵ James Baker, "Scriabin's Music as Prism for Mystical Philosophy," in *Music Theory in Concept and Practice*, eds. James M. Baker, David Beach, and Jonathan W. Bernard, 53-96 (Rochester, NY: University of Rochester Press, 1997); Susanna Garcia, "Alexander Skryabin and Russian Symbolism: Plot and Symbols in the Late Piano Sonatas," (D.M.A. diss., University of Texas at Austin, 1993); Anna Gawboy, "Alexander Scriabin's Theurgy in Blue: Esotericism and the Analysis of *Prometheus: Poem of Fire*, op. 60," (Ph.D. diss., Yale University, 2010), 183; Simon Morrison, *Russian Opera and the Symbolist Movement* (Berkeley: University of California Press, 2002); Kenneth Smith, "'A Science of Tonal Love'? Drive and Desire in Twentieth-Century Harmony: the Erotics of Skryabin," *Music Analysis* 29, no. 1-3 (2010): 234-63.

⁶ Garcia, "Alexander Skryabin and Russian Symbolism," Gawboy, "Alexander Scriabin's Theurgy in Blue," Smith, "'A Science of Tonal Love'?"

⁷ Taruskin, "Scriabin and the Superhuman," 308-59.

⁸ Sabaneev, *Vospominaniya*, 221.

Scriabin's philosophical influences changed over time and it is not likely a single philosopher solely parallels Scriabin's personal beliefs over the course of his career.

Instead of relating Scriabin's philosophical beliefs to a singular philosopher, I suggest surveying all of Scriabin's major philosophical influences to find areas of agreement that reveal Scriabin's long-term underlying beliefs. This review includes the five most common philosophers noted within Scriabin scholarship: Vladimir Solovyov, Arthur Schopenhauer, Friedrich Nietzsche, Helena Blavatsky, and Vyacheslav Ivanov.⁹ Although these philosophical figures vary widely in their ideas, the isolation of similar thoughts amongst them gives the best possible indication of what Scriabin's own beliefs were. An additional benefit to this comprehensive approach is that it provides a broader context to the philosophy of Scriabin's day, which helps to avoid any myopic readings of individual philosophical ideas.

This philosophical literature review reveals three significant beliefs throughout Scriabin's influences. One, all life began with an initial unity that was broken into separate elements, which desire to return back to their initial unity. Two, the concept of polarity, in which polar entities are ultimately unified by their mutual reliance on each other for existence. Three, that there is a pervasive correspondence between all elements of life because they stem from a singular source. In turn, I use these three shared beliefs amongst Scriabin's philosophical influences as the basis for three individual essays on Scriabin's compositional language. The first suggests that Scriabin had a two-part understanding of desire as individual desire and its opposite, unifying desire, which are simultaneous represented in his late music. The second essay clarifies Scriabin's personal use of polarity as a large-scale formal relationship between the first two reprises of his piano miniatures through the maximally invariant transposition of T₆.

⁹ Garcia, "Alexander Skryabin and Russian Symbolism," Gawboy, "Alexander Scriabin's Theurgy in Blue," Morrison, *Russian Opera and the Symbolist Movement*; Wetzel, "Alexander Scriabin in Russian Musicology."

The final essay extends the circular system of closely related diatonic collections and colors in *Prometheus* to reveal different geometric images created by non-diatonic collections, which relate to significant images in Theosophical literature. As a result, this chapter reconsiders multiple long-held beliefs about Scriabin's philosophical and compositional ideas and ties his use of maximally invariant transposition to his desire to create unity.

Vladimir Solovyov and the Slavophiles

The earliest cited influences on Scriabin's philosophy are the Russian mystic philosophies of the Slavophiles and Vladimir Solovyov.¹⁰ The Slavophiles were an important Russian group in the nineteenth century who rallied against the rising influence of Western culture. The primary method of refuting Western culture by the Slavophiles was by creating contrasts between negative Western traits and positive Russian traits.¹¹ Chief amongst these was the contrast of individualism vs. communality (*obshinnost*). Slavophiles cast Westerners as disconnected individuals, who were vilified for their personal greed and authoritarian monarchy, whereas the Slavophiles represented the great connectedness of Russian society through *sobornost*, a pervasive unity of all Russian society.¹² According to the Slavophiles, the powerful Eastern Orthodox Church acted as the central unifier of Russian society, as opposed to the corrupt Western center of Christianity in Rome.¹³ Solovyov's main alteration to the Slavophile conception of *sobornost* was the extension of this all-encompassing unity to a globally unified

¹⁰ Garcia, "Alexander Skryabin and Russian Symbolism," 20; Morrison, *Russian Opera and the Symbolist Movement*, 116; Wetzel, "Alexander Scriabin in Russian Musicology," 43.

¹¹ Faubion Bowers, *Scriabin, a Biography* (New York: Dover, 1996), vol. 1, 31; Maria Carlson, *No Religion Higher than Truth* (Princeton, NJ: Princeton University Press, 1993), 22-23; Marina Frolova-Walker, *Russian Music and Nationalism: From Glinka to Stalin* (New Haven: Yale University Press, 2007), 11-18.

¹² Granted, the Russian were also ruled by authoritarian rule, but this was not acknowledged by the Slavophiles.

¹³ Wetzel, "Alexander Scriabin in Russian Musicology," 22-44.

church and state that included the Western Orthodox Church and the Russian government.¹⁴

This naturally upset many Slavophiles, who were opposed to any reconciliation with Western society.¹⁵

Some may question the significance of Solovyov's influence on Scriabin given his dismissive view of Solovyov in 1902. Boris de Schloezer states, "[Scriabin] felt equally out of sympathy with the religious mysticism of Vladimir Soloviev and spoke of it with a certain condescension and even derision. Religiosity was to him at that time a symptom of weakness of will, and he equated mysticism with superstition."¹⁶ Despite Scriabin's objections, this quote reveals Scriabin's familiarity with Solovyov's writings, which he learned about in 1889 at the Trubetskoy circle in Moscow.¹⁷ Furthermore, this momentary rejection is balanced by Scriabin's later acceptance of Solovyov:

Alexander N. [Scriabin] recently read something in passing by Vladimir Solovyov, whom he had not liked because of his "Orthodoxy." But this time ... he was filled with the eschatological desires of Solovyov's philosophy, particularly as his idea of the imminent end of the world and the "age of mankind," which was seen as further confirmation of the theory of the Mysterium.¹⁸

The connection of Scriabin to the ideas of the Slavophiles and Solovyov is natural given his mystical Christian upbringing. The mystical vein of Eastern Orthodoxy and Slavophilism was most strongly associated with women in the vicinity of Moscow in the late nineteenth century,¹⁹ which precisely matches Scriabin's upbringing by his aunt and grandmothers in the

¹⁴ Frederick C.opleston, *Russian Religious Philosophy: Select Aspects* (Notre Dame, IN: University of Notre Dame Press, 1988), 11; Joseph T. Fuhrmann, Edward C. Bock, and Leon I. Twarog, *Essays on Russian Intellectual History* (Austin, TX: University of Texas Press, 1971), 87-91; Vladimir Solovyov, *Russia and the Universal Church*, ed. Herbert Rees (London: The Centenary Press, 1948), 99-108.

¹⁵ Frank Semyon, *A Solovyov Anthology*, trans. Natalie Duddington (Westport, CT: Greenwood Press, 1950), 22.

¹⁶ Boris de Schloezer, *Scriabin: Artist and Mystic*, trans. Nicolas Slonimsky (Berkeley: University of California Press, 1987), 65.

¹⁷ Garcia, "Alexander Skryabin and Russian Symbolism," 38. Scriabin's library also contained a book by Solovyov, although it was only a translation of Plato's *Symposium*, which is found in Schloezer, *Artist and Mystic*, 71.

¹⁸ Sabaneev, *Vospominaniya*, 285.

¹⁹ Carlson, *No Religion Higher than Truth*, 27-34.

outer regions of Moscow.²⁰ In addition, Scriabin's early diaries strongly reference the *sobornost* philosophy of oneness of humanity in Christ:

God, in the general sense of this word, is the cause of all phenomena, *in toto*. Jesus Christ speaks of God in part only. He posits God as an inexplicable reason. This leads to the concept of precept of what we call morality. Since the concept of morality is ONE with the total [original emphasis], He speaks of the one true and eternal God. It dwelt in Him (as appearance) and He moved in it (lift, actions).²¹

Note Scriabin's emphasis of "ONE with the total," which reflects the *sobornost* concept of communality of all humanity in God.

This passage also reveals the influence of Solovyov's distinction of phenomena and self-positing noumena in Scriabin's philosophy, which is directly drawn from Immanuel Kant.²² Like other religious philosophers in the nineteenth century, Solovyov sought to prove spiritual concepts that could not be proven empirically. Since Solovyov could not base his claims on natural phenomena, he relies on Kant's noumena: individual intuitions that are posited as fact and later rationalized by reason.²³ For example, Solovyov validates the immutable interconnectedness of God and the Trinity after positing the following three intuitions on God's nature:

In his three constituent modes of His being, God is in unique relation to His own substance: (1) He possesses it in Himself, in His 'first act' (absolute fact). (2) He possesses it for Himself, in manifesting or producing it from Himself in His 'second act' (absolute action). (3) He possesses it in returning upon Himself, in rediscovering in it, in a 'third act', the perfect unity of His being and His manifestation (absolute enjoyment). He cannot enjoy it without having manifest it, and He cannot manifest it without having it in Himself. Thus these three acts, states or relationships—here the terms coincide—indissolubly bound together, are different but equal expressions of the entire Godhead.²⁴

²⁰ Bowers, *Scriabin*, vol. 1, 107-11.

²¹ *Ibid.*, vol. 1, 138.

²² Jonathan Sutton, *The Religious Philosophy of Vladimir Solovyov: Towards a Reassessment* (New York: St. Martin's Press, 1988), 32; Fuhrmann et al., *Essays on Russian Intellectual History*, 75.

²³ Douglas Burnham, *Kant's Critique of Pure Reason: An Edinburgh Philosophical Guide* (Edinburgh: Edinburgh University Press, 2007), 20-22.

²⁴ Solovyov, *Russia and the Universal Church*, 150.

Accordingly, Scriabin's frequently mentioned the importance of intuition and logic to his family and friends. Scriabin's brother-in-law Boris de Schloezer writes:

[Scriabin] sought his personal truth not as an external, separate, and alien entity; he saw by intuition...He was aware of contradictions, disharmonies, and inconsistencies in life, and he strove to reconcile them, to find their resolution, not only on a psychological and intuitive plane, but also in rational thought.²⁵

Like Solovyov, Scriabin rejects the need to base truth on observable phenomena, rather preferring the acquisition of knowledge through intuition and reason. Scriabin's friend and biographer Sabaneev notes Scriabin's focus on intuition and rationalization when comparing his harmonies to the overtone series:

I am very pleased when scientific findings are consistent with my intuition, although it is, of course, inevitable. *This proves the validity of the scientific data* [emphasis added], he said with a smile. I've always maintained the primacy of intuition. Of course, the "principle of unity" requires that science and intuition are the same.²⁶

It is important to underscore Scriabin's peculiar reasoning in this statement. Scriabin's intuition is not based on scientific data, but rather the scientific data is "based" on Scriabin's intuition.²⁷

The final important element of Solovyov's philosophy of *sobornost* is polarity, the complementary processes of separation from and return to ultimate unity.²⁸ While Solovyov emphatically believed in the underlying unity of all things, he recognized the current state of disconnection between the spiritual and mortal. Solovyov posits this separation as a negative state caused by one's selfish desires, which pulls one away from mutual union with God.²⁹ Accordingly, the return to the unification of God and man was viewed as a state of synthetic

²⁵ Schloezer, *Artist and Mystic*, 57.

²⁶ Sabaneev, *Vospominaniya*, 73-74.

²⁷ Schloezer further supports the notion that Scriabin's philosophy and compositional process is based on intuition in *Artist and Mystic*, 77.

²⁸ Fuhrmann et al., *Essays on Russian Intellectual History*, 77-87.

²⁹ Frank, *A Solovyov Anthology*, 11; Solovyov, *Russia and the Universal Church*, 150

bliss, which is engendered through the rejection of individual will in lieu of the infinite unity of God with humanity.³⁰

Arthur Schopenhauer and Friedrich Nietzsche

Most scholars agree that Scriabin moved away from the Christian philosophies of Solovyov to the philosophies of Schopenhauer and Nietzsche in the late nineteenth century.³¹ This transition was not abnormal, but rather reflected a large philosophical trend in Russia at the time.³² In the late nineteenth century, Russia's musical scene experienced a large influx of romantic German music through Richard Wagner, which prompted many Russian musicians to read Schopenhauer and Nietzsche, who wrote extensively on Wagner's work.³³ Solovyov himself blended Russian mystic Christianity with Schopenhauer's spiritualism during his affiliation with the Odoevskii circle at the Moscow University.³⁴

Scriabin's knowledge of Schopenhauer and Nietzsche is widely documented and their ideas are explicitly mentioned by Scriabin himself.³⁵ According to Scriabin's personal journals, he first read Schopenhauer's *The World as Will and Representation* at the age of twenty-one (1892).³⁶ Scriabin immediately began to reference Schopenhauer's concepts of will and reason to his young love, Natalya, by June of 1892: "I have curbed Thee, mountain streams, and forced Thee to serve me. Everything that surrounds me has been subdued by my will, by my

³⁰ As Taruskin has shown, the idea of rejecting of individual desire persisted deep into Scriabin's life. "Scriabin and the Superhuman," 329-49.

³¹ Bowers, *Scriabin*, vol. 1, 65; Garcia, "Alexander Skryabin and Russian Symbolism," 38; Gawboy, "Alexander Scriabin's Theurgy in Blue," 45-60; Wetzel, "Alexander Scriabin in Russian Musicology," 200.

³² Wetzel, "Alexander Scriabin in Russian Musicology," 200.

³³ Students at the Moscow conservatory—including Scriabin—frequently met to discuss Wagner's works. Sabaneev, *Vospominaniya*, 13-18.

³⁴ Carlson, *No Religion Higher than Truth*, 23.

³⁵ Bowers, *Scriabin*, vol. 1, 165; Sabaneev, 242; Ellen von Tidebühl, "Memories of Scriabin's Volga Tour (1910)," *The Monthly Musical Record* 56, nos. 5 & 6 (May & June 1926): 168.

³⁶ Bowers, *Scriabin*, vol. 1, 165.

reason...”³⁷ Scriabin’s knowledge and affinity for Nietzsche’s *Birth of Tragedy* is explicitly relayed in his 1910 conversation with the journalist Ellen von Tidebühl, who writes:

I had with me Nietzsche’s book “Die Geburt der Tragödie.” Scriabin, seeing it in my hand one day, spoke of the wonders of the book and the views on art, especially where the philosopher speaks of Dionysius. He confessed he had been much strengthened in his doctrines and work by this book, and spoke of another which had an equal influence on him.³⁸

As with Solovyov, Schopenhauer and Nietzsche’s epistemology is based on Kant’s idea that noumena is the basis of fact, which is later rationalized by phenomena.³⁹ Schopenhauer elaborates Kant’s concepts by associating Kant’s phenomenon and noumena with his concepts of representation (*principium individuationis*) and Will.⁴⁰ Schopenhauer claims that all observable phenomena would have no manifestation unless they are perceived through our consciousness and are, therefore, only considered ephemeral representations of the mind. Schopenhauer refers to our consciousness, i.e. intuition, as “will” because it is based on our individual, compulsory desires to breathe and eat. Thus, this individualistic will is related to our sense of pain and suffering because our drives lead us to develop expectations for hunger, power, and love that are never fully satisfied.⁴¹ Superseding this individualistic will is cosmic Will, which drives the universal changes of space and nature.⁴² In contrast to individualistic will, universal Will is built on the natural cycle of all things and is void of neediness and dissatisfaction. As with Solovyov,

³⁷ Ibid., vol. 1, 178.

³⁸ Ellen von Tidebühl, “Memories of Scriabin’s Volga Tour (1910),” *The Monthly Musical Record* 56, nos. 5 & 6 (May & June 1926): 168. The other book that is mentioned is *By the Stars* by Vyacheslav Ivanov, whose influence will be explored later on in the chapter.

³⁹ According to Schloezer, Scriabin’s library in 1902-1903 contained Kuno Fischer’s book on Immanuel Kant, *Artist and Mystic*, 71.

⁴⁰ Stefan Lorenz Sorgner and Oliver Fürbeth, *Music in German Philosophy: An Introduction*, trans. Susan H. Gillespie (Chicago: The University of Chicago Press, 2010), 123-24; Arthur Schopenhauer, *The World as Will and Idea*, trans. R. B. Haldane and J. Kemp (London: Kegan Paul, Trench, Trübner, 1909), 25-227.

⁴¹ Sorgner et al., *Music in German Philosophy*, 123; Schopenhauer, *The World as Will and Idea*, 248-60.

⁴² As is customary in Schopenhauer scholarship, I capitalize “Will” to signify the universal, joyous Will, while using the lowercase “will” to signify the individual will.

Schopenhauer concludes that the negation of individual will leads to unity with universal Will, resulting in an indescribably joyous state of happiness and satisfaction.⁴³

Nietzsche proceeds to elaborate Schopenhauer's concepts of representation (*principium individuationis*) and Will by relating them to the Greek gods of Apollo and Dionysus.⁴⁴ The god Apollo is identified with individuality, stasis, and order. Thus, Apollo is associated with the world of representation, in which static objects are ordered in time and space by our consciousness. Conversely, the god Dionysus is identified with primordial unity, change, and chaos. Thus, Dionysus is associated with the world of Will, whose desires prompt one to seek change and union.

Both Schopenhauer and Nietzsche privilege music in their philosophy because of its correlation with universal Will/Dionysus.⁴⁵ Both authors consider Will a higher concept than representation because all phenomena are derived from our consciousness.⁴⁶ Consequently, both philosophers rank artwork accordingly to their association with either the lower realm of representation or the higher realm of Will. The lower art forms involve physical objects that explicitly represent phenomena. For example, sculpture is considered the lowest art form because it is a static, physical object that represents phenomena. Dramatic writing is considered a higher form of art work because it presents the conflicts of people seeking their individual desires, which represents their individual will. Music is considered the most Dionysian art because it is ephemeral, involves constant change, and never explicitly signifies the world of representation. Music is ephemeral because it ceases to exist once the music ends and represents

⁴³ Sorgner et al., *Music in German Philosophy*, 123; Schopenhauer, *The World as Will and Idea*, 350-71.

⁴⁴ Gawboy, "Alexander Scriabin's Theurgy in Blue," 54; Friedrich Nietzsche, *Basic Writings of Nietzsche*, trans. and ed. Walter Kaufmann (New York: The Modern Library, 2000), 33-93; Sorgner et al., *Music in German Philosophy*, 142-44.

⁴⁵ Sorgner et al., *Music in German Philosophy*, 125-30 and 145-57; Nietzsche, *Basic Writings*, 30; Schopenhauer, *The World as Will and Idea*, 334-46.

⁴⁶ Henceforth, Schopenhauer's Will and Nietzsche's Dionysus will be used interchangeably.

constant change through the alternations of pitch, rhythm, and harmony.⁴⁷ In particular, Schopenhauer elaborates that the change of tempi satisfies the desires of the Will and that key changes represent the death of the individual will and the continuation of the cosmic Will.⁴⁸ Absolute music does not embody the world of representation because without the assistance of words music cannot explicitly convey phenomena. Since music does not transmit the world of representation, Schopenhauer and Nietzsche conclude that music must then directly represent the world of Will.

While Schopenhauer and Nietzsche share many beliefs regarding music, the two disagree on the primacy of either absolute or dramatic music. Schopenhauer believes that absolute music is the highest musical platform because it is a pure manifestation of Will, which would be adulterated by any explicit representational elements, such as text.⁴⁹ Therefore, Schopenhauer considers the symphony one of the highest musical genres because it produces pure music devoid of text, while uniting the forces of the entire orchestra. Schopenhauer also places the church mass on equal ground with the symphony, which is surprising because it contains a text. However, he claims that the standardization, repetition, and non-vernacular language of then Latin mass text have negated its representational affiliations.⁵⁰ Accordingly, the use of singers does not diminish a musical work, only the incorporation of a comprehensible text. While Nietzsche agrees that music is most closely associated with universal Will, he argues that dramatic music is the highest musical form because it unifies the complementary aspects of Apollo and Dionysius, i.e. text and music.⁵¹ This preference for dramatic music is natural given

⁴⁷ Naturally, Nietzsche argues that music is not represented by the score because music must be played in order to be perceived. Sorgner et al., *Music in German Philosophy*, 147.

⁴⁸ Sorgner et al., *Music in German Philosophy*, 128; Schopenhauer, *The World as Will and Idea*, 338.

⁴⁹ Sorgner et al., *Music in German Philosophy*, 131-34; Schopenhauer, *The World as Will and Idea*, 341.

⁵⁰ Sorgner et al., *Music in German Philosophy*, 130.

⁵¹ Nietzsche, *Basic Writings*, passim.

Nietzsche's knowledge of classical Greek opera chorus and his early affinity for the operas of Wagner.⁵²

One can trace a shift in Scriabin's thinking regarding the primacy of absolute or dramatic music based on his two late major compositional projects: *Prometheus* and *Mysterium*.⁵³ Scriabin's earlier work, *Prometheus*, is the embodiment of Schopenhauer's idealized absolute music. The piece employs a large musical orchestra that features an additional solo piano and choir. Following Schopenhauer, the use of voices in *Prometheus* does not disturb the music's pure Dionysian properties because it does not use a comprehensible text, but rather uses a series of open vowel sounds. Other Schopenhauer like aspects include Scriabin's "theme of will" at the beginning of the work,⁵⁴ the frequent change of tempi, and frequent key changes, which are signified by the fast *luce*.⁵⁵ Conversely, Scriabin's plans for the *Mysterium* reveals Nietzsche's desire to unify music and text. As opposed to *Prometheus*, Scriabin wrote a libretto for *Mysterium* that was intended to be sung by both the singers on stage and the members of the audience.⁵⁶ In fact, this quest for unification reached extraordinary levels, in which all the arts and senses were unified in a single artists work. Schloezer recounts that Scriabin intended to unify all five senses in the *Mysterium*:

In his desire to invest musical images with verbal ideas, he dreamed of symphonies of odors and tastes; he intended to introduce tactile sensations into the score of *Mysterium*, so as to transform the entire human body into a sounding instrument. In this respect Scriabin extended, systematized, and projected onto the outside world his own inner experience.⁵⁷

⁵² Walter Kaufman, *Nietzsche: Philosopher, Psychologist, Antichrist* (Princeton, NJ: Princeton University Press, 1974), 13-15; Sorgner et al., *Music in German Philosophy*, 141-42.

⁵³ While the Prometheus myth is used as the basis for many programmatic works, Scriabin explicitly distanced his work from the specific myth. Instead, *Prometheus* is an abstract work of theurgy, which only alludes to the role of Prometheus as the provider of hidden knowledge. Gawboy, "Alexander Scriabin's Theurgy in Blue," 160-173.

⁵⁴ The Scriabin's identification of the "theme of will" is given in Sabaneev, "Scriabin's 'Prometheus,'" 137.

⁵⁵ Chapter one, 17.

⁵⁶ The full English translation of Scriabin's *Preparatory Act* is found in Morrison, *Russian Opera and the Symbolist Movement*, 313-47.

⁵⁷ Schloezer, *Artist and Mystic*, 84.

As with Solovyov, the philosophies of Schopenhauer and Nietzsche posit polarity as a unifying process. This belief in the synthesis of opposites had previously existed in German philosophy through Hegelian dialectics, which have already been shown to influence other musical theorists such as Hauptmann, Riemann, and others.⁵⁸ For Schopenhauer and Nietzsche, polarity refers to the unification of complements through mutual dependence, which is shown in the polarity of light and darkness. While these two concepts are ostensibly opposites, light cannot exist without darkness and darkness cannot exist without light.⁵⁹

Accordingly, polarity is at the center of both Schopenhauer and Nietzsche's philosophy. In Schopenhauer, the worlds of representation and Will are opposites that are mutually dependent on each other for existence. For example, representations cannot exist without the Will that sets them in time and place and vice versa. In Nietzsche, Dionysus represents change and unity, while its complement, Apollo, represents stasis and individualism. Consequently, Scriabin built his Seventh Sonata on the polarity between the corporal and spiritual planes, which includes explicit motives to symbolize the transition from the spiritual to the material.⁶⁰

One important structural characteristic of polarity is that the complements contain mutually inclusive elements within a greater unity. That is, each element in a polarity contains elements of its complement, and is, therefore, not entirely pure.⁶¹ This concept is epitomized by polarity within the yin-yang figure, which figures prominently in Schopenhauer's writings.⁶² While the symbol clearly separates the visual complements of black and white, the dots within each section represent the inclusion of the yin within the yang and vice versa.

⁵⁸ Henry Klumpenhouwer, "Dualist Tonal Space and Transformation in Nineteenth-Century Musical Thought," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen, 456-74 (Cambridge: Cambridge University Press, 2002).

⁵⁹ Gawboy, "Alexander Scriabin's Theurgy in Blue," 105.

⁶⁰ Faubion Bowers, *The New Scriabin; Enigma and Answers* (New York: St. Martin's Press, 1973), 111.

⁶¹ Gawboy, "Alexander Scriabin's Theurgy in Blue," 107-24; Schopenhauer, *The World as Will and Idea*, 205.

⁶² Gawboy, "Alexander Scriabin's Theurgy in Blue," 103-07; Schopenhauer, *The World as Will and Idea*, 199-200.

Another important aspect of polarity is that the complementary elements interact as an active, progressive force that strives for ultimate unity in the universal Will. Schopenhauer writes:

Natural philosophers ... have called particular attention to the fact that *polarity*, i.e., the separation of a force into activities that are qualitatively different, in opposition to one another and striving for reunification (which even for the most part reveals itself spatially through movement in opposite directions), is a Fundamental Type that pertains to almost all phenomena of nature, from magnets and crystals on up to human beings. But in china, cognizance of this fact has been widespread since the most ancient times, in the doctrine of the opposition between *Yin* and *Yang*.⁶³

Just as the denial of the individual will leads to joy in the universal Will, the opposing elements in polarity are constantly seeking union with each other, which is represented by the circular shape of the yin-yang figure. This concept is best understood through the polar attractions of magnets. The connection of negative and positive poles of a magnet is seen as a natural and progressive event, as opposed to the repelling effect of similarly charged poles.

Schopenhauer and Nietzsche's belief that all polar aspects of life are bound within an underlying unity correlates with Solovyov's concept of *sobornost*. In each author, the means of entering into global unity is through the denial of self will. The main distinction is that music plays a crucial role in engendering the shift from polarity to unity in the writings Schopenhauer and Nietzsche, whereas music's role is comparatively underemphasized in Solovyov's philosophy. Nietzsche's understanding of this relationship is beautifully put by the German philosophy scholar Stefan Sorgner:

We experience music with our entire body, and when we are enjoying a good concert we are inside the music. In this case, we cannot distinguish between our body and the external world. Music makes it possible for us to dissolve the external boundaries of our body and to experience ourselves as embedded in the unity of the sounds.⁶⁴

⁶³ Schopenhauer, *The World as Will and Idea*, 199.

⁶⁴ Sorgner et al., *Music in German Philosophy*, 148-49.

Accordingly, Scriabin saw his role as composer as engendering this theurgy, in which all could enter into universal unity through the medium of pure Will, i.e. music.⁶⁵

The last important feature of German spiritual philosophy is the question of what occurs after reunion with the universal Will is achieved. Nietzsche's response is the concept of eternal recurrence, in which the process of separation from and return to universal Will is cyclic and infinite.⁶⁶ This theory is based on the following syllogism: (1) Time is infinite because there was no God that initiated creation. (2) All phenomena are finite because they are created by a singular, universal will. (3) Therefore, all aspects of life repeat throughout eternity because the contents of the eternal universal Will are finite. This philosophy is related to the Greek myth of Dionysius, who was considered, amongst other things, to be the god of eternal rebirth.⁶⁷ Accordingly, Scriabin relays the idea that he—through the power of the universal Will—created the world over and over, saying: "I have already created you many times, world (how many living essences) unconsciously ... I create you, knowingly, so that I am now studying you."⁶⁸

Vyacheslav Ivanov and Helena Blavatsky

While Scriabin was certainly influenced by the philosophies of Schopenhauer and Nietzsche, most scholars agree that Scriabin's philosophical thought was dominated by the symbolist writings of Vyacheslav Ivanov and the theosophical writings of Helena Blavatsky

⁶⁵ Gawboy, "Alexander Scriabin's Theurgy in Blue"; Ivanov, 220-21; Morrison, *Russian Opera and the Symbolist Movement*, 194-200; Schloezer, *Artist and Mystic*, 136; Taruskin, "Scriabin and the Superhuman," 317-18.

⁶⁶ Kaufmann, *Nietzsche*, 316-33.

⁶⁷ Peg Tittle, *What If... Collected Thought Experiments in Philosophy* (Upper River Saddle: Pearson, 2005), 8.

⁶⁸ Bowers, *Scriabin*, vol. 2, 102. Note again the similarity between Scriabin's epistemology and Kant's concept of noumena and phenomena. Scriabin posits that he created the world unconsciously through Will, and later rationalizes its creation through reasoning.

during his post-tonal period.⁶⁹ Scriabin was first introduced to Blavatsky's writings in 1905 through her book *The Key to Theosophy*.⁷⁰ Throughout the remainder of his life, Blavatsky's ideas are frequently and enthusiastically espoused by Scriabin.⁷¹ Blavatsky's magnum opus, *The Secret Doctrine*, was a permanent fixture at Scriabin's desk, as well as a series of other Theosophical writings.⁷² In fact, his fixation on theosophy was so pervasive that it began to exhaust his closest friends. Sabaneev writes:

In the afternoon we met at Koussevitzky's place We spoke not of Theosophy, about which I did not feel completely comfortable conversing... Scriabin already had this dogma and he believed in it—he no longer asked or tried to find out more about it, but simply preached it.⁷³

Scriabin was introduced to Vyacheslav Ivanov and his writings in 1909.⁷⁴ By 1913, the two grew to be great friends with a close affinity in philosophical thought.⁷⁵ Regarding Ivanov, Scriabin stated: "What an interesting person... He is more close to me and my thoughts than anyone else."⁷⁶ In addition, Scriabin actively instructed others to read Ivanov's writings.⁷⁷

Many scholars privilege Ivanov's influence on Scriabin more than Blavatsky because of his proximity to Scriabin during the later years of his life.⁷⁸ Unlike Madame Blavatsky, who lived most of her life in England and America, Ivanov was a frequent figure in Scriabin's

⁶⁹ Bowers, *The New Scriabin*, 92; Gawboy, "Alexander Scriabin's Theurgy in Blue"; Morrison, *Russian Opera and the Symbolist Movement*, 184-241; Schloezer, *Artist and Mystic*, 136; Taruskin, "Scriabin and the Superhuman;" Wetzel, "Alexander Scriabin in Russian Musicology and its Background in Russian Intellectual History," 71-72.

⁷⁰ Schloezer, *Artist and Mystic*, 69.

⁷¹ Sabaneev, *Vospominaniya*, 241; Schloezer, *Artist and Mystic*, 67.

⁷² Sabaneev, *Vospominaniya*, 63; Schloezer, *Artist and Mystic*, 71.

⁷³ Philip Ewell, "Analytical Approaches to Large-Scale Structure in the Music of Alexander Scriabin," (Ph.D. diss., Yale University, 2001), 162; Sabaneev, *Vospominaniya*, 53.

⁷⁴ Bowers, *Scriabin*, vol. 2, 239; Garcia, "Alexander Skryabin and Russian Symbolism," 42.

⁷⁵ Ivanov fully entered Scriabin's circle in 1913. Garcia, "Alexander Skryabin and Russian Symbolism," 44.

⁷⁶ Sabaneev, *Vospominaniya*, 189.

⁷⁷ von Tidebühl, "Memories of Scriabin's Volga Tour (1910)," 168.

⁷⁸ Garcia, "Alexander Skryabin and Russian Symbolism," 21-33; Taruskin, "Scriabin and the Superhuman," 319-20.

household from 1913-1915.⁷⁹ Ivanov visited Scriabin frequently as he was dying and wrote many essays on Scriabin and his music after Scriabin's death.⁸⁰

Scriabin and Ivanov also shared and espoused many of the same philosophical influences. Ivanov's most famous work, *By the Stars*, is a critique and extension of the philosophies of Schopenhauer and Nietzsche. Scriabin himself states that Ivanov's *By the Stars* influenced his understanding of Nietzsche.⁸¹ In addition, Ivanov attempted to assimilate the philosophy of Nietzsche with the mystical Christianity of previously discussed philosopher, Vladimir Solovyov.⁸² Ivanov even states that Scriabin's ultimate goal in the *Mysterium* was to enact Solovyov's *sobornost*.⁸³ The influence Nietzsche and Solovyov's concept of intuition is evident in conversations between Scriabin and Ivanov. In one conversation recorded by Sabaneev, it is clear that the phrase "my inner experience" directly relates to the concept of intuition, the inner truth that is posited in the mind.⁸⁴

Then a point of divergence began to merge between Scriabin and Ivanov. Standing from point of view of Christian theodicy and mysticism, Ivanov could not understand why Alexander [Scriabin] insisted that Christ "is not the only messiah," and furthermore "not even the most important one" because he had to "make room for the creator of the Mystery."... A big debate took shape and it developed into quite a comical situation:

"My inner experience tells me about the fact that Christ is the culmination of humanity," said Vyacheslav Ivanov.

"And my inner experience is that there will be a [eschatological] mystery, and that the messiah would bring about that *Mysterium*. However, it is clear that Christ has not brought about that mystery," parried Scriabin.

So each and was "with his inner experience."⁸⁵

⁷⁹ Garcia, "Alexander Skryabin and Russian Symbolism," 44; Sabaneev, *Vospominaniya*, 188.

⁸⁰ Ivanov, "Scriabin's View of Art," from *Selected Essays*, 211-29; "Natsionalnoye i vselenskoye v tvorchestve Skryabina" and "Skryabin," ed. I. A. Melnikova in *Pamyatniki kulturi: Noviye otkritiya*, 1983 (Leningrad: Nauka, 1985), 88-119; Taruskin, "Scriabin and the Superhuman," 319-20.

⁸¹ von Tidebühl, "Memories of Scriabin's Volga Tour (1910)," 168.

⁸² Vyacheslav Ivanov, *Selected Essays*, ed. Michael Wachtel (Evanston, IL: Northwestern University Press) 221.

⁸³ Ivanov, *Selected Essays*, 226.

⁸⁴ Ivanov directly mentions "intuition" in "Scriabin's View of Art," *Selected Essays*, 223.

⁸⁵ Sabaneev, *Vospominaniya*, 190-91.

Ivanov's most recognized contribution to the understanding of Scriabin is his three-part summary of Scriabin's musical philosophy, which was brought to light by Richard Taruskin.⁸⁶ In 1919, Ivanov delivered the following statement on Scriabin's musical philosophy:

The content of Scriabin's work may be defined, it seems to me, as a threefold idea, a threefold emotion, a threefold vision:

- 1) The vision of surmounting the boundaries of the personal, individual, petty "I"—a musical transcendentalism.
- 2) The vision of universal, communal mingling of all humanity in a single "I"—or the macrocosmic universalism of musical consciousness.
- 3) The vision of a violent breakthrough into the expanse of a free new plane of being—universal transformation.⁸⁷

Ivanov's unfolding of Scriabin's philosophy shows a clear relationship to the previous theories by Solovyov, Schopenhauer, and the Nietzsche. The first tenet reflects the denial of individual will. The second tenet reflects how the rejection of personal will results in the global communing of all humanity in universal Will. The final tenet reflects the joy and freedom that comes from the transcendence above the unfilled needs and desires of personal will. In Ivanov's other essays, he suggests that Scriabin sometimes succeeded in denying his individual will in the act of composition:

I shall cite one representative detail: by Scriabin's own admission, it was against his will that he wrote his Tenth Sonata, which is tempered by a profound insight into the World Soul. It was as if he had submitted to suggestion and coercion that entered from without. After finishing the sonata, he did not immediately like it, but later he became extremely found of it.⁸⁸

In other words, Scriabin was able to create a masterwork that was directly conceived by the universal Will by denying his own compositional will and instincts.

The most distinctive element of Ivanov's philosophy was his belief in the Eternal Feminine, which held that the primordial unity was split into two principles, the masculine and

⁸⁶ Taruskin, "Scriabin and the Superhuman," 320.

⁸⁷ Ivanov, *Pamyatniki kulturi*, 115; Taruskin, "Scriabin and the Superhuman," 320.

⁸⁸ Ivanov, *Selected Essays*, 225.

feminine, which compete and combine to create all life.⁸⁹ This erotic understanding of unity is constantly referenced by Scriabin late into his life:

“I have long been convinced that the creative act is closely associated with eroticism,” he told me. “I definitely and personally know that creative excitement emulates all the physiological signs of sexual arousal.”⁹⁰

Naturally, this theory follows in the path of Solovyov, Schopenhauer, and Nietzsche’s polarity, in which complements—such as male and female—are in constant motion to return back to a unified state.⁹¹

Conversely, many scholars have avoided Blavatsky’s writings due to its diffuse nature and eccentric philosophical content. This obscure writing style was actually purposefully implemented by Blavatsky, who was trying to convey that her knowledge stemmed directly from the realm of Dionysus, the chaotic and ecstatic source of all knowledge.⁹² As in Scriabin’s Tenth Sonata, Blavatsky suggests that she denied her own consciousness in order to receive divine truth from the spiritual plane. Accordingly, her *Secret Doctrine* begins with the following dedication:

This Work I Dedicate to all True Theosophists,
In every County,
And of Every Race,
for they called it forth, and for them it was recorded.⁹³

Note how this dedication reinforces the notion that it was drawn from otherworldly sources. The text is not conceived, but “called forth” from the universe. Accordingly, the writing in *The Secret Doctrine* relays the notion that Blavatsky is merely recording the eternal truth from the

⁸⁹ Garcia, “Alexander Skryabin and Russian Symbolism,” 31-32; Ivanov, *Selected Essays*, 225; James D. West, *Russian Symbolism: A Study of Vyacheslav Ivanov and the Russian Symbolist Aesthetic* (London: Methuen, 1970).

⁹⁰ Sabaneev, *Vospominaniya*, 301.

⁹¹ In fact, Nietzsche uses the same sexual metaphor for union at the beginning of his *Birth of Tragedy*. *Basic Writings*, 33.

⁹² Gawboy, “Alexander Scriabin’s Theurgy in Blue,” 70-77; Schloezer, *Artist and Mystic*, 71.

⁹³ Helena P. Blavatsky, *The Secret Doctrine: The Synthesis of Science, Religion, and Philosophy* (Los Angeles: The Theosophy Company, 1947).

spiritual plane through a stream-of-consciousness writing style. The chimerical nature of this writing pervades *The Secret Doctrine*, of which the following text is representative example:

Now the Kabala of Simeon Ben Iochai is the soul and essence of its allegory, as the later *Christian* Kabala is the “dark cloaked” Mosaic Pentateuch. And it says (in the Agrippa MSS.):

“Forces that manifest without having been first equilibrated perish in space” (“equilibrated” meaning differentiated).

“Thus perished the first Kings (the Divine Dynasties) of the ancient world, the *self-produced* Princes of giants. They fell like rootless trees, and were seen no more: for *they were the Shadow of the Shadow*”; to wit, the *chhaya* of the Shadowy Pitris.⁹⁴

In fact, many writers have dismissed Blavatsky’s influence in order to spare Scriabin’s music from these undeniably extreme and embarrassing philosophical writings.⁹⁵

However, a general understanding of Theosophy is warranted because Scriabin was clearly more influenced by Blavatsky than Ivanov. First, Scriabin’s occasional mention of Ivanov pales in comparison to his frequent references to Blavatsky. Accordingly, Scriabin’s Moscow library contains numerous articles and books on Theosophy, while containing no books by Ivanov.⁹⁶ Second, Scriabin vehemently defended the ideology of theosophy against the alternative theories of Ivanov, as shown earlier in Scriabin direct defense of Blavatsky’s notion of multiple Christs against Ivanov himself.⁹⁷

Despite Blavatsky’s diffuse prose, philosophy scholars have distilled Blavatsky’s theosophy to three basic tenets, which are drawn from her three opening postulates of the *Secret Doctrine*.⁹⁸ (1) That there is an omnipresent, eternal, boundless, and immutable reality of which spirit and matter are complementary aspects. (2) That there is a universal law of periodicity or

⁹⁴ Blavatsky, *The Secret Doctrine*, vol. 2, 487.

⁹⁵ Dernova, “Garmoniia Skriabina,” 16-17; Gawboy, “Alexander Scriabin’s Theurgy in Blue,” 7-8; Taruskin, “Scriabin and the Superhuman,” 317-18.

⁹⁶ Sabaneev, *Vospominaniya*, 63; Schloezer, *Artist and Mystic*, 71.

⁹⁷ Sabaneev, *Vospominaniya*, 190-91.

⁹⁸ Blavatsky, *The Secret Doctrine*, vol. 1, 14-18; Emily Sellon, “Blavatsky, H. P.” in *The Encyclopedia of Religion*; eds. Mircea Eliade, Charles J. Adams, et al. (New York: Macmillan, 1987).

evolution through cyclic change. (3) That all souls are identical with the universal oversoul which is itself an aspect of the unknown reality. This list reveals many strong correlations with Solovyov, Schopenhauer, Nietzsche, and Ivanov's philosophies of polarity, eternal recurrence, and all-encompassing unity. Blavatsky's first tenet that spirit and matter are complementary elements correlates with Ivanov's separation of the masculine (spiritual) and feminine (material) principle, as well Schopenhauer and Nietzsche's polarities of will/representation and Apollo/Dionysus.⁹⁹ Blavatsky's second tenet that the universe undergoes a cyclic evolution correlates with Nietzsche's eternal recurrence, wherein the world undergoes a constant repetition of death and rebirth. Finally, Blavatsky's third tenet that all souls emanate from a singular oversoul correlates with the aforementioned belief that all elements of noumena and phenomena proceed from a singular, universal Will in the writings of Solovyov, Schopenhauer, and Nietzsche.¹⁰⁰

Thus, Blavatsky's philosophy does not represent a major deviation from Scriabin's previous philosophical influences, but rather a continuation and extension of previously held concepts. One of the most distinct elements in Blavatsky's theory is the expansion of Nietzsche's concept of eternal recurrence. In Nietzsche, the cyclic process of death and rebirth is a two-stage process of the separation from unity and the coalescence towards unity. In Blavatsky, the separation from and return to a singular unity is a seven-stage process, in which the body is gradually transformed from a purely spiritual and united state to a purely corporal and separated state.¹⁰¹ The follow list chronicles the seven states of transformation from the higher, spiritual states (principles) to the lower, physical states:

⁹⁹ Carlson, *No Religion Higher than Truth*, 123-28.

¹⁰⁰ Ibid., 114-17.

¹⁰¹ In Blavatsky, this seven-stage transformation is correlated with equivalent and subsidiary seven-stage cycles of planes, planets, kingdoms, races, and subraces. Carlson, *No Religion Higher than Truth*, 117-23.

Spiritual Principles:

1. *Atma*. Pure, Universal Spirit. An emanation of the Absolute.
2. *Buddhi*. Spiritual Soul. The vehicle of Universal Spirit.
3. Higher *Manas*. Mind. Intelligence. Human, or Consciousness Soul.

Physical Principles:

4. *Kama Rupa*. (Lower *Manas*), or Animal Soul, the seat of animal desires and passions. Line of demarcation between the mortal and immortal elements. The agent of Will during the lifetime.
5. *Linga Sharira*. Astral Body (vehicle of life). Sentient soul.
6. *Prana*. The Etheric Double. Life essence, vital power. Matter as force.
7. *Rupa*. The Dense Body. Gross, physical matter.¹⁰²

Blavatsky uses Buddhist terms to refer to each period and transition between the seven states.

Each transitory state is called a *manvantara*, while each period of rest within a state is considered a *pralaya*.¹⁰³ The significance of Blavatsky's seven-stage cycle of rebirth will later be shown in Scriabin's choice of seven-stage transpositional sequences and their cyclic return to the original mystic-chord collection in his *Prometheus*.

Blavatsky's second significant extension of previous philosophers is the concept that all of the disparate elements of life are interrelated. Throughout *The Secret Doctrine*, Blavatsky lists numerous different scientific discoveries, religions, and philosophies and shows their relationships by positing correlations. For example, Blavatsky suggests that the philosophical relationship of spirit and matter is that same as the relationship of atoms and force.¹⁰⁴ In science, atoms are connected to each other through an invisible force. Without this force, there is nothing to connect atoms together, whereas without atoms, there is nothing for the forces to connect together. Accordingly, in the philosophy of Schopenhauer, the world of representation and the world of will are two sides of the same coin, in which the representations are bound together through Will. Without Will, there is nothing to set representations in time and place, whereas without the representations, there is nothing for Will to set in time and place. This belief in the

¹⁰² Blavatsky, *The Secret Doctrine*, vol. 1, 242; Carlson, *No Religion Higher than Truth*, 120.

¹⁰³ These terms are directly used by Scriabin himself. Sabaneev, *Vospominaniya*, 146,

¹⁰⁴ Blavatsky, *The Secret Doctrine*, vol. 1, 623-24.

underlying relationship of every aspect of life is especially important to Scriabin's late philosophy and music, in which he sought to maintain his "principle of unity" by correlating all the sense and arts together in his unfinished *Mysterium*.

Summary

It has been shown that Scriabin's varied philosophical influences maintain a series of shared beliefs. These areas of agreement are significant because they provide the clearest picture of Scriabin's sustained philosophical beliefs. In particular, there are three philosophical ideas that remained prevalent between the various authors: (1) all life began with an initial unity that was broken into separate elements through individual desire, which are consequently rejoined into all-unity through unifying desire; (2) the concept of polarity, in which polar entities, such as light and darkness, are ultimately unified by their mutual reliance on each other for existence; and (3) all elements of life are intimately related because they stem from a singular source.

The following section consists of three essays that relate each of these shared ideas to an element of Scriabin's late compositional practice. The first essay expands the understanding of desire in Scriabin's late music by breaking it into two complementary parts: the negation of individual desire through the suppression of tendency tones, and the achievement of global desire through mutually inclusive pitch-class content endangered by maximally invariant transposition. The second essay clarifies Scriabin's specific use of polarity as the unification of the two reprises of his piano miniatures through the maximally invariant transposition of T_6 . The final essay expands theory of Scriabin's sound-color relationships to include geometric correlations, which reveal a fuller understanding of his concept of synthetic unity in his *Prometheus*.

Three Essays on Scriabin's Philosophy and his Compositional Practice

Scriabin's Negation (and Creation) of Desire in his Late Music

One of the most significant studies combining Scriabin's music and philosophy is Taruskin's "Scriabin's and the Superhuman."¹⁰⁵ In this essay, Taruskin correlates Ivanov's philosophical concept of extinguishing desire with both the symmetry of Scriabin's post-tonal collections and the invariance between those collections. He argues that the symmetry of the whole-tone and octatonic collections represents negated harmonic function and equality, whereas the harmonic invariance between these collections represents negated desire through harmonic stasis.¹⁰⁶

On one hand, Taruskin is correct to associate the philosophical notion of negated desire with Scriabin's music because Scriabin widely acknowledged that his music represented his philosophical ideas:

I cannot understand how to write *just* music now. How boring! Music, surely, takes on idea and significance when it is linked to a single plan within a whole view of the world ... The purpose of music is revelation. What a powerful way of knowing it is!¹⁰⁷

Examples of Scriabin's melding of philosophy and music are well documented in his unification of color and key in his *Prometheus*. The extent of this urge to unite music and philosophy is exemplified in this attempt to bring about a cataclysmic unification of man and spirit through his *Mysterium*. He even attempted to build the *Mysterium's* venue, a spherical temple in India, by soliciting donations from Theosophy groups in Britain and prepared for this trip by purchasing a safari hat to protect himself from the harsh Indian sun.¹⁰⁸ Accordingly, the extinguishing of

¹⁰⁵ Taruskin, "Scriabin and the Superhuman," 308-59.

¹⁰⁶ Taruskin's claim is based on Varvara Dernova's theory on Scriabin's music from her dissertation, "Garmoniia Skriabina."

¹⁰⁷ Bowers, *The New Scriabin*, 108; Sabaneev, *Vospominaniya*, 139.

¹⁰⁸ Bowers, *Scriabin*, vol. 1, 262-63; Sabaneev, *Vospominaniya*, 309 and 343.

desire is a common philosophical idea throughout Scriabin's philosophical influences.

Scriabin's first philosophical influence, Solovyov, believed that unity with God could only be achieved through the denial of personal desire—a sentiment that is still held in most Christian faiths of today—whereas Scriabin's last philosophical influence, Blavatsky, believed that reunification with the all-unity of *Atma* required the dissolution of the individual body and spirit.

On the other hand, Scriabin and his friends clearly state that Scriabin aspired to actually create desire in his late works. In his 1903-1905 notebooks, Scriabin writes, "The universe represents the unconscious process of my creative work...I have a will to live. Through the force of my desire I create myself and my feeling for life...I know that I wish to create. I create already. The desire to create is creation."¹⁰⁹ This creation of desire in his music is, in fact, literally imprinted on his scores through his enigmatic performance indications, which include: *de plus en plus passionne, avec une joie débordante*, and *avec une douceur de plus en plus caressante*.¹¹⁰ His friends and colleagues also emphasized the importance of creating desire in his music. Schloezer states, "His desire to communicate his inner experiences, to share the vital nourishment he received from his spiritual resources, was too strong to be contained."¹¹¹ Even Ivanov—the main source substantiating Scriabin's negation of desire—states:

Scriabin desired or rather had to be a hero as an artist and an artist as a hero. He could not reject either of these two natures, nor divide them in his actions: his will was his knowledge, and his knowledge was his will, but he could know and will only while creating beauty.¹¹²

¹⁰⁹ Bowers, *Scriabin*, vol. 2, 54; Schloezer, *Artist and Mystic*, 122.

¹¹⁰ Translates to: with more and more passion, with joy overflowing, and with increasingly gentle caressing. Examples are drawn from Opp. 61, 62, and 64. The importance of Scriabin's performance indications are explored in Susanna Garcia, "Scriabin's Symbolist Plot Archetype in the Late Piano Sonatas," *Nineteenth-Century Music* 23, no. 3 (2000): 273-300; and Hugh MacDonald, "Words and Music by A. Skryabin," *The Musical Times* 113, no. 1547 (1972): 22-25.

¹¹¹ Schloezer, *Artist and Mystic*, 106.

¹¹² Ivanov, *Selected Essays*, 223.

Most significantly, this desire was reflected in Scriabin's performance practice. Sabaneev noted that Scriabin took on a different persona when he played the piano, saying:

Now his face changed. I have always noticed this, that as he sat at the piano he always transformed somehow...It seemed very new and wild. I've saw changing emotions on his face. Some of the most spastic sections [of *Prometheus*] were highlighted by his nervous playing. Scriabin jumped on his chair during these sections trying to emulate the power of the orchestra.¹¹³

Scriabin even showed emotion when listening to his own works. When attending his

Prometheus, Sabaneev recounts that:

Scriabin was nervous during the performance; sometimes he suddenly stood up, jumped, and then sat down... I noticed that Scriabin acted strangely when listening to his own music: sometimes his face froze, his eyes closed, and he exhibited a somewhat physiological pleasure; at moments of tension, he opened his eyelids, looking upward, as if to fly... Rarely have I seen such a dynamic face and body motions by a composer during a hearing of his own music: he does not hesitate to hide his deepest passion in it.¹¹⁴

Thus, there is a clear issue regarding the interpretation of desire in Scriabin's post-tonal music. Some of Scriabin's philosophical influences suggest that Scriabin believed in the negation of desire, while others—often the same sources—state that Scriabin attempted to create desire in his music. In order to understand this ostensibly intractable dichotomy, it is best to revisit the concepts of desire and will in Scriabin's philosophical influences. This examination reveals two different manifestations of desire. The first is individual desire, a negative impulse that is obliged to be negated. The second is the unifying desire, a positive impulse that reflects the joy of union. This two-part understanding of desire suggests a more nuanced understanding of Scriabin's representation of desire in his late music, in which both the negation of individual desire of and the joy of unifying desire are simultaneously present. I correlate this dual nature of desire with Scriabin's use of maximally invariant transposition, thereby revealing a reversal in

¹¹³ Sabaneev, *Vospominaniya*, 50.

¹¹⁴ *Ibid.*, 34.

the interpretation of pitch-class invariance. Instead of expressing a negation of desire through harmonic stasis, I suggest that overlapping pitch-class content expresses a joyful unification between different collections.

One common element between Scriabin's philosophical influences is that they acknowledge two forms of desire: individual desire and unifying desire. This dichotomy of desire is most readily apparent in Schopenhauer's distinction of individual and cosmic Will. Individual will is a negative impulse that pulls one away from primordial unity, whereas cosmic Will is a positive impulse that restores everything to the original state of unified bliss. Thus, the negation of personal desire and the attainment of universal desire are two sides of the same coin because individual will and universal Will are mutually exclusive forces.

If we hold that Scriabin's philosophy is instilled into his late compositional practice, both the negation of individual desire and the creation of universal desire would need to be expressed in his music. In order to show how Scriabin negates desire in his post-tonal music, Taruskin explains how desire is expressed in Romantic music through the tendency tones of the dominant seventh chord. As a case in point, he cites Wagner's Tristan prelude, which shows the unfulfilled desire of Tristan and Isolde through the repeatedly unresolved dominant chords. Drawing on tonal common practice theory, he states that desire is created by the dominant seventh chord's two tendency tones: the leading tone and chordal seventh. The desires of these tendency tones are unambiguous because there is only one standard resolution for each dominant seventh chord. For example, the dominant seventh chord of G⁷ only resolves to C tonic triads. In this case, the tendency tone of B has a desire to resolve up to C, whereas the chordal seventh of F has a desire to resolve down to E/E♭. Accordingly, this desire for resolution represents a form

of independent desire because the individual tendency tones have individual resolutions, which aligns more closely with individual desire than unifying desire.

Taruskin then states that Scriabin's late music extinguishes this desire by using transpositionally invariant collections, which obscure and dissolve tonal function. As opposed to the non-symmetrical dominant seventh chord, symmetrical chords have an ambiguous tonal function since the same collection can be enharmonically reinterpreted in multiple ways. For example, the symmetrical fully diminished seventh chord pcset of B^{o7} can be enharmonically reinterpreted as the dominant function leading-tone seventh chord of either C, E \flat , G \flat , or A tonic triads. Accordingly, the tendencies of the individual chord members are ambiguous because each could be a leading tone, chordal seventh or non-active chord member depending on the enharmonic interpretation. By extension, Scriabin's late music extinguishes desire by using the symmetrical octatonic and whole-tone collections. This treatment of each post-tonal sonority as a non-active chord falls in line with Scriabin's own definition of his chords as consonances (*sozvuuchij*).¹¹⁵

However, Scriabin's use of maximally invariant transposition does not clearly extinguish desire because Scriabin's late music rarely maintains complete pitch-class invariance between pcsets. Taruskin claims that the complete transpositional invariance between Scriabin's collections creates the effect of "marching in place," in which the complete lack of pitch-class variance creates harmonic stasis.¹¹⁶ Yet, the examination of this theory in chapter one concluded that Scriabin's music rarely achieves complete invariance since full octatonic and whole-tone collections are seldom used, whereas maximal invariance between octatonic and whole-tone

¹¹⁵ Sabaneev, *Vospominaniya*, 260.

¹¹⁶ Taruskin, "Scriabin and the Superhuman," 308-59.

subsets is far more common.¹¹⁷ Accordingly, maximally invariant transposition does not represent complete harmonic stasis because maximally invariant transpositions between octatonic and whole-tone subset involve some pitch-class variance.

Conversely, maximally invariant collections are traditionally considered highly polarized elements in Classical and Romantic sonata theory, which ultimately desire resolution.¹¹⁸ First, one must note that the tonic and dominant keys areas in sonata forms are related through maximally invariant transposition. Accordingly, Charles Rosen's study of common practice sonata forms claims that the main tension of the sonata form is the polar opposition of the dominant and tonic keys between the exposition and recapitulation.¹¹⁹ In particular, the modulation to the dominant in the exposition is defined as a structural dissonance that requires resolution in the recapitulation.

This common practice view of maximally invariant keys as a polarizing force suggests a new interpretation of Scriabin's use of maximally invariant transposition. Instead of viewing it as a negation of desire, one could view the parallel voice leading and high pitch-class similarity as an expression of unity. This reinterpretation allows one to reconcile the ambivalent relationship between Scriabin's negation of individual desire with his desire to achieve ultimate unity. Consequently, this reinterpretation maintains Taruskin's theory that desire—albeit individual desire—is negated through functionally ambiguous symmetrical chords, while reversing the perception of maximally invariant transposition as a symbol of negated desire to a symbol of fulfilled unifying desire.

The clearest way maximally invariant transposition correlates with unified desire is the unilateral motion of all voices through parallel motion. In tonal music, the independence of

¹¹⁷ In fact, complete pc invariance is impossible with Scriabin's most famous harmony, the mystic chord.

¹¹⁸ Mark Spitzer, *Metaphor and Musical Thought* (Chicago: University of Chicago Press, 2004), 308-309.

¹¹⁹ Charles Rosen, *Sonata Forms* (New York: W.W. Norton, 1980), 69-73.

musical lines is created through autonomous counterpoint, which emphasizes contrary voice leading. Conversely, one can create dependence of musical lines by using parallel motion.¹²⁰ This is exceptionally clear in Scriabin's late music, in which the notes typically move in parallel motion in pitch space and maintain the same orthography between mapping pitch classes.¹²¹

While the universality represented by parallel voice leading is relatively self-evident, the association of maximally invariant transposition with the joyful desire of union requires philosophical support through the concept of polarity. Gawboy states that one of the main characteristics of polarity in Scriabin's music is mutual inclusiveness. Citing A. B. Marx definition of polarity between tonic and dominant chords, Gawboy points to the common tone scale degree $\hat{5}$ between tonic and dominant triads as a manifestation of mutual inclusiveness.¹²² This observation may be expanded to entire collections because A. B. Marx also extended his concept of polarity to tonic and dominant keys. In this case, the mutual inclusiveness of pitch classes between tonic and dominant major keys far exceeds the singular common tone between tonic and dominant triads.

I argue that it is best to view mutual inclusiveness between keys—rather than chords—because Scriabin's refers to tonal keys (*tonalnostej*) and not chords (*akkordy*) when he technically describes his compositional method in *Prometheus*:

“For every note there is a corresponding color,” [Scriabin] announced, as if this was a widely-known axiom. “Actually, not for every note, but for every key [*tonalnost*]. For example, I mix the keys of A and F# at the beginning of *Prometheus*.”¹²³

¹²⁰ David Huron, “Tone and Voice: A Derivation of the Rules of Voice Leading from Perceptual Principles,” *Music Perception* 19, no. 1 (2001): 1-64.

¹²¹ Chapter one, 14-17.

¹²² Scott Burnham, editor and translator, *Musical Form in the Age of Beethoven: Selected Writings on Theory and Method by Adolf Bernhard Marx* (Cambridge: Cambridge University press, 1997), 308-309; Gawboy, “Alexander Scriabin's Theurgy in Blue,” 119.

¹²³ Sabaneev, *Vospominaniya*, 53. This statement likely refers to the F# and A in the opening *luce* part.

Scriabin's philosophical influences suggest that mutual inclusiveness between polarities represents a strong desire for reunification. Ivanov states, "The closer, the more intimately spirit and matter are fused in a phenomenon, the more intense is their polarity."¹²⁴ Likewise, Scriabin's use of maximally invariant transposition would result in an intense polar force between two collections because they are maximally fused in terms of pitch-class content. The concept of maximally invariant transposition as a positively charge force is suggested by Scriabin himself, who referred to his late period chord constructions and changes as sensations (*oshhushhenija*).¹²⁵ This correlates with Schopenhauer conception of tonal key changes as a representation of the death of the individual will and the continuation of universal cosmic Will.¹²⁶

This alternative interpretation of Scriabin's invariant harmonic practice as a joyful, unifying gesture leads to a vastly different reading of his late music, which can be seen in opposing analyses of Scriabin's last published work, Op. 74, No. 5. An analysis that assumes complete transpositional invariance of the entire octatonic collection would label mm. 13-17 as one singular Oct_{0,1} that maintains harmonic stasis and reflects Scriabin's extinguishing of desire (Example 2-1).¹²⁷ However, this analysis does not account for the frequent change in pitch-class orthography, which indicates several transpositions of smaller pcsets. For example, note the distinct change of flat to sharp orthography from m. 14 to m. 15.

Alternatively, a more nuanced analysis of the pcset structure reveals a steady progression from smaller to larger octatonic collections, whose increasing pitch-class similarity can be interpreted as an ever increasing desire to achieve full unification.

¹²⁴ Ivanov, *Selected Essays*, 249

¹²⁵ Bowers, *Scriabin*, vol. 1, 69.

¹²⁶ Sorgner et al., *Music in German Philosophy*, 128.

¹²⁷ Gawboy provides a completely octatonic analysis of Scriabin's Op. 74, No. 5 in "Alexander Scriabin's Theurgy in Blue," 138-42.

Example 2-1: Analysis of Scriabin's Op. 74, No. 5, mm. 13-17 that yields the full octatonic collection

8-28
[0,1,3,4,6,7,9,10]

The pcset structure in mm. 13-17 begins with the relatively small octatonic subset of 6-Z49 and progressively moves to a full octatonic collection in mm. 16-17 (Example 2-2). Accordingly, these maximally invariant transpositions feature a greater degree of shared pitch-class content as they increase in size. The maximally invariant transposition between the members of sc 7-31 in mm. 14-15 share 86% of their pitch-class content (six pitch classes), whereas the maximally invariant transposition between the members of sc 8-28 in mm. 16-17 share 100% of their pitch-class content (eight pitch classes). Viewed through the lens of Ivanov's polarity, this higher similarity suggests a progression from high unifying desire to ultimate unifying desire.

As noted earlier, the completely invariant progression of full octatonic collections at the end of this piece is an unusual event that warrants further interpretation. This marked progression correlates with the special place Op. 74, No. 5 holds in Scriabin's compositional output. Not only is this piece the last music Scriabin ever published, it represents a sketch of his

plans for his ultimate manifestation of his principle of unity in his *Mysterium*.¹²⁸ Scriabin was well-known for recycling preludes in his larger works, and Simon Morrison has identified many clear borrowings between Op. 74 and Scriabin's *Preparatory Act*, which was to prepare the world for its ultimate reunification at the end of the *Mysterium*. I suggest that the progression of increasingly overlapping and unified pcsets to a completely unified pcsets at the end of Op. 74, No. 5 may reflect the end goal of the *Mysterium*, the incremental uniting of all different aspects of life into one, all-encompassing unity.¹²⁹

Example 2-2: Analysis of Scriabin's Op. 74, No. 5, mm. 13-17 that yields various octatonic subsets

6-Z49
[C,D♭,E♭,F♭,G,A]

7-31
[G,A,B♭, C,D♭,E♭,F♭,]

7-31
[A♯,B♯,C♯,D♯,E,F♯,G]

Six common pitch classes
<0,1,3,4,7,9,10>

8-28
[C♯,D♯,E,F♯,G,A,B♭,C]

8-28
[G,A,B♭,C,D♭,E♭,F♭,G♭]

Eight common pitch classes
<0,1,3,4,6,7,9,10>

¹²⁸ Baker, "Scriabin's Music as Prism for Mystical Philosophy;" Morrison, *Russian Opera and the Symbolist Movement*, 221-31.

¹²⁹ The pathway to reuniting in ultimate unity in the *Mysterium* was a progressive event, which took a total of seven days. Simon Morrison, "Skryabin and the Impossible," *Journal of the American Musicological Society* 51, no. 2. (Summer, 1998), 284.

Some may object to this reinterpretation of Scriabin's music as a singular expression of attaining ultimate bliss through unity. Scriabin's music is not always this straightforward in its transpositional design, and non-maximally invariant transpositions do exist—although certainly less commonly than maximally invariant transpositions. On one hand, it is important to note that this interpretation only extends to purely maximally invariant passages. On the other hand, non-maximally invariant passages are quantifiably different than maximally invariant passages in terms of continuity of melody, texture, and smoothness.¹³⁰ The prior maximally invariant passages have featured an unfettered repetition of melody and texture, such as the sequential ending of Scriabin's Op. 74, No. 5. In contrast, non-maximally invariant passages in Scriabin's late music often feature marked breaks in melodic and textural continuity. This concept is best shown in Scriabin's Op. 63, No. 2, mm. 5-8, which features a mixture of maximally and non-maximally invariant transpositions that reveals the change from melodic and textural continuity to discontinuity (Example 2-3).

Example 2-3: Straus voice-leading analysis of Scriabin's Op. 63, No. 2, mm. 5-8

The voice-leading diagram illustrates the transposition of pitch classes across measures 5, 6, and 7-8. The pitch classes are arranged in three columns, each representing a 6-Z49 set.

Measure 5 (m. 5)	Measure 6 (m. 6)	Measures 7-8 (mm. 7-8)
D \flat 5	F \flat 5	E6
C5	E \flat 5	F5
A4	C5	C \sharp 5
F \sharp 4	A4	D5
E4	G4	G \sharp 4
B \flat 3	D \flat 4	A \sharp 2

The transpositions are labeled as T_3 for measures 5-6 and T_1 for measures 6-7-8. The sets are identified as 6-Z49 [A, B \flat , C, D \flat , E, F \sharp] m. 5, [C, D \flat , E \flat , F \flat , G, A] m. 6, and [C \sharp , D, E, F, G \sharp , A \sharp] mm. 7-8.

¹³⁰ The use of smoothness here reflects Straus's definition of smoothness in "Uniformity, Balance, and Smoothness in Atonal Voice Leading," *Music Theory Spectrum* 25, no. 2 (2003): 305-52.

This passage begins with a typical, maximally invariant transposition by T_3 between members of sc 6-Z49, which features a clear repetition of the previous material. However, the transformation into mm. 7-8 features a marked non-maximally invariant transposition by T_1 , which exhibits a number of corresponding signifiers of breaks in musical continuity. The first signifier is the lack of parallel voice leading from pcset [C,D \flat ,E \flat ,F \flat ,G,A] to [C \sharp ,D,E,F,G \sharp ,A \sharp]. While the transposition by T_1 is clearly given by the maintained augmented unison orthography, the voice leading on the musical surface features a lack of the parallel motion that typified the maximally invariant transposition in mm. 5-6, which is shown through the crossing lines and octave displacements in the voice-leading diagram. Second, the previously arabesque melodic line is abruptly stopped and replaced by a series of accented simultaneities at the moment of non-maximally invariant transposition at the end of m. 6. Third, the use of non-maximally invariant transposition results in an audible lack of smoothness, which is caused by the relatively high displacement in pitch-class space.¹³¹ Even the performance indications suggest a change in affect through the change from the genuine *gracieux, délicat* in m. 5 to deceitful *avec une fausse douceur* in m. 8. All of these elements suggest a negative association with non-maximally invariant transposition in Scriabin's late music, which would logically represent an antithetical lack of unity.

In summary, a deeper investigation into the concept of desire in Scriabin's philosophical influences gives a more nuanced understanding of its manifestation in his late music. Early studies only focused on the extinguishing of individual desire, which was certainly an important and common element in Scriabin's philosophical influences extending all the way from Solovyov through Ivanov. However, this singular focus on extinguishing desire was problematic

¹³¹ Carol Krumhansl, "The Cognition of Tonality: As We Know it Today," *Journal of New Music Research* 33, no. 3 (2004): 253-68.

because some of Scriabin's own comments and performance indications suggested that Scriabin's was attempting to instill desire in his music, rather than extinguish it.

This study gives greater clarity to this apparent conflict by revealing that Scriabin believed in two types of desire: the individual desire and the unifying desire. These two types of desire are deeply entwined, as the negation of individual desire is needed in order to achieve unification, whereas the break away from unity is caused by individual desire. Accordingly, Scriabin's music can be interpreted as conveying both the extinguishing of individual desire and the fulfillment of unifying desire. The extinguishing of individual desire is manifested through the repression of individual tendency tones through the use of transpositionally invariant collections, whereas the mutual inclusiveness engendered by maximally invariant transposition represents the desired unification between polarities in terms of pitch-class content. In short, Scriabin's music displays a negation of *Tonwille* in lieu of *Tonalitätswille*.

The most important element of this study is the reversal in the interpretation of maximally invariant transposition in Scriabin's late music. Previously, scholars believed that this technique contributed to Scriabin's extinguishing of desire, suggesting that all of Scriabin's late works expressed a form of self-negation. In doing so, they imply that Scriabin's late music should maintain a tranquil quality that corresponds with this lack of desire, which is clearly at odds with Scriabin's own performance practice. This study suggests an alternative understanding of maximally invariant transposition in Scriabin's music, in which the mutual inclusiveness created by maximally invariant transposition reflects the joyful desire of union between polarities. Accordingly, this interpretation suggests that performers are obliged to play emotionally in a way that emulates Scriabin's performance practice as one transformed at the piano and reflects his goal of revealing the bliss of unity through his late music.

Defining Scriabin's Polarity

Polarity is an especially significant concept in Scriabin scholarship because of Scriabin's specific use of the phrase in his theoretical comments on his music. The phrase was constantly—albeit enigmatically—used throughout Scriabin's late period and associated with his overarching “principle of unity,” as in the following quote by Sabaneev:

He spoke of a “new polarity”, which will replace the old “polarity of male and female” at the end of the *Mystery* ... His rhetoric was unclear and inconsistent, and this inconsistency is increased by the fact that he apparently could not bring himself to ever elaborate on it. He said, “Polarity will connect Unity with multiplicity.” ... When I decided to ask him about this “new polarity,” whose essence still remains very unclear, Scriabin refused to explain its details and substantiation, saying “It's impossible.”¹³²

So far, this study has not attempted to understand Scriabin's specific use of the word polarity (*poljarnost*). Instead, it has used a general understanding of polarity in his philosophical influences to associate the elements of mutual inclusiveness and unifying desire with his use of maximally invariant transposition.

However, many scholars have attempted to associate Scriabin's specific use of polarity with his harmonic practice. As with the previous quote, most of Scriabin's statements on polarity are too vague to draw any particular analytical conclusions.¹³³ Yet, one quote has frequently been isolated as the key to Scriabin's harmony:¹³⁴

In classical music ... there was a polarity between tonic and dominant, in which the dominant harmony gravitated toward the tonic... But in my *Prometheus* there is already a polarity is not between tonic and dominant but, rather, the polarity is of these sonorities located at the distance of a diminished fifth... It is completely analogous to the tonic-dominant succession and cadence in the classical system, only on a level higher.¹³⁵

¹³² Sabaneev, *Vospominaniya*, 125.

¹³³ The same is true of Igor Stravinsky's use of the term in *Poetics of Music*, trans. Arthur Knodel and Ingolf Dahl (Cambridge, MA: Harvard University Press, 1970), 48-49.

¹³⁴ Gawboy, “Alexander Scriabin's Theurgy in Blue,” 199; Ewell, “Scriabin and the Harmony of the 20th Century.”

¹³⁵ Sabaneev, *Vospominaniya*, 260.

Seizing on Scriabin's mention of the tritone, many scholars have attempted to distill Scriabin's late compositional theory to this singular interval. Dernova built her harmonic theory on Scriabin's late music based on the transpositional invariance of the tritone link.¹³⁶ However, Dernova had to incorporate intervallic progression other than the tritone, such as her enharmonic and linked progressions, in order to truly account for Scriabin's music.¹³⁷ Gawboy also states that the tritone functions as a critical transposition on both the local and global level.¹³⁸ Yet, many of her analyses of transpositional relationships in Scriabin's late music neglect intermediary transpositions by intervals other than the tritone. For example, Gawboy's analysis of Scriabin's Op. 65, No. 3 only recognizes the tritone transpositions of the mystic-chord collections, which are beamed together in the bass and identified by pitch-class integer notation as $7 \mapsto 1$, $9 \mapsto 3$, and $e \mapsto 5$ (Example 2-4). However, this only serves as a partial analysis of the section because it is missing the transformations between these tritone links. Accordingly, these missing transformations are simply maximally invariant transpositions of the mystic-chord collection by T_8 .

Therefore, connecting Scriabin's specific mention of polarity to tritone relationships exclusively is insufficient because his transpositional schemes feature a variety of different intervals of transpositions.¹³⁹ Thus, the question remains: why does Scriabin exclusively mention the tritone as the basis of polarity in his late works and how does it function on a "higher plane"?

¹³⁶ Dernova, "Garmoniia Skriabina."

¹³⁷ Chapter one, 29-32.

¹³⁸ Gawboy, "Alexander Scriabin's Theurgy in Blue," 138-145.

¹³⁹ Sabbagh, *The Development of Harmony in Scriabin's Works*.

Example 2-4: Gawboy's transpositional analysis of Scriabin's Op. 65, No. 3, mm. 1-8, including the additional T₈ transpositions

The musical score is presented in two systems. The first system (mm. 1-4) shows a sequence of chords with tritone transpositions labeled T₆, T₆, T₆, T₆, T₆, T₈!, T₆, and T₈!. The second system (mm. 5-8) shows a sequence of chords with tritone transpositions labeled T₆, T₆, T₆, T₆, T₆, and T₆. The score includes various musical notations such as triplets, slurs, and dynamic markings.

A more consistent understanding of Scriabin's use of polarity comes through his use of global tritone relationships between large sections of his music forms. Many scholars note that Scriabin's late music features large-scale tritone transpositions, as opposed to the common practice tonal procedure of relating sections by a perfect fifth.¹⁴⁰ This provides an alternative reading of Scriabin's statement on polarity. Instead of polarity reflecting a change in local tonic–dominant progressions to tritone progressions, Scriabin's statement could refer to a change in large-scale tonic–dominant relationships to large-scale tritone relationships. This understanding

¹⁴⁰ Gawboy, "Alexander Scriabin's *Theurgy in Blue*," 138-145; Robert Morgan, "Symmetrical Form and Common-Practice Tonality," *Music Theory Spectrum* 20, no. 1 (1998): 1-47.

correlates with the most common use of polarity in historical and contemporary music theory as the opposition of tonic and dominant keys in sonata forms.¹⁴¹ This essay attempts to change the understanding of Scriabin's specific quote on polarity from a local harmonic relationship to a large-scale formal relationship, while preserving the notion of polarity as maximally invariant transposition. This reconsideration of Scriabin's use of polarity is shown to consistently apply to the global T_6 relationships in Scriabin's late musical forms. In addition, a more general understanding of large-scale formal relationships as maximally invariant transpositions leads to a new perspective into the unusual key relationships in non-prototypical sonata forms in common practice music.

Whereas the term polarity is vaguely defined by Scriabin personally, the term had long been used by prior music theorists to describe key relationships in musical form. A. B. Marx states the highest polarity in sonata form is the modulation from tonic to dominant.¹⁴² The idea of polar key relations was further expanded by one of the most influential music theorists of Scriabin's time, Hugo Riemann.¹⁴³ Based on the oppositional theory of Hegelian dialectics, he suggested that polarity consisted of both the dominant and the subdominant, which reflects both of the maximally invariant transpositions of the diatonic collection.¹⁴⁴

In fact, the definition of polarity as contrasting formal key relationships remains one of the most common understandings of polarity in contemporary music theory. One of the first major writers to revive the concept of polarity in sonata form was Charles Rosen, who pitted the

¹⁴¹ Burnham, *Musical Form in the Age of Beethoven*, 195-96; James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata* (Oxford: Oxford University Press, 2006), 4; Leonard Ratner, *Classic Music: Expression, Form, and Style* (New York: Schirmer Books, 1985), 48-51.

¹⁴² Gawboy, "Alexander Scriabin's Theurgy in Blue," 116-17.

¹⁴³ Riemann's dualistic understanding of harmony was preceded by Moritz Hauptmann. Klumpenhouwer, "Dualist Tonal Space and Transformation in Nineteenth-Century Musical Thought," 456-74.

¹⁴⁴ William Caplin, *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven* (Oxford: Oxford University Press, 2000), 195-96.

early eighteenth-century design of unified solar relationships against the late eighteenth century design of oppositional polar relationships between tonic and dominant.¹⁴⁵ Following Rosen's writing, the use of polarity as tonic–dominant opposition was repeated and expanded in many major English texts on musical form.¹⁴⁶ Accordingly, polarity is often used to relate tonic and dominant keys in sonata form in recent Russian music theory. For example, Alfred Schnittke refers to the polarity of tonic and dominant keys in the sonata-allegro form in his collections of essays, *A Schnittke Reader*.¹⁴⁷

Some may question this exclusive focus on tonic–dominant polarity in tonal sonata form. There are many well-regarded theorists who also defined polarity between relative major and minor keys, and accordingly most minor-key sonatas lack any tonic-dominant polarity.¹⁴⁸ My reasons for isolating tonic–dominant polarity regarding Scriabin's conception of polarity are three-fold. First, Scriabin only mentions tonic-dominant polarity. Second, there are far more instances of tonic–dominant key relationships in sonata form than relative minor-major key relationships. Third, many theorists state that lack of pitch-class difference between other common key relationships, such as relative keys, diminishes any sense of polar opposition.¹⁴⁹

There are two consistent aspects of polarity in sonata form theory that can be extended to Scriabin's post-tonal music. First, polar key relationships in sonata form works are primarily maximally invariant transpositions. The diatonic collection is maximally invariant at a perfect fifth, which is the distance between tonic and dominant keys. In fact, both the dominant and subdominant keys are considered polar relationships to the tonic accordingly to Scriabin's

¹⁴⁵ Rosen, *Sonata Forms*, 69-73.

¹⁴⁶ Caplin, *Classical Form*, 195-96; Darcy, *Elements of Sonata Theory*, 4; Ratner, *Classic Music*, 48-51.

¹⁴⁷ This was supposed to be an inchoate version of a larger book on music theory and composition, and likely reflects a loose collection of his class lecture notes. Alfred Schnittke, *A Schnittke reader*, eds. A. Ivashkin and J. D. Goodliffe (Bloomington, IN: Indiana University Press, 2002), 126.

¹⁴⁸ Theodor W. Adorno, *Mahler: A Musical Physiognomy* trans. Edmund Jephcott (Chicago: University of Chicago Press, 1991), 26; Darcy, *Elements of Sonata Theory*, 117.

¹⁴⁹ Hepokoski and Darcy, *Elements of Sonata Theory*, 4; Caplin, *Classical Form*, 195-96.

contemporary, Riemann.¹⁵⁰ This maximally invariant relationship correlates with the previous understanding of polarity in the chapter as maintaining high mutual inclusiveness in terms of pitch-class content. Second, the main sections involved in polarity are the secondary tonal areas of the exposition and recapitulation. While theorists certainly state the contrast of keys in the exposition manifests polarity, the creation and resolution of this structural dissonance only occurs between the secondary tonal areas.¹⁵¹

The polar key relationships in prototypical sonata form correlate with the maximally invariant pcset relationships in many of Scriabin's late piano miniatures. In both cases, the beginnings of the first and second reprises are related by T_0 , whereas the endings of the reprises are separated by a maximally invariant transposition. In the typical common practice sonata form, the primary tonal areas of the exposition and recapitulation are both in the tonic, which are therefore related by T_0 . The secondary tonal areas of the exposition and recapitulation, however, are related by a perfect fifth, a maximally invariant transposition of the diatonic collection (Example 2-5).

Example 2-5: Analysis of key relationships between the corresponding tonal areas of exposition and recapitulation in a prototypical sonata form

Exposition:	PTA: I	STA: V
	Same	Maximally Invariant
Recapitulation:	PTA: I	STA: I

While Scriabin's miniatures are not in a sonata form, they are often in a binary form that features similar large-scale transpositional relationships between refrains. Like the classic sonata form, many of Scriabin's pieces begin with the same collection and become separated by a maximally invariant transposition. For example, Scriabin's Op. 69, No. 1 features formal sections that are

¹⁵⁰ Caplin, *Classical Form*, 195-96.

¹⁵¹ Rosen, *Sonata Forms*, 69-73.

initially related by T_0 , but later become separated by a tritone. As Example 2-6 shows, these two sections begin with the same progression of mystic-chord (6-34) and whole-tone (6-35) pcsets at T_0 , but later become separated in mm. 9 and 25 by the maximally invariant transposition of T_6 .

Example 2-6: Segmentation and pcset analysis of Scriabin's Op. 69, No. 1

First Reprise: mm. 1-9

Allegretto
p *tendre, délicat*

6-34 {A, B \flat , C, D, E, F \sharp } mm. 1-2

6-35 {G \flat , A \flat , B \flat , C, D, E} mm. 3-4

6-34 {C \sharp , D, E, F \sharp , G \sharp , A \sharp } mm. 5-6

6-35 {C, D, E, (F \sharp), G \sharp , A \sharp } mm. 7-8

6-34 {C \sharp , D, E, F \sharp , G \sharp , (A \sharp)} m. 9

Second Reprise: mm. 17-25

6-34 {A, B \flat , C, D, E, F \sharp } mm. 17-18

6-35 {G \flat , A \flat , B \flat , C, D, E} mm. 19-20

6-34 {C \sharp , D, E, F \sharp , G \sharp , A \sharp } mm. 21-22

6-34 {G, A \flat , B \flat , C, D, E} mm. 23-24

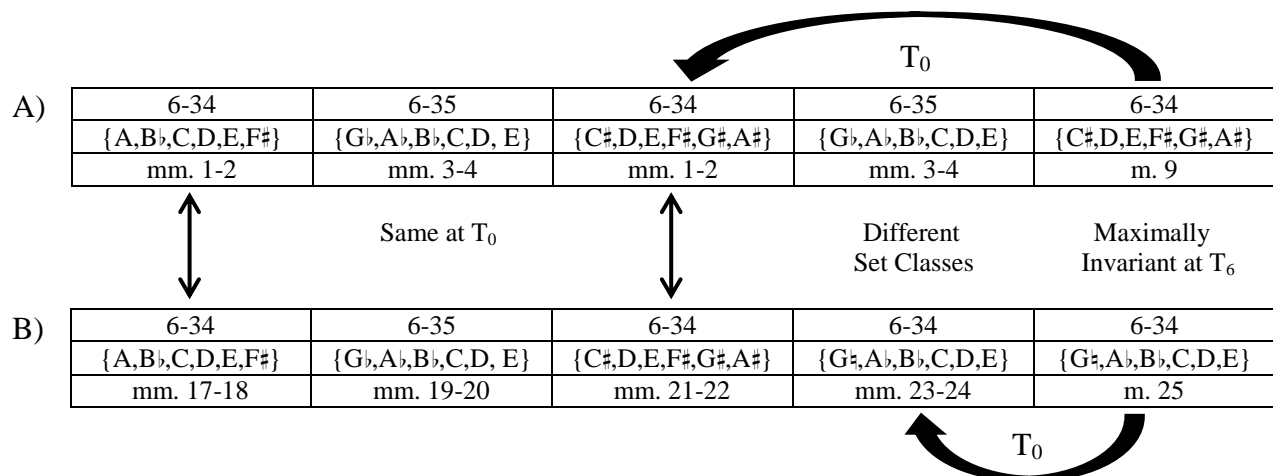
6-34 {G, A \flat , B \flat , C, D, (E)} m. 25

T_6

The impetus behind this tritone divide relates to the breakdown in pcset correspondence between the two halves of the form. The corresponding mystic chords in mm. 9 and 25 are each related by T_0 to the nearest mystic chords in their respective sections, shown by the arrows in Example 2-7. Accordingly, the mystic-chord in m. 9 is related by T_0 to the mystic chord two pcsets earlier in mm. 5-6, whereas the mystic in m. 25 is related by T_0 to the mystic chord one pcset earlier in mm. 23-24. The discrepancy between the former being related to two pcsets earlier and the latter being related to one pcset earlier relates to the breakdown in set-class correspondence in mm. 7-8 and 23-24. In the opening section, the collection in mm. 7-8 is a whole-tone scale, whereas the corresponding spot in the recap is a mystic-chord collection (mm. 23-24). This subtle change in pcset progression gives a different mystic-chord (6-34) collection for m. 25 to replicate to at T_0 in the second reprise.

Example 2-7: Analysis of transpositional relationships between the corresponding reprises of Scriabin's Op. 69, No. 1

- A) First Reprise: mm. 1-9
- B) Second Reprise: mm. 17-25



Another type of pcset polarity in Scriabin's piano miniatures is a tritone relationship the starts at the beginning of the second reprise, as opposed to the middle. For example, in Scriabin's Op. 69, No. 2 the first and second reprises feature the same progression of mystic-

chords (6-34) and octatonic-subset (6-Z49) collections (Examples 2-8 and 2-9). However, each of the corresponding collections is related at T_6 . This relationship by a tritone is exceptionally important because it is the only transposition that keeps both the mystic-chord and octatonic collections maximally invariant.¹⁵²

Example 2-8: Segmentation and pcset analysis of Scriabin's Op. 69, No. 2

First Reprise: mm. 0-5

Allegretto

6-Z49 {E, F, G, A \flat , B, C \sharp } mm. 0-2

6-Z49 {B \flat , C \flat , D \flat , E \flat , F, G} mm. 3-4

6-34 {A \flat , B \flat , C \flat , D \flat , E \flat , F} m. 5

Second Reprise: mm. 18-23

Tempo I

6-Z49 {B \flat , C \flat , D \flat , E \flat , F, G} mm. 18-20

6-Z49 {E, F, G, A \flat , B, C \sharp } mm. 21-22

6-34 {D, E \flat , F, G, A, B} mm. 23

Example 2-9: Analysis of transpositional relationships between the corresponding reprises of Scriabin's Op. 69, No. 1

- A) First Reprise: mm. 0-5
- B) Second Reprise: mm. 18-23

A)	6-Z49	6-Z49	6-34
	{E, F, G, A \flat , B, C \sharp }	{B \flat , C \flat , D \flat , E \flat , F, G}	{A \flat , B \flat , C \flat , D \flat , E \flat , F}
	mm. 0-2	mm. 3-4	m. 5
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> \updownarrow </div> <div>Maximally Invariant at T_6</div> <div style="text-align: center;"> \updownarrow </div> </div>			
B)	6-Z49	6-Z49	6-34
	{B \flat , C \flat , D \flat , E \flat , F, G}	{E, F, G, A \flat , B, C \sharp }	{D, E \flat , F, G, A, B}
	mm. 18-20	mm. 21-22	mm. 23

¹⁵² The mystic chord is maximally invariant at T_2 , T_4 , T_6 , T_8 , and T_{10} , whereas the octatonic subsets of 6-Z49 are maximally invariant at T_3 , T_6 , and T_9 . Thus, T_6 is the only transposition that maintains the polar property of high mutual inclusiveness between both collections.

The understanding of polarity as large-scale maximally invariant transpositions between two sections of musical form explains Scriabin's association of polarity with the tritone. The tritone is the only interval of transposition that keeps Scriabin's most common collections maximally invariant. Therefore, each corresponding mystic-chord, whole-tone, and octatonic collection is related by a maximally invariant transposition when two halves of the form are transposed by T_6 . Accordingly, Gawboy has created a chart that shows the prominence of global T_6 relationships in Scriabin's post-tonal works (Example 2-10).¹⁵³





Example 2-10: Gawboy's chart of T_6 relationships in Scriabin's late works

I	II	III	IV	V	VI
Opus/no.	Form	Large-scale T_6 ?	Tritone Bass Gestures?	Global PC Centricity ⁶¹	Tritone Duality ⁶²
59/1	AAB	No	Yes	E?	E/5
59/2	ABAB	Yes	Yes	0?	9/3, 6/0
61	Sonata	Yes	Yes	1	7/1
63/1	ABCA	No	Yes		3/9
63/2	ABAB	Limited	Limited	T?	
65/1	ABABAB	No	Yes		4/T
65/2	AA	Yes	Yes		7/1
65/3	AB[B/A]AB	No	Yes		7/1
67/1	A[B]A	No	Yes	0	6/0
67/2	A[B]A	No	Yes		
69/1	ABAB	Yes	Limited	0	6/0
69/2	ABABA	Yes	Yes	1	7/1
71/1	ABAB	Yes	Yes		9/3
71/2	ABAB	No	Yes	2	2/8
72	TC	No	Yes	4	4/T
73/1	ABAB	Yes	Yes		3/9
73/2	ABAB	Limited	Yes	5	5/E
74/1	ABA	Yes	Yes		0/6
74/2	ABA	No	No	6	
74/3	AA	Yes	Yes	6	0/6
74/4	ABA	No	No		
74/5	ABAB	Yes	Yes		9/3

¹⁵³ Gawboy, "Alexander Scriabin's Theurgy in Blue," 144.

The understanding of polarity as maximally invariant relationship between corresponding sections of musical form in Scriabin’s late music can be extended to give a new perspective on unusual key relationships in non-prototypical sonata forms in tonal music. For example, the first movement of Mozart’s Piano Sonata No. 16 in C Major, K. 545 features a maximally invariant relationship between both of the corresponding exposition and recapitulation sections because of the subdominant recapitulation. This deviation from typical sonata form results in a polar relationship throughout the exposition and recapitulation, in which both the primary and secondary tonal areas are related by a perfect fifth, a maximally invariant transposition of the diatonic collection (Example 2-11).

Example 2-11: Analysis of key relationships between the corresponding tonal areas of exposition and recapitulation in Mozart’s Piano Sonata No. 16 in C Major, K. 545, Mvt. I

Exposition:	PTA: I	STA: V
<div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;">   </div> <div>Maximally Invariant</div> <div style="text-align: center;">   </div> </div>		
Recapitulation:	PTA: IV	STA: I

Similarly, Beethoven’s unusual tonal plan for the opening movement of the “Waldstein” sonata features a polar relationship between the corresponding secondary and closing tonal areas. As in a typical sonata form, the primary tonal areas of the “Waldstein” are related by T_0 . However, both the secondary and closing tonal areas are related by the maximally invariant transposition of a perfect fifth (Example 2-12). In fact, the concept of sonata form maintaining polarity through large-scale maximally invariant relationships actually clarifies the necessity for the recapitulation’s unusual secondary tonal area of VI. Most theorists state that the exposition’s tonal plan is based on a simple arpeggiation of the tonic triad, in which each key is in the major

mode.¹⁵⁴ By contrast, the unusual I-VI-I plan of the recapitulation receives less attention, and is often explained as a balancing of the exposition’s third motion to the secondary theme.

However, this explanation does not explain why Beethoven would select the unusual VI over ♭VI, which is certainly a more common key relationship in the Romantic period that precisely balances the exposition’s major third ascent to the secondary tonal area. Polarity does clarify this relationship because VI is the only key that both balances the third motion of the exposition and maintains maximal invariance between the corresponding secondary tonal areas.¹⁵⁵

Example 2-12: Analysis of key relationships between the corresponding tonal areas of exposition and recapitulation in Beethoven’s Piano Sonata No. 21 “Waldstein” in C Major, Op. 53, Mvt. 1.

Exposition:	PTA: I	STA: III	CTA: V
	Same	↕	Maximally Invariant
Recapitulation:	PTA: IV	STA: VI	CTA: I

In conclusion, I have shown that Scriabin’s specific use of polarity as a tritone relationship is related to the sonata form’s key relationships through maximally invariant transposition. In previous studies, the understanding of polarity as a local harmonic relationship was inconsistent because many transpositions featured an interval other than a tritone. A survey of the term polarity in historical and contemporary music theory revealed that it is commonly applied to large-scale key relationships in sonata forms between the maximally invariant keys of tonic and dominant. This understanding of polarity as a formal relationship was then applied to Scriabin’s large-scale pcset relationships in his piano miniatures, which revealed maximally invariant relationships between corresponding sections of the form. The pervasive use of the tritone as an interval of transposition was considered both crucial and natural because it is the

¹⁵⁴ Examples include William Drabkin, “Mostly Mozart,” *The Musical Times* 148, no. 1901 (Winter, 2007): 89-100; Hepokoski and Darcy, *Elements of Sonata Theory*, 119-20; Leonard Ratner, “Key Defination, A Structural Issue in Beethoven’s Music,” *Journal of the American Musicological Society* 23, no. 3 (Autumn, 1970): 470-83.

¹⁵⁵ The other maximally invariant transposition of the exposition’s tonal area of III is VII, which does not balance the third motion of the exposition.

only transposition that keeps all of Scriabin's common collections maximally invariant. In addition, this understanding of polarity in Scriabin's late music provided a new perspective on unusual sonata form key relationships in tonal pieces, which were shown to keep corresponding sections of the sonata form maximally invariant.

Scriabin's Unifying Principle in his *Prometheus*

Certainly, the most researched element of Scriabin's "principle of unity" is the connection between sound and color.¹⁵⁶ The basic understanding of this phenomenon is the correlation of sound and color in his *Prometheus*, in which each color is correlated with a specific note along a circle of fifths. Further research has shown that both the colors and notes are organized as a series of closely related elements.¹⁵⁷ Each color on the circle is closely related because it proceeds along the color spectrum, whereas the notes on the circle of fifths are closely related because they represent closely related major keys.

However, this research only represents a partial understanding of Scriabin's "principle of unity." First, current research only reveals the unification of sound and color in Scriabin's work. However, Scriabin referred to the unification of sound, color, and geometry in his works, which stems from a larger connection of sound, color, and geometry in Theosophy.¹⁵⁸ Currently, there is no examination of the correlation of geometry with sound and color in Scriabin's works.

Second, the pervasive theory of maximally invariant transposition shown in his piano miniatures and sonatas has yet to be connected to his *Prometheus*. Although it is established that Scriabin's

¹⁵⁶ Christopher Dillon, "Scriabin's Synaesthesia and its Significance in *Prometheus*, *Poem of Fire*, Op. 60, and in Other Selected Late Works" (DMA thesis, Peabody Conservatory of Music, 2002), 225; Gawboy, "Alexander Scriabin's Theurgy in Blue," 160-200; Vanechkina, "On Scriabin's Colored Hearing;" Galeev, "Was Scriabin a Synesthete?" 357-61.

¹⁵⁷ Gawboy, "Alexander Scriabin's Theurgy in Blue," 207; Leonid Sabaneev, "The Relation Between Sound and Color," trans. S. W. Pring, *Music and Letters* 10, no. 3 (July 1929): 273; Sabbagh, *The Development of Harmony in Scriabin's Works*, 93.

¹⁵⁸ Blavatsky, *The Secret Doctrine*; passim; Sabaneev, *Vospominaniya*, 195-96; Schloezer, *Artist and Mystic*, 58.

circle of color-sound correspondences refers to closely related diatonic collections, the theory of maximally invariant transposition has yet to be connected to his mystic-chord based *Prometheus*.

This section serves to expand the understanding of the “principle of unity” in Scriabin’s works by correlating Scriabin’s maximally invariant musical structure with the concepts of color and geometry in his *Prometheus*. First, this essay reviews the correlation of closely related diatonic collections and colors according to Theosophical literature and Scriabin himself. Second, this essay expands the circular system of maximally invariant diatonic collections on Scriabin’s circle of color-sound associations to the maximally invariant progression of mystic-chord collections by major seconds given by the slow *luce* in his *Prometheus*. Third, the progression of the slow and fast *luce* are depicted within the circle of fifths to reveal significant geometric figures within Theosophy.

Before proceeding further, it is important to dismiss any fundamental misunderstandings about Scriabin’s color-sound relationships. One of the most common misconceptions is that Scriabin actually saw colors as he heard sound. Every major study on this concept has concluded that Scriabin only believed in these color correspondences, rather than truly experiencing synesthesia.¹⁵⁹ The basis for Scriabin’s color-sound correspondences was actually the Theosophical writings of Blavatsky, Anne Besant, and Charles Webster Leadbeater.¹⁶⁰ In *Occultism of the Secret Doctrine*, Blavatsky and Besant set out an explicit correlation between visual colors and the major scale. In this system, closely related colors correlated with adjacent members of the major scale. The major scale was an ideal system for Blavatsky because the

¹⁵⁹ James Baker, “*Prometheus* and the Quest for Color-Music: The World Premiere of Scriabin’s *Poem of Fire* with Lights, New York, March 20, 1915,” in *Music and Modern Art*, edited by James Leggio, (New York: Routledge, 2002), 73-78; Galeev “Was Scriabin a Synesthete?” Gawboy, “Alexander Scriabin’s Theurgy in Blue,” 173-175.

¹⁶⁰ Helena Blavatsky and Annie Besant, *Occultism of the Secret Doctrine* (Whitefish: Kessinger Publishing, 2004), 352-357; Annie Besant and Charles W. Leadbeater, *Thought-Forms* (London and Benares: Theosophical Publishing Society, 1905); Charles W. Leadbeater, *Man: Visible and Invisible* (Wheaton: Theosophical Publishing House, 1903).

seven notes of the scale correlated with her seven root races, as well as the general importance of seven in Theosophical literature. One of the most interesting aspects of this correspondence is that both the color and scalar progressions are cyclical. That is, just as the last member of the major scale wraps around to the beginning, so does the end of the color spectrum map onto its beginning. This cyclicity signifies the eternal recurrence under the Theosophical concept of *manvantara* (Example 2-13).¹⁶¹

Example 2-13: Blavatsky's scale-color correspondences

Do: Red Sound
 Re: Orange Sound
 Mi: Yellow Sound
 Fa: Green Sound
 Sol: Blue Sound
 La: Indigo Sound
 Si: Violet Sound

While Scriabin's color-sound correlations show a clear correspondence to Blavatsky's system, his system is based on keys and not scales. This fact is based on his interview with Myers, who reported, "Scriabin's chromaesthesia refers to the *tonality* of the music. As the tonality changes in a piece, so the colour changes. Scriabin explains that 'the colour *underlies* the tonality; it makes the tonality more evident.'"¹⁶² This view of colors as keys shows the influence of Rimsky-Korsakov, who already held a belief in color correspondences before Scriabin.¹⁶³

Naturally, Scriabin had to alter Blavatsky's scale-based model of color associations to fit his key-based model. One of the biggest issues in this adaptation was expanding a seven-based system of scale degrees and colors to a twelve-based system. In order to expand from seven

¹⁶¹ Blavatsky, *Occultism of the Secret Doctrine*, 534.

¹⁶² Gawboy, "Alexander Scriabin's Theurgy in Blue," 180.

¹⁶³ Scriabin discovered his color-sound associations upon meeting with Rimsky-Korsakov according to Sergei Rachmaninoff in *Recollections Told to Oskar von Riesemann* (Macmillan Press: London, 1934).

notes to twelve keys, Scriabin clearly borrows from the theoretical construct of the circle of fifths. Accordingly, Scriabin's system relates twelve different tonalities on a system of perfect fifths. In fact, Sabaneev infers that Scriabin merely replicates the circle of fifths based on his mention of close relationships between collections:

The same fate may overtake associations intentionally evoked by the construction of some preconceived theory. To such I would refer Skryabin's idea of tone-vision, the more so as I know that originally he recognised [sic.] clearly no more than three colours—red, yellow, and blue, corresponding to C, D, and F sharp respectively. The others he deduced rationally, as it were, starting from the assumption that related keys correspond to related colours; that in the realm of colour the closest relationship coincides with proximity in the spectrum; and that as regards tonalities it is connected with the circle of fifths.¹⁶⁴

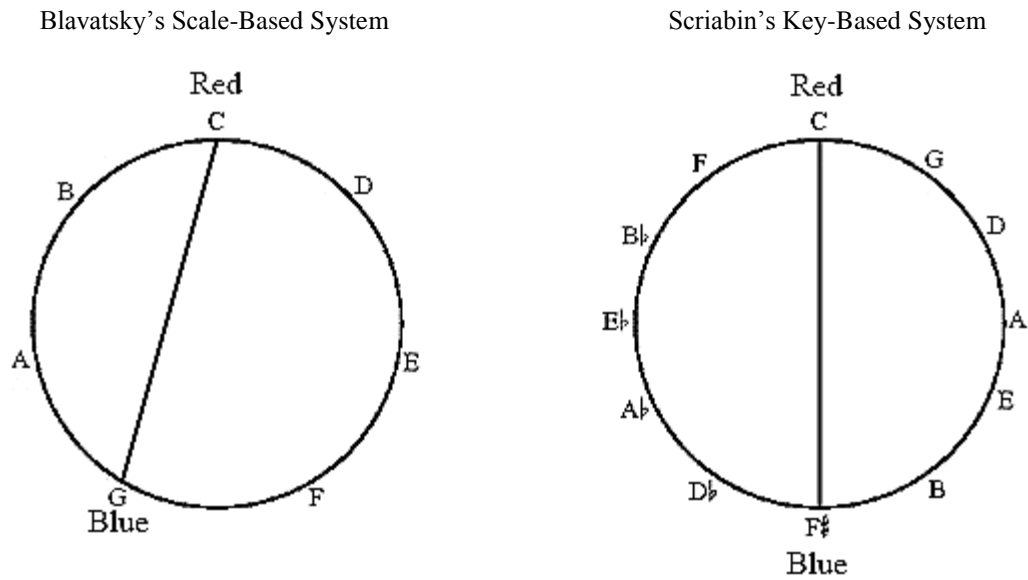
Note that the tonality he refers to must be the diatonic collection, since the diatonic collection is the most well-known collection at the time that is closely related at a perfect fifth.

While there is a logical method for assigning twelve different keys a different color, Scriabin's color relationships are complicated by the constraints of Theosophical writings, which asymmetrically render the progression of colors. According to Sabaneev, the first three colors Scriabin assigned were red (C), yellow (D), and blue (F#). The assignment of red and blue to opposite sides of the circle of fifths directly relates to theosophical doctrine of material-spiritual polarity. Accordingly, red represents the pure state of materialism, whereas blue represents the polar state of spiritualism.¹⁶⁵ In Blavatsky's scalar-based system, red and blue are set to Do and Sol—which are approximately on polar ends of the musical scale—and connected by closely related colors for each scale step (Example 2-14). In Scriabin's system, red and blue are set on diametrically opposite ends of the circle and connected by closely related colors for each closely related key.

¹⁶⁴ Sabaneev, "The Relation between Sound and Colour," 273.

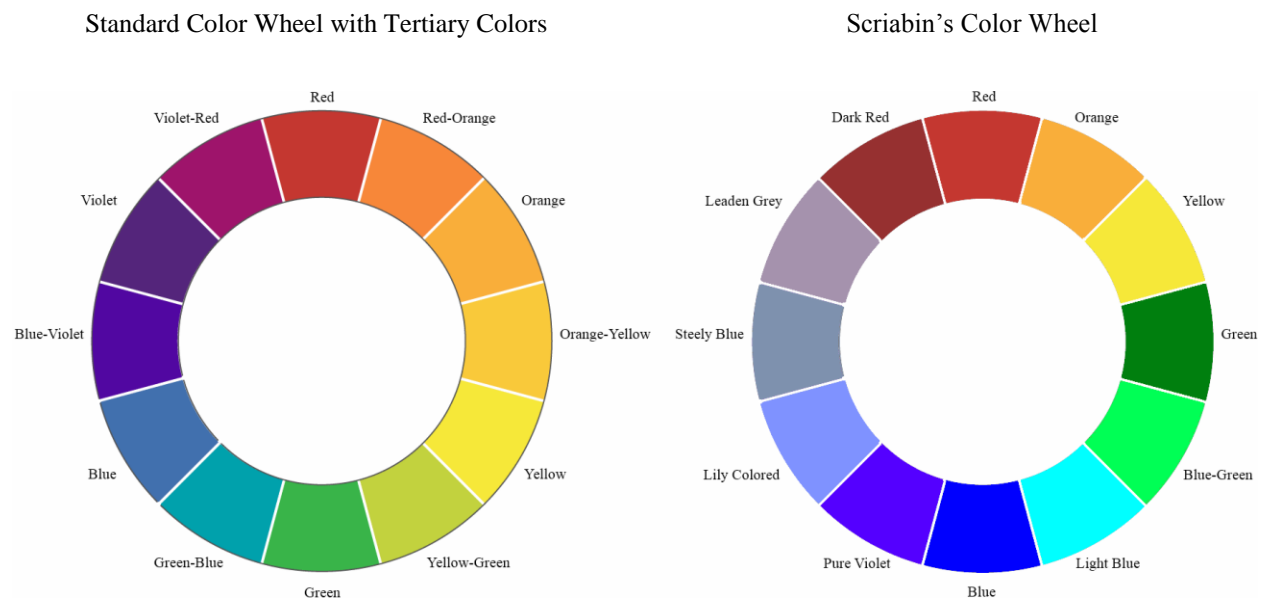
¹⁶⁵ Besant and Leadbeater, *Thought-Forms*, 9-10; Leadbeater, *Man Visible and Invisible*.

Example 2-14: Comparison of Blavatsky and Scriabin's sound-color associations



Yet, the polarity of red and blue in Theosophical literature conflicts with the concept of polarity in art because it is red and green—not red and blue—that are clear polarities on the color spectrum. Had Scriabin used red and green as the polar colors, he could have devised a logical twelve-based segmentation of the six primary and secondary colors, as shown in Example 2-15.

Example 2-15: Comparison of the standard division of the color wheel and Scriabin's division of the color wheel



Conversely, the theosophical belief in red-blue polarity makes a twelve-based segmentation of the color wheel difficult because the division of the colors is asymmetrical. In Scriabin's system, the progression from red to blue includes the colors of red, orange, yellow, green, and blue, whereas the progression of blue to red only includes blue, purple, and red.¹⁶⁶ This lack of balance between the two sides explains why Scriabin adds the color grey, which gives an additional color to the blue to red half. In addition, this asymmetry and compression of the colors suggests why Scriabin's color associations changed slightly over the course of time. Gawboy provides the following list of different color-sound correspondences given by Scriabin and his friends from 1911 through 1929 that show the fluctuation in Scriabin's assignment of colors (Example 216).¹⁶⁷ What remains consistent in his associations are the assignment of red and blue as C and F#, while what changes are the shades of colors in between red and blue. However, the chart does show that Scriabin did attempt to maintain the closely related progression of colors across the color spectrum from a red to purple, using grey to bridge the gap between purple and red.

The steady progression of closely related colors and keys from spiritualism (blue) to materialism (red) is also reflected in the philosophical associations of each intermediary color to the incremental processes of involution and evolution.¹⁶⁸ In his book *Man Visible and Invisible*, Charles Leadbeater gives a precise list of each color's characteristic association according to Theosophical doctrine.¹⁶⁹

¹⁶⁶ Vanechkina, "On Scriabin's Colored Hearing," 33.

¹⁶⁷ Gawboy, "Alexander Scriabin's Theurgy in Blue," 185.

¹⁶⁸ In this case, involution refers to devolution as opposed to a transformation that is its own inverse.

¹⁶⁹ His work shows a close correspondence to the work of Anne Besant and Blavatsky. His earlier work on color correspondences, *Thought-forms*, was in collaboration with Besant. Accordingly, Besant's earlier work on color associations, *Occultism of the Secret Doctrine*, was in collaboration with Blavatsky.

Example 2-16: Gawboy's comparison of the color-sound correspondences attributed to Scriabin

"Tonality"	"SYNAESTHESIC" SOURCES		PROMETHEAN COLORS		
	Myers (1914)	Sabaneev (1929)	Sabaneev (1911)	Parisian Score (1913)	Millar, Chromola (1915)
C	Red	Red	Red	Plain red	Red
G	Orange Yellow Green Blue Violet	Orange	Orange-pink	Orange (red-yellow), fiery	Orange
D		Yellow	Yellow	Sunny yellow	Yellow
A		Green	Green	Grass green	Green
E		Azure	Glittering dark blue	Dark blue-greenish (light blue)	Pearl white
B		Whitish-blue	[Similar to E]	Dark blue with light blueness (light blue)	Purple Blue
F#/G♭	"Extra-spectral," either "ultra-violet" or "infra-red"	Saturated Blue/Glittering blue	Dark blue, bright	Deep dark blue with a shade of violet	Blue
C#/D♭		Dark brownish metallic violet	Violet	Pure violet	[?]/Violet
G#/A♭		Indefinite metallic purple-violet	Magenta-violet	Lily colored (reddish)	Purple
D#/E♭		Dark metallic steel blue	Steely, with a metallic shine	Steely blue, metallic	Steel/Pale Blue
B♭		Dark metallic bluish-grey	[Similar to E♭]	Metallic leaden grey	Violet/Steel
F	"on the verge of red," with "a metallic lustre"	Red	Dark red	Dark red	Deep red

As the following chart shows, the colors closest to blue reflect higher spiritual traits such as selflessness, sympathy, and devotion, whereas the colors closest to red reflect lower characteristics such as selfishness, desire, depression (Example 2-17). Accordingly, the involutionary progression from blue to red reflects a degenerative movement from traditionally desirable characteristics to undesirable characteristics. Conversely, the progression from red back to blue represents the process of evolution by moving from the colors of selfish desire to the colors of devotion, sympathy, and compassion.

Example 2-17: Comparison of color and sound to their meaning in Theosophical literature¹⁷⁰

Key	Color	Theosophical Association ¹⁷¹	
F# Major	Deep dark blue	Dark, clear blue usually betokens deep religious feeling.	Involution ↓
C# Major	Pure violet	Violet implies the possibility of man's response to the presentment of a high ideal.	
A♭ Major	Lily colored	This rose-color is exceptionally brilliant and tinged with lilac, it proclaims the more spiritual love for humanity.	Evolution ↓
E♭ Major	Steely blue	The devotion denoted by the grey-blue must be a fetish-worship ... prompted by considerations of self-interest.	
B♭ Major	Leaden grey	Heavy leaden grey expresses deep depression, and ... is sometimes indescribably gloomy and saddening.	
F Major	Dark Red	Muddy crimson on our left points to a commencement of affection which must as yet be principally selfish also.	
C Major	Plain red	Deep-red flashes, usually on a black ground, show anger.	
G Major	Orange	Orange color is always significant of pride or ambition.	
D Major	Yellow	Yellow is a very good color, implying always the possession of intellectuality.	
A Major	Green	Most of green's manifestations indicate a kind of adaptability... good and sympathetic.	
E Major	Dark blue-green	Pale, luminous blue-green ... shows some of the grandest qualities of human nature, the deepest sympathy and compassion.	
B Major	Light Blue	Light blue marks devotion to a noble spiritual ideal.	
F# Major	Deep dark blue	Dark, clear blue usually betokens deep religious feeling.	

These processes of involution and evolution precisely reflect Scriabin's own plot for

Prometheus:

You see, I got over the whole poem two lines of light. One corresponds to the music, harmony, and because is often the bass harmony. The other matches whole-tone scale that goes by whole tones from F-sharp until it returns back to it ... This second [line of light] corresponds to the involution and evolution of species. First, spirituality—the color blue, then it passes through to the opposite color red—the color of materiality, and then it comes back to blue.¹⁷²

While it is clear that Scriabin's circle of color-sound correspondences are built on diatonic collections that are closely related at a perfect fifth, no scholar has related this diatonic maximally invariant system of color-sound correspondences to Scriabin's harmonic progressions

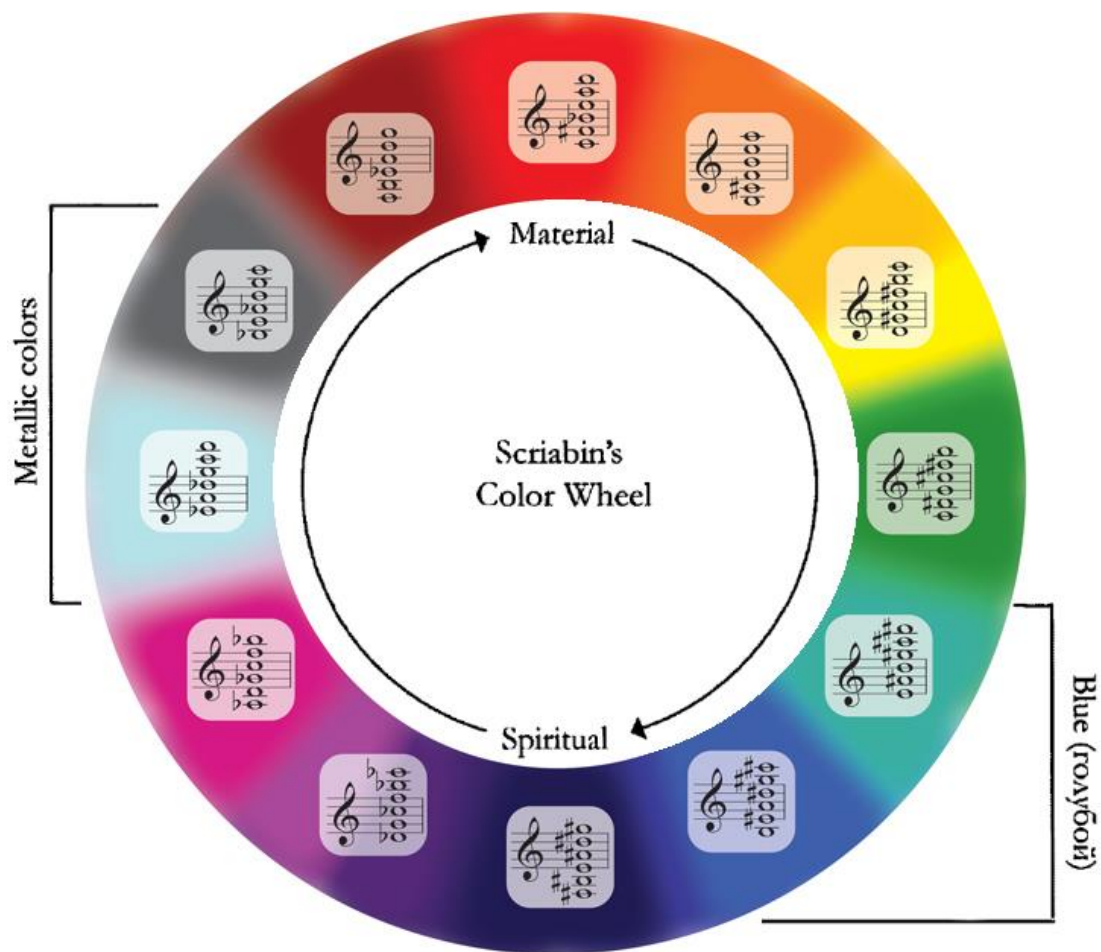
¹⁷⁰ The colors are attributed to Scriabin's Parisian score of *Prometheus* (1913), whereas the meaning of each color is drawn directly from Leadbeater, *Man Visible and Invisible*.

¹⁷¹ Leadbeater, *Man Visible and Invisible*.

¹⁷² Sabaneev, *Vospominaniya*, 261.

in *Prometheus*. Previously, scholars took Scriabin's perfect-fifth system of color associations as a literal explanation of his harmonic plan for the *Prometheus*.¹⁷³ Accordingly, they state that the harmonic system for *Prometheus* is not based on maximal invariance because the background collection of the mystic chord is not maximally invariant at a perfect fifth.¹⁷⁴ Instead, they show how the relative sharp and flat content of his mystic chords correlate to the philosophical notions of materialism and spiritualism (Example 2-18). The mystic chords with flat orthography are correlated with dark, material collections such as red, whereas the mystic chords with sharp orthography are correlated with bright, spiritual collections.

Example 2-18: Gawboy's comparison of spiritual and material keys to the sharp and flat orthography of Scriabin's mystic chords



¹⁷³Gawboy, "Alexander Scriabin's Theurgy in Blue," 189-91.

¹⁷⁴Ibid., 191-92.

Although the use of sharp and flat orthography is certainly significant, Scriabin's specific harmonic progression for *Prometheus* does show a long-term use of maximally invariant mystic-chord collections. While Scriabin's underlying concept of color-sound associations is built on perfect fifths, his specific background harmonic plan for *Prometheus* is the whole-tone progression given by the slow *luce*. This distinction between his underlying theory of perfect fifth relationships and the specific use of whole-tone progressions in *Prometheus* is given by Scriabin himself in his conversation with Sabaneev:

“Why then do these colors of yours not follow the circle of fifths?” I asked him...

He said, “See, I must reflect Racial evolution in this light melody. The Races must indeed be *seven* in all. When I follow the circle of fifths, I obtain twelve colors. Which of them corresponds to the spiritual Racial types? I selected the whole-tone scale from F# to F#, which places the material color of red here, right in the middle, between the two spiritual colors [of blue], just as it ought. With that, I solve an algebraic problem, so to speak. It is necessary, to find a *closed* system, which goes from a spiritual color to the same color, circling around to the material color in the middle and comprising seven parts in total. The whole-tone scale is just such a system.”¹⁷⁵

I suggest that Scriabin is, in fact, solving two algebraic problems in using the whole-tone scale. First, the seven-note octave progression by whole tones results in a seven-fold division of the work that cycles back to the beginning, which correlates with the seven-stage *manvantara* of the root races.¹⁷⁶ Second, the whole-tone progression keeps the all-important mystic chords maximally invariant, which correlates with the mutual inclusiveness principle of polarity.

Many scholars have shown the unification of geometry and music in Scriabin's *Prometheus* by depicting the progression of the fast and slow *luce* as shapes within a background

¹⁷⁵ Gawboy, “Alexander Scriabin's Theurgy in Blue,” 221; Sabaneev, *Vospominaniya*, 262.

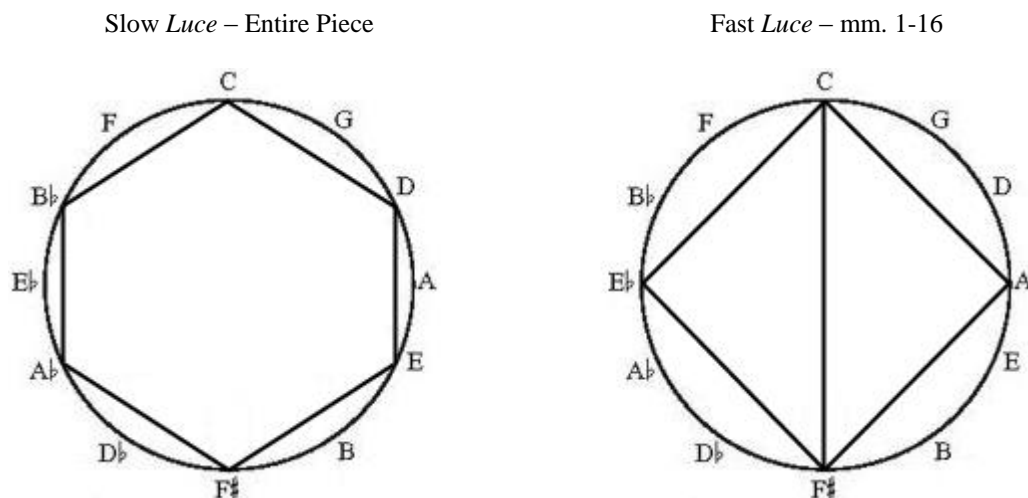
¹⁷⁶ The careful reader may note that Scriabin's whole-tone system does not precisely match his attempt to correspond with seven different root races. While the whole-tone scale gives seven sections, there are only six different mystic chords. In this respect, Blavatsky's scale-based system is superior because the seven notes of the diatonic scale correlate with the seven root races. In fact, this fallacy shown by Sabaneev to Scriabin, who insists on the whole-tone scale because of its cyclic return. Sabaneev, *Vospominaniya*, 263.

circular system of perfect fifth relationships. According to Boris de Schloezer, this attempt to represent Scriabin's music geometrically follows Scriabin's own method:

Scriabin's metaphysical constructions were not only logical, but also graphical; he drew them out, using ruler and compass, with great diligence and accuracy. He endeavored to represent in lines and geometric figures the interrelations he intuitively perceived between the world and the individual, between God and reality, in art, religion, and science.¹⁷⁷

Peter Sabbagh uses a series of triangles and diamonds within adjoining circles to show maximally even divisions of the octave by the fast *luce*.¹⁷⁸ Gawboy expands on this idea by explicitly using Scriabin's circle of color-sound correspondences to map the motions of the slow and fast *luce* to the notes within the circle.¹⁷⁹ Accordingly, these motions create geometric figures in both *luce* parts. The progression of the fast *luce* in mm. 1-16 creates a bisected diamond figure, whereas the entire progression of the slow *luce* creates a regular hexagon (Example 2-19).

Example 2-19: Two geometric representations of the *luce* part in Scriabin's *Prometheus*



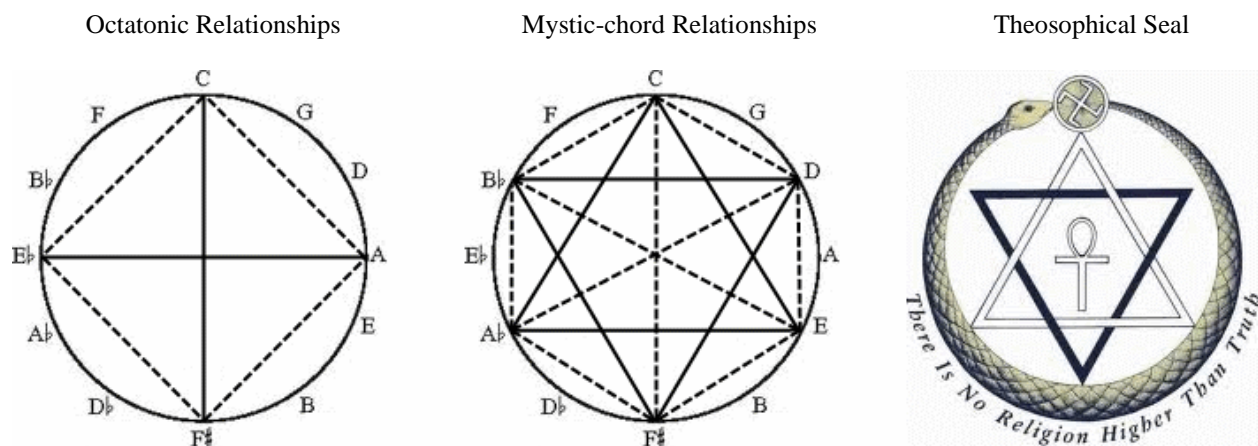
¹⁷⁷ Schloezer, *Artist and Mystic*, 58.

¹⁷⁸ Sabbagh, *The Development of Harmony in Scriabin's Works*.

¹⁷⁹ Gawboy, "Alexander Scriabin's Theurgy in Blue," 211-326.

The unity of all the background mystic chords through maximally invariant transposition leads to the revelation of even further geometries. While the whole-tone progression of the slow *luce* links adjacent maximally invariant mystic chords, it also unifies all of the maximally invariant mystic chords together. That is, all the mystic chords given by the slow *luce* are related through maximally invariant transposition because the mystic chord is maximally invariant at T_2 , T_4 , T_6 , T_8 , and T_{10} . Just as the adjacent mystic-chord collections of the slow *luce* created the geometric figure of a hexagon, the remaining maximally invariant relationships between all the mystic chord collections of the slow *luce* creates the geometric figure of a six-sided star (Example 2-20).

Example 2-20: Geometric representation of the maximally invariant relationships between octatonic and mystic-chords collections and their similarity to the images in the Theosophical Seal



Accordingly, this concept extends to the maximally invariant relationships of the octatonic collection by T_3 , T_6 , and T_9 , which create two significant geometric figures. The outer geometric figure created by the maximally invariant transpositions of the octatonic collection is the diamond, whereas the inner figure is the cross.

Many of these geometric figures have a clear relationship to Scriabin's *Prometheus* through the Theosophical Seal. The symbol of the Theosophy Society was a well-known figure

in Russia during Scriabin's time and appeared in many Russian Theosophical journals, such as *Teosofskaya zhizn* (Example 2-21).¹⁸⁰

Example 2-21: Image of the Theosophical Seal in the 1908 volume of the Russian journal *Teosofskaya zhizn*

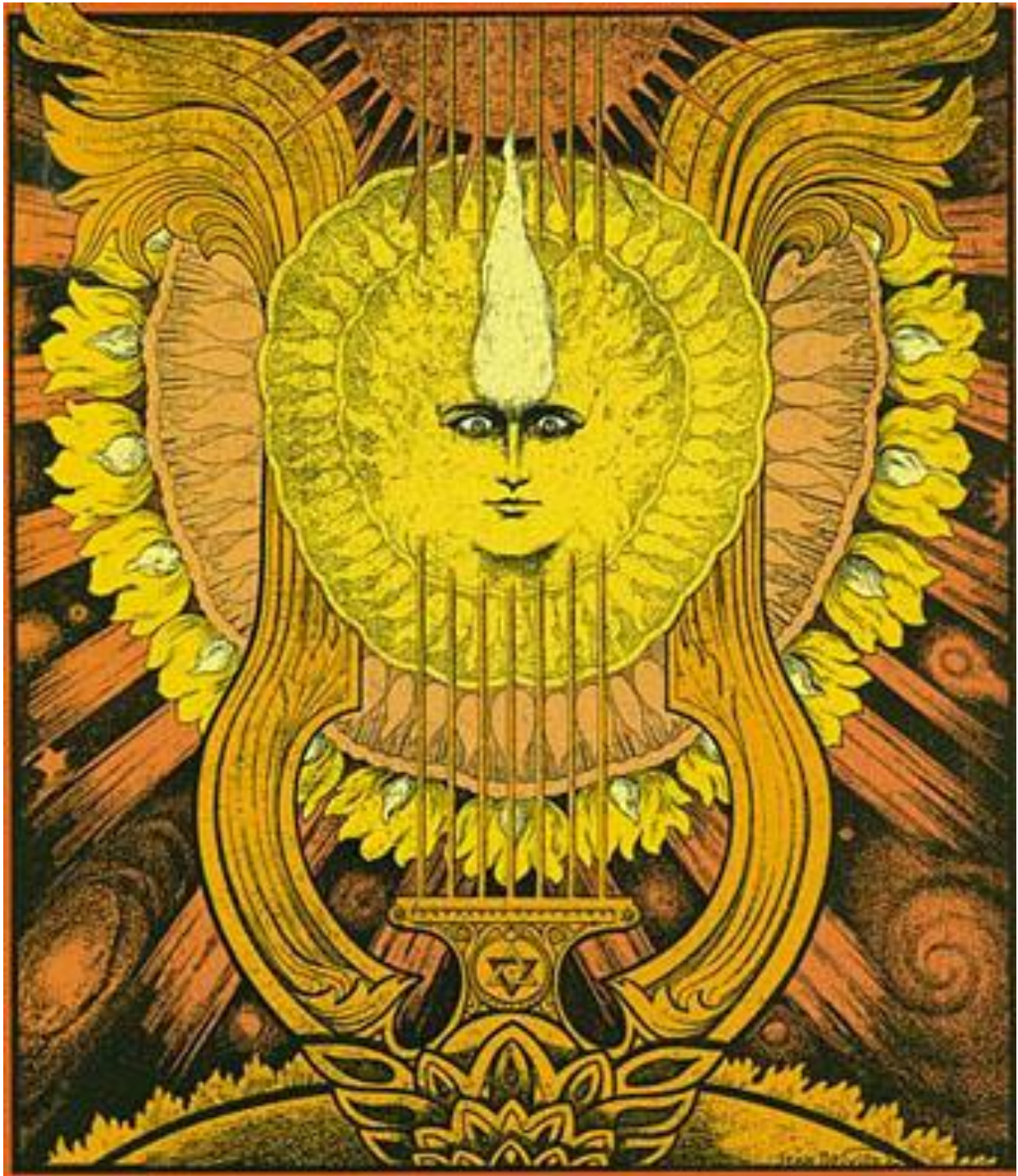


Accordingly, Scriabin likely ensured the symbol was on the cover of his Theosophy inspired *Prometheus*. Sabaneev recalls that Scriabin labored over the design of the cover, and finally decided to commission the cover from the Theosophist painter, Jean Delville (Example 2-22). Scriabin knew many of the symbols well and described the significance of them to Sabaneev in detail.¹⁸¹

¹⁸⁰ Carlson, *No Religion Higher Than Truth*, 11-13.

¹⁸¹ Sabaneev, *Vospominaniya*, 78.

Example 2-22: Cover of 1912 publication of Scriabin's *Prometheus* by Jean Delville



The Theosophical Seal symbols features three significant geometric figures that relate to the diatonic collection's circle of fifths, the mystic-chord collection's six-sided star, and the

octatonic collection's cross (see Example 2-20). The first is the circular figure of Ouroboros, the mythological serpent that swallows its own tail. This figure represents the theosophical concept of *manvantara*, the eternal recurrence of all life. The six-sided star represents two different figures. The first is the interlacing triangles. The upwards-facing white triangle represents the evolutionary process of moving from the material to the spiritual, whereas the downwards-facing black triangle represents the involutionary process moving from spirituality to the material. Accordingly, these symbols are reflected in *Prometheus* by the evolutionary motions from materialism (red) to spiritualism (blue) and the involutionary motions back to materialism, whereas the juxtaposition of black-white and up-down conveys the concept of polarity. Together, they create the second geometric figure of the Star of David, which shows the unity of Theosophy to other religions, i.e. Judaism. The final figure of the cross is also considered a representation of polarity. The vertical line represents the connection of the spiritual Father down to humanity, whereas the horizontal represents the connection of all humanity to the Father through the Mother.¹⁸² Although the Theosophical Seal commonly uses an ankh instead of a cross, the two were used interchangeable and were interpreted in similar ways.¹⁸³

While the connection of maximally invariant transposition to closely related color progressions, the philosophical processes of involution and evolution, and the geometric figures of the Theosophical Seal can never be proven, it is important to note that this attempt to show unity precisely follows Scriabin's philosophical thought. Scriabin believed that music, color, philosophy, and geometry were all inexorably linked. Because of his belief that all truth was

¹⁸² This belief is still alive in many Catholic faiths, which view the Mother Mary as the connection to the almighty Father.

¹⁸³ Arthur M. Coon, *The Theosophical Seal: A Study for the Student and the Non-Student* (Adyar, India: The Theosophical Publishing House, 1958), 67.

based on his consciousness, he considered this relationship as fact, which would inevitably be proven through his rationalization.

Of his completed works, *Prometheus* is Scriabin's most emphatic attempt to demonstrate his principle of unity through music. In fact, Scriabin specifically refers to three different types of unification in this work: color, sound, and geometry. This study provides a sustained effort to take what is known about his thoughts on philosophy, music, art, and geometry and show a way they unite. The most important idea was the unification of the theory of maximally invariant transposition to Scriabin's closely related color and sound progressions in *Prometheus*. Just as Scriabin's circle of fifths connects diatonic collections by the maximally invariant transposition of perfect fifths, so does *Prometheus*'s hexagonal slow *luce* connect the mystic-chord collections by the maximally invariant transposition of a major second. In doing so, both the circle of fifths and the hexagon of major seconds represent a progression of closely related collections that follow along a series of closely related colors. By extension, the maximally invariant progressions of the octatonic collection create their own geometrical figures of the cross and diamond. While it is impossible to prove that Scriabin held these specific unifying relationships, perhaps it is best to keep this final thought in mind: If Scriabin did not know of these specific connections between color, philosophy, music, and geometry, he would be excited to discover a rationalization that so precisely represented his principle of unity and his Theosophical faith.

Summary

This chapter began with the difficult problem of identifying Scriabin's philosophical beliefs during his post-tonal period. Previously, scholars had attempted to define Scriabin's beliefs by identifying a singular philosopher who was considered closest to Scriabin and relate that philosopher's writings to Scriabin's music. One of the best candidates for this method was

Ivanov, who was undoubtedly a significant influence on Scriabin in his late period and served as a nexus of Scriabin's other philosophical influences. However, identifying Scriabin's beliefs through a singular philosopher was shown to be problematic for two reasons. First, Scriabin was known for reading lightly and broadly and adapting these writings to his preconceived beliefs. Second, Scriabin's philosophical influences changed over the course of his late compositional career, ensuring that no single philosopher could be related to his entire musical output.

In order to better understand Scriabin's personal philosophical beliefs, his varied philosophical influences were compared to find areas of agreement. The benefits of this approach were two-fold. First, the identification of common ideas through Scriabin's philosophical influences leads to the most probable account of Scriabin's long-held beliefs throughout his compositional career. Second, the investigation of Scriabin's philosophical beliefs through multiple viewpoints provides a greater context and better understanding of these ideas, as opposed to the isolated understanding of a single philosophy by an individual philosopher. This broad study of Scriabin's philosophical influences revealed three common areas of agreement between the philosophers. One, all life began with an initial unity that was broken into separate elements through individual desire, which desired to return back to their initial unity. Two, the belief in polarity in which polar entities are ultimately unified by their mutual reliance on each other for existence. Three, all elements of life are intimately related because they stem from a singular source.

After these three underlying beliefs were identified, each belief was used to clarify an element of Scriabin's late compositional practice. The first essay revealed a complementary understanding of desire in Scriabin's late music as the negation of individual desire through the suppression of tendency tones and the creation of unifying desire through maximally invariant

transposition and parallel voice leading. The second essay clarified Scriabin's specific use of polarity as the large-scale maximally invariant relationship between the first two reprises in Scriabin's late piano miniatures by T_6 . The final essay revealed that the closely related progressions of colors and keys on the circle of fifths created geometric images that correlated with significant signs in the Theosophical Seal located on the cover of Scriabin's *Prometheus*.

The first two essays are exceptionally significant because they suggest a reconsideration of previously long-held beliefs about Scriabin's compositional and performance practice. Previously, scholars suggested that Scriabin's invariant practice suggested an extinguishing of desire. However, this only considered one element of Scriabin's understanding of desire and contradicts Scriabin's documented emotional and eccentric performances. The understanding of desire as the attainment of unifying desire through the negation individual desire suggests that Scriabin's use of maximally invariant transposition actually represents the joy of unification through mutual pitch-class content. The other belief deserving reconsideration is the idea that Scriabin's compositional system is based purely on the tritone. This focus on the tritone stems from Scriabin's statement that his new polarity is based on sonorities related by a diminished fifth. However, any system based on the transpositional invariance of the tritone is problematic because Scriabin's uses a variety of transpositions other than the tritone. Instead, I suggest that Scriabin's specific use of the term polarity refers to large-scale formal relationships, which conforms to the consistent appearance of large-scale T_6 relationships in his later works and the most common historic use of polarity in music from the Classical period to current theoretical scholarship.

Finally, this chapter suggests a deep relationship between Scriabin's common philosophical beliefs and his use of maximally invariant transposition covered in chapter one.

The importance of mutual inclusiveness engendered by maximally invariant transposition to the philosophical idea of polarity is reflected on both a local and global level. On a local level, maximally invariant transformations were shown to reflect unifying desire in Scriabin's harmonic progressions through mutually inclusively pitch-class content. On a global level, unification through maximally invariant transposition was related to the T_6 relationships in Scriabin's piano miniatures and the large-scale T_2 relationships of the slow *luce*'s mystic chords in his *Prometheus*. The entwined understanding of maximally invariant transposition and unifying desire will be shown to be crucial in tackling the most critical problem revealed in chapter one: relating members of different set classes.

CHAPTER THREE

A THEORY OF TRANSPOSITIONAL WILLS

Defining Transpositional Will

As shown in the first chapter, the greatest issue facing a complete analysis of Scriabin's works is providing a method of relating non-parsimonious pcsets involving different set classes. This chapter intends to achieve a more comprehensive system of analysis for Scriabin's late works by extending previous theories on crisp transpositional relationships to fuzzy transpositional relationships. As with maximally invariant transposition and parsimonious voice leading, the use of fuzzy transposition shows a deep correspondence to the voice leading on the musical surface, while maintaining the low offset and span desired by Straus's theory.¹ In addition, fuzzy transposition effectively synthesizes the previous transformational theories on Scriabin's late works by acting as a combined parsimonious voice leading and maximally invariant transposition operation. Therefore, the incorporation of fuzzy transposition actually unites the previous theories on Scriabin's late music, rather than adding yet another system of analysis.

This theory elaborates further on the philosophical concept of unifying desire through maximally invariant transposition to suggest an oppositional system of transpositional wills between different set class members. Previously, the concept of transpositional will was related to each collection's proclivity to transpose by intervals that produce maximal pitch-class invariance. By extension, members of different set classes feature different maximally invariant transpositions, which correlate to opposing transpositional wills. I introduce a system that shows how the intervals of fuzzy transposition relate to the competing transpositional wills of different set classes.

¹ Joseph N. Straus, "Uniformity, Balance, and Smoothness in Atonal Voice Leading," *Music Theory Spectrum* 25, no. 2 (Autumn, 2003): 305-52.

This system of analysis is then applied to three of Scriabin's late piano miniatures to provide a series of comprehensive and hermeneutic analyses of his Op. 69, No. 2; Op. 63, No. 2; and Op. 67, No. 2. The transpositional structure of these small pieces reflects the opposition of transpositional wills between the main collections of the work on both a local and global level. In Op. 69, No. 2, the opposing wills of the octatonic and mystic-chord collections compete on a local level, while the entire transpositional structure of the piece is ultimately unified by the maximally invariant transpositions of the mystic-chord collection. In Op. 63, No. 2, the piece is dominated by octatonic collections and transpositions on a local level, while featuring a contrast of octatonic and whole-tone affiliated transpositions in the global transpositional structure. In Op. 67, No. 2, the piece features a mixture of octatonic, whole-tone, and diatonic collections that correlate with the opposition of octatonic, whole-tone, and diatonic maximally invariant transpositions in the transpositional structure. This consistent correlation between pcset structure and the transpositional structure suggests a new series of oppositional and unifying relationships in Scriabin's late music that can be realized by both the performer and listener.

As previously shown, the analysis of Scriabin's late music requires the addition of new voice-leading operations because the current theories of maximally invariant transposition and parsimonious voice leading are insufficient in relating members of different set classes. Straus's fuzzy transposition serves as a logical extension because of its close affiliation with crisp transposition, which has previously been effective in analyzing some areas of Scriabin's post-tonal music. One passage that reveals the benefits of fuzzy transposition is the beginning of Scriabin's Op. 63, No. 1. This passage begins with four different collections that alternate between mystic chords (6-34) and octatonic subsets (6-Z49). The two outer transformations from 6-34 \rightarrow 6-Z49 are analyzed precisely through Callender's parsimonious transformation of

P^1 . In each case, the transformation between each pcset results from a parsimonious motion on the musical surface, $D4 \mapsto D\flat4$ and $F4 \mapsto F\flat4$ respectively (Example 3-1).²

Example 3-1: Parsimonious motion (P^1) in Scriabin's Op. 63, No. 1, mm. 1-3

avec une douceur cachée

Set Class:	6-34	6-Z49	6-34	6-Z49
Pcset:	[9,10,0,2,4,6]	[9,10,0,1,4,6]	[0,1,3,5,7,9]	[0,1,3,4,7,9]

However, the transformation between these two segmentations from 6-Z49 \rightarrow 6-34 is not parsimonious according to Callender's own theory. The first issue is that the transformation is not parsimonious on the musical surface. A total of four notes (shown in boxes) have no parsimonious connection to a member of the other pcset in pitch space (Example 3-2A). In addition, a parsimonious analysis of this passage in pitch-class space would require multiple split and parsimonious operations, which far exceeds the P^1 given for a 6-34 \rightarrow 6-Z49 transformation in Callender's chart (Example 3-3).³

Conversely, this example is ideally suited for fuzzy transposition, which precisely conveys the voice leading on the musical surface while maintaining minimal offset.⁴ As Example 3-2B shows, the musical surface primarily ascends by minor third, or by $*T_3$ in Straus's

² In particular, the augmented unison motion underscores this parsimonious transformation, whereas a minor second motion might otherwise suggest an incomplete neighbor tone.

³ Clifton Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," *Journal of Music Theory* 35, no. 2 (1991): 221.

⁴ Straus, "Uniformity, Balance, and Smoothness in Atonal Voice Leading," 305-52.

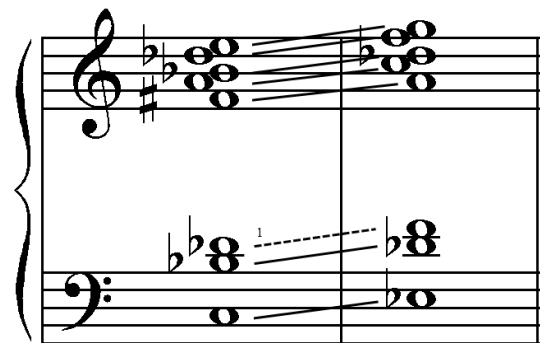
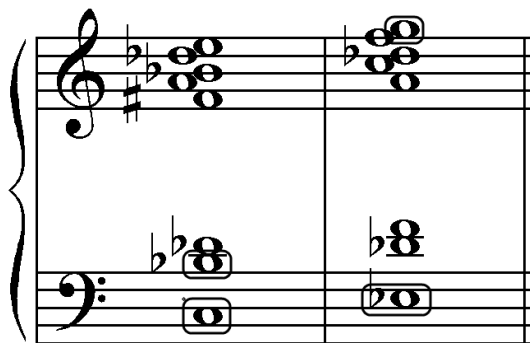
terms.⁵ The one individual pitch-class mapping that is not at a minor third is the major-third motion from $D\flat_4 \mapsto F_4$, which yields an offset of 1, the lowest possible offset between two fuzzy related pcsets.

Example 3-2: Harmonic reductions of Scriabin's Op. 69, No. 1, mm. 1-3

A) Parsimonious analysis

B) Fuzzy transposition with offset of 1

Pitch Space

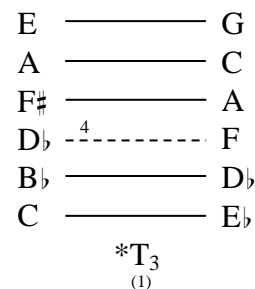
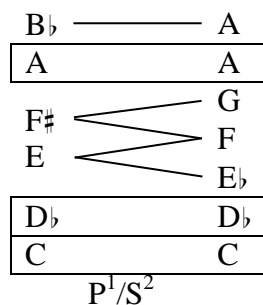


$*T_3$
(1)

Set Class: 6-Z49 6-34
Pcset: [9,10,0,1,4,6] [0,1,3,5,7,9]

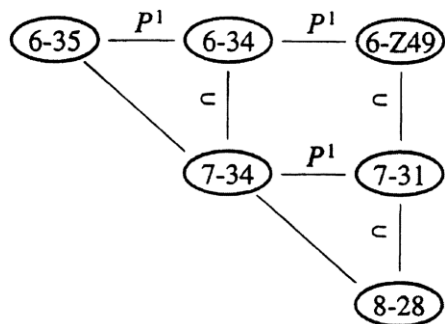
6-Z49 6-34
[9,10,0,1,4,6] [0,1,3,5,7,9]

Pitch-Class Space



⁵ Joseph N. Straus, "Voice Leading in Atonal Music," in *Music Theory in Concept and Practice*, eds. James M. Baker, David W. Beach, and Jonathan W. Bernard (Rochester: University of Rochester Press, 1997), 237-74.

Example 3-3: Callender's chart of parsimonious set class relationships



Another excerpt that requires fuzzy transposition is the opening of Scriabin's Op. 69, No. 1. This passage begins with mystic-chord and whole-tone collections that are segmented evenly every two measures. Theoretically, the passage should be analyzed easily through parsimonious voice leading because the pitch-class space voice leading only requires a semitone motion from pc 9 \mapsto pc 8.⁶ However, the voice leading on the musical surface does not reflect this parsimonious voice leading. The closest voice leading between pc 9 and pc 8 requires more than an octave leap from the A3 in mm 1-2 to the A \flat 2 in mm. 3-4 (shown with an arrow in Example 3-4). In addition, the closest voice leading from pc 0 to pc 0 also requires an octave leap from the C3 in mm. 1-2 to the C4 in mm. 3-4.

Example 3-4: Non-parsimonious analysis of Scriabin's Op. 69, No. 1, mm. 1-4

Set Class: 6-34 6-35
Pcset: [9,10,0,2,4,6] [0,2,4,6,8,10]

⁶ Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," 221.

Example 3-5: Transpositional analysis of Scriabin's Op. 69, No. 1, mm. 1-4

Allegretto

p *tendre, délicat*

Set Class: 6-34 *T₈₍₁₎ 6-35
 Pcset: [9,10,0,2,4,6] (1) [0,2,4,6,8,10]

It is important to note that not every fuzzy transposition in Scriabin's work features this precise correspondence between pitch-class mapping and the voice leading on the musical surface. However, the voice leading on the surface generally follows two principles. First, every crisp pitch-class mapping maintains the same orthography and moves the same direction in pitch space, as with maximally invariant transposition. Second, every fuzzy pitch-class mapping is prepared by common tone in pitch space. These rules apply to the previous passage in Scriabin's Op. 69, No. 1. Every crisp voice mapping moves by a descending major third in pitch space, whereas the one fuzzy pitch-class mapping to the E4 in mm. 3-4 is prepared by the E4 in

mm. 1-2. These rules also apply to the opening of Scriabin's Op. 67, No. 1. Each crisp pitch-class mapping moves by an ascending minor third, including the unusual progression of E \flat 4 and E \flat 4 to G \flat 4 and G \flat 4 (Example 3-6). While the two fuzzy pitch-class mappings to E \sharp 3 and B \flat 3 do not correlate to the musical surface, they are each prepared by a common tone in pitch space by the previous pcset.

Example 3-6: Transpositional analysis of Scriabin's Op. 67, No. 1, m. 1

The musical score shows the first measure of Scriabin's Op. 67, No. 1, in 5/8 time. It features a treble and bass staff with a key signature of two flats. A bracket labeled "Common Tone Preparation" spans the first two measures, highlighting the transition from the first to the second measure. Below the score is a transpositional analysis diagram. It shows two sets of pitch classes: Set 1 (A \flat , E, E \flat , B \flat , F \sharp , C) and Set 2 (G, G \flat , D \flat , B \flat , F \flat , A, E \flat). Solid lines connect A \flat to G, E to G \flat , E \flat to D \flat , B \flat to B \flat , F \sharp to F \flat , and C to A. Dashed lines connect A \flat to F \flat (labeled 2) and C to E \flat (labeled 4). Below the diagram is the notation $*T_3(2)$. At the bottom, the Set Class is given as 6-34 and the Pcset as [3,4,6,8,10,0]. The second Set Class is given as 7-31 and the second Pcset as [1,3,4,6,7,9,10].

Set Class: 6-34 7-31
Pcset: [3,4,6,8,10,0] [1,3,4,6,7,9,10]

A special property of fuzzy transposition is that it functions as a synthesis of the preexisting methods of analysis in Scriabin's music: parsimonious voice leading and maximally invariant transposition. Accordingly, fuzzy transposition can be broken down into a compound crisp and parsimonious transformation. For example, the $*T_3$ in the opening of Scriabin's Op. 63, No. 1, mm. 0-3 can be broken down into a combined crisp T_3 and P^1 operation (Example 3-7).

Example 3-7: Comparison of fuzzy transposition to a compound parsimonious and maximally invariant transposition in Scriabin's Op. 63, No. 1, mm. 0-3

- A) Fuzzy Transposition
- B) Breakdown into maximally invariant transposition and parsimonious voice leading

avec une douceur cachée

A)

E5	_____	G5
A4	_____	C5
F#4	_____	A4
D♭4	⁴ -----	F4
B♭3	_____	D♭4
C3	_____	E♭3

Set Class: 6-Z49 *T₃ 6-34
Pcset: [9,10,0,1,4,6] (1) [0,1,3,5,7,9]

B)

E5	_____	G5	G5
A4	_____	C5	C5
F#4	_____	A4	A4
D♭4	_____	F♭4	F4
B♭3	_____	D♭4	D♭4
C3	_____	E♭3	E♭3

Set Class: 6-Z49 T₃ 6-Z49 P¹ 6-34
Pcset: [9,10,0,1,4,6] [0,1,3,4,7,9] [0,1,3,5,7,9]

In fact, the three operations of parsimonious voice leading, maximally invariant transposition, and fuzzy transposition are all united through their correlation to common practice key relationships. The three most common key relationships in tonal music are parallel keys, closely related keys of the same modality, and closely related keys of different modality. Accordingly, the voice leading between these three tonal key relationships correlate with parsimonious voice leading, crisp transposition, and fuzzy transposition (Example 3-8).

Example 3-8: Comparison of common practice key relationships to parsimonious voice leading, crisp transposition, and fuzzy transposition

Parallel Major-Minor Keys/ Parsimonious Voice Leading			Closely Related Major Keys/ Crisp Transposition			Closely Related Major-Minor Keys/ Fuzzy Transposition		
B	—————	B \flat	B	—————	F \sharp	B	$\overset{3}{- - - - -}$	D
A	—————	A \flat	A	—————	E	A	$\overset{3}{- - - - -}$	C
G	—————	G	G	—————	D	G	—————	B
F	—————	F	F	—————	C	F	—————	A
E	—————	E \flat	E	—————	B	E	$\overset{3}{- - - - -}$	G
D	—————	D	D	—————	A	D	—————	F \sharp
C	—————	C	C	—————	G	C	—————	E
C Major	P ³	C Minor	C Major	T ₇	G Major	C Major	*T ₄ (3)	E Minor

Parallel keys are connected by common tones and pitch classes separated by a semitone; closely related major keys are connected by crisp voice leading; and closely related major-minor keys are connected by fuzzy voice leading. The connection of these voice-leading transformations to tonal key relationships is significant because Scriabin viewed his harmonic changes in his post-tonal period as key changes.⁸

One problematic element in combining parsimonious voice leading with crisp and fuzzy transposition is that Callender and Straus use different voice-leading diagrams. In order to incorporate these three transformations of into a singular theory on Scriabin's music, it is important to display them within the same theoretical framework. This merger is achieved by transforming Callender's parsimonious voice leading into a *T₀ operation, which allows all three operations to be displayed through Straus's atonal voice leading diagram. This change does not actually alter parsimonious analysis because both systems require high pitch-class invariance with minimal displacement. For example, analyses of Scriabin's Op. 74, No. 5, m. 1 through both Callender's parsimonious voice leading and Straus's fuzzy voice leading at *T₀ convey the same voice-leading motion (Example 3-9). Both diagrams show the voice leading between

⁸ Chapter one, 11-12.

acoustic (7-34) and mystic-chord (6-34) collections through three parsimonious pitch-class mappings.

Example 3-9: A comparison of Callender’s parsimonious voice leading and Straus’s fuzzy transposition in Scriabin’s Op. 74, No. 5, m. 1

Callender’s Parsimonious Voice Leading

E♭	E♭
D♭	D♭
C	B♭
B♭	B♭
A	A
G	G
F	F

Fuse/P¹

Straus’s Atonal Voice Leading at *T₀

E♭	—————	E♭
D♭	1 ————	D♭
C	1 ————	B♭
B♭	1 ————	B♭
A	—————	A
G	—————	G
F	—————	F

*T₀
(3)

In addition, the change from Callender’s system to Straus’s *T₀ is beneficial because it allows for a more flexible system of parsimonious relationships. Consequently, some clearly parsimonious relationships in Scriabin’s music cannot be analyzed through Callender’s system because his inter-cardinality operations require symmetrical resolutions.⁹ One example is the ending of Scriabin’s Op. 74, No. 5, which features a clear parsimonious relationship between the pcsets of 6-Z49 {C,D♭,E♭,F♭,G,A} and 7-31 {C,D♭,E♭,F♭,G,A, B♭}. These two pcsets share six common tones that feature the same orthography and registral placement. However, Callender’s

⁹ Callender shows that octatonic subsets are in a subset-superset relationship, but he does not show how the two are parsimoniously related. “Voice-Leading Parsimony in the Music of Alexander Scriabin,” 221.

system cannot show the parsimonious voice leading between these two parsimonious pcsets because his only method of increasing cardinality, the split operation, requires that one pitch class splits in two directions by semitone. Consequently, one cannot get to the additional note of B \flat by splitting A \sharp without also moving to A \flat , which is not in the latter pcset. However, a $*T_0$ operation can maintain A \sharp while moving to B \flat with minimal offset, which precisely reflects the motion of A \sharp 5 to B \flat 5 in the actual music (Example 3-10).

Example 3-10: Transpositional analysis of Scriabin's Op. 74, No. 5, mm. 13-14

C6	_____	C6
A5	$\overset{1}{\text{-----}}$	B \flat 5
G5	_____	A5
F \flat 5	_____	G4
D \flat 5	_____	F \flat 5
E \flat 2	_____	D \flat 5
		E \flat 2

$*T_0$
(1)

Set Class:	6-Z49	7-31
Pcset:	[0,1,3,4,7,9]	[7,9,10,0,1,3,4]

While fuzzy transposition is clearly an important tool in analyzing Scriabin's music, it is not immediately apparent how it can be used to convey significant transpositional relationships. My theory suggests extending the concept of maximally invariant transposition in crisp pcset relationships to establish significant transpositional relationships in fuzzy transposition. In the

previous chapter, it was stated that each collection has a number of transpositional wills based on its maximally invariant transpositions. The fulfillment or denial of this will was represented by the correspondences of each collection's maximally invariant transpositions to the interval of transposition. Accordingly, the different set classes involved in fuzzy transposition have different maximally invariant transpositions, which suggests an oppositional relationship of transpositional wills between members of different set classes.

I have developed a system that shows the relationship between the maximally invariant transpositions of a collection and the interval of transposition. In this system, the set class and normal form of each collection is listed from left to right following their chronological placement in the music (Examples 3-11 to 3-14). Under each collection, the corresponding array of maximally invariant transpositions (henceforth *mit-array*) is given in angle brackets, which signifies each collection's transpositional will.¹⁰ In between the two collections, the interval of transposition is given. Finally, an arrow is used to show when the interval of transposition correlates with a member of either collection's mit-array, which represents a fulfillment of the collection's transpositional will.¹¹

In crisp transposition, there are two possible relationships between the interval of transposition and maximally invariant transpositions of the underlying collections because both pcsets inevitably feature the same mit-array.¹² The first is when the interval of transposition matches a member in both mit-arrays, which is referred to as mutual transposition. In this case, the arrow points in both directions (\longleftrightarrow) to show the interval of transposition's relationship

¹⁰ As shown in chapter one, any collection's maximally invariant transpositions are given by its ic-vector following Allen Forte, *The Structure of Atonal Music* (New Haven: Yale University Press, 1973), 28-37.

¹¹ I use a bold arrow to distinguish it from a normal arrow, which typically designates the direction of the operation. Instead of explicitly designating the direction of the operation, I assume the domain and range for each transposition proceeds from left to right in accordance with their chronology in the piece.

¹² Crisply related pcsets are—by definition—members of the same set class, featuring the same ic-vector and, thus, the same maximally invariant transpositions.

to both of the surrounding mit-arrays. The second is when the interval of transposition does not match a member in either mit-array, which is referred to as an unaffiliated transposition. In this case, an (X) is used to show that the interval of transposition does not match either of the surrounding pcsets' mit-arrays.

Example 3-11: Straus voice-leading analysis of Scriabin's Op. 63, No. 2, mm. 5-8

The diagram below the score illustrates the voice-leading analysis. It shows two 6-Z49 pitch-class sets and their transpositions:

D \flat 5	_____	F \flat 5	_____	E6
C5	_____	E \flat 5	_____	F5
A4	_____	C5	_____	C \sharp 5
F \sharp 4	_____	A4	_____	D5
E4	_____	G4	_____	G \sharp 4
B \flat 3	_____	D \flat 4	_____	A \sharp 2

Below the sets, the transpositions are indicated:

6-Z49	T_3	6-Z49	T_1	6-Z49
[A, B \flat , C, D \flat , E, F \sharp]		[C, D \flat , E \flat , F \flat , G, A]		[C \sharp , D, E, F, G \sharp , A \sharp]
<3,6,9>	\longleftrightarrow	<3,6,9>	X	<3,6,9>

An example of each is found in Scriabin's Op. 63, No. 2, mm. 5-8. The first transposition is a mutual transposition because the interval of transposition (T_3) matches an index (3) in each 6-Z49's mit-array: <3,6,9>. The second transposition is an unaffiliated transposition because the interval of transposition (T_1) is not contained in either 6-Z49's mit-array. Note how the arrows speak to the aural relationship of the two collections. The mutual transposition (\longleftrightarrow) sounds unified in terms of pitch-class similarity, whereas the unaffiliated transposition (X) sounds unconnected through high pitch-class displacement.

This system reveals a greater number of relationships in fuzzy transposition because of the different maximally invariant transpositions of the different set classes. Accordingly, two

different set-class members have three possible relationships between each collection's mit-array and the interval of transposition:

Name	Definition	Arrow
Exclusive	The interval of transposition matches only one of the pcsets' mit-arrays	← or →
Mutual	The interval of transposition matches both of the pcsets' mit-arrays	↔
Unaffiliated	The interval of transposition matches neither of the pcsets' mit-arrays	X

An example of each type of relationship between a mystic chord (6-34) and an octatonic subset (6-Z49) is given below (Example 3-12):

Example 3-12: Examples of mutual, exclusive, and unaffiliated transposition involving pcs 6-34 and 6-Z49

Exclusive					
6-34 [0,1,3,5,7,9] <2,4,6,8,10>	$\ast T_4^{(1)}$ ←	6-Z49 [4,5,7,8,11, 1] <3,6,9>	6-34 [0,1,3,5,7,9] <2,4,6,8,10>	$\ast T_3^{(1)}$ →	6-Z49 [3,4,6,7,10,0] <3,6,9>
Mutual			Unaffiliated		
6-34 [0,1,3,5,7,9] <2,4,6,8,10>	$\ast T_6^{(1)}$ ↔	6-Z49 [6,7,9,10,1,3] <3,6,9>	6-34 [0,1,3,5,7,9] <2,4,6,8,10>	$\ast T_5^{(1)}$ X	6-Z49 [5,6,8,9,0,2] <3,6,9>

As with crisply related collections, my research finds that fuzzy transpositions in Scriabin's music tend to match at least one of the two surrounding pcsets' mit-arrays, as with mutual or exclusive transposition. Conversely, it is uncommon that the interval of transposition matches neither collection, as with an unaffiliated transposition. Thus, this theory establishes a general relationship between a piece's transpositional structure and its underlying pcset structure: the interval of transposition is related to the maximally invariant transpositions of the underlying collections. By extension, this theory also suggests that the transformational structure is related to the construction of the pcset itself because a pcset's maximally invariant transpositions are based on its interval-class content, i.e. ic-vector.

Examples of exclusive and mutual transposition can be found throughout Scriabin's late music. For example, the opening of Scriabin's Op. 63, No. 1 is an instance of exclusive

transposition to the octatonic subset 6-Z49 (Example 3-13). As the arrow clearly shows, the interval of transposition ($*T_3$) corresponds the mit-array of the octatonic subset of 6-Z49 $\langle 3,6,9 \rangle$ and not the mit-array of the mystic chord $\langle 2,4,6,8,10 \rangle$.

Example 3-13: Exclusive transposition in Scriabin's Op. 63, No. 1, mm. 1-3

F # 5	—————	D 5
D 5	—————	B \flat 4
A 4	5.....	E 4
E 4	—————	C 4
B \flat 3	—————	G \flat 3
C 3	—————	A \flat 2

Set Class:	6-Z49	$*T_3$ (1)	6-34
Pcset:	[9,10,0,1,4,6]		[0,1,3,5,7,9]
Mit-array:	$\langle 3,6,9 \rangle$	←	$\langle 2,4,6,8,10 \rangle$

An example of a mutual transposition occurs at the beginning of Scriabin's Op. 69, No. 1 (Example 3-14). The two pcsets involved are the mystic-chord and the whole-tone collections, which have the same mit-array of $\langle 2,4,6,8,10 \rangle$. The interval of transposition in this passage is $*T_8$, which correlates with the descending major-third motion found between many of the voices, most noticeably the C3 to A \flat 2 in the bass voice. Accordingly, $*T_8$ is a maximally invariant transposition for both the mystic-chord and whole-tone collections.

Example 3-14: Mutual transposition in Scriabin's Op. 69, No. 1, mm. 1-4

Set Class:	6-34	$*T_8$	6-35
Pcset:	[9,10,0,2,4,6]	(1)	[0,2,4,6,8,10]
Mit-array:	<2,4,6,8,10>	↔	<2,4,6,8,10>

On one hand, mutual and exclusive transposition point to a close relationship between fuzzy transposition and the maximally invariant transposition of the underlying collections. On the other hand, it is important to note that this relationship is distinctly different from the other two transformations—parsimonious voice leading and maximally invariant transposition—because it does not require minimal displacement between pcsets. Accordingly, some of the previous example could not be related if they had to maintain maximal pitch-class invariance. For example, in Op. 63, No. 1 the transformation by $*T_3$ from the octatonic subset 6-Z49 [9,10,0,1,4,6] to the mystic chord 6-34 [0,1,3,5,7,9] is not smoothest relationship between these two set class members, and only maintains three invariant pitch classes with a total displacement of 5 (Example 3-15).¹³ By comparison, a transformation by $*T_6$ from the octatonic subset 6-Z49 [9,10,0,1,4,6] to the mystic chord [3,4,6,8,10,0] yields a considerably smoother transformation with four invariant pitch classes with a total displacement of 3.¹⁴

¹³ David Lewin, "Some Ideas about Voice-Leading between PCSets," *Journal of Music Theory* 42, no. 1 (1998): 15-72; John Roeder, "A Theory of Voice Leading for Atonal Music," (Ph.D. diss., Yale University, 1984); Straus, "Uniformity, Balance, and Smoothness in Atonal Voice Leading," 305-52.

¹⁴ For further study of maximally smooth progressions involving different set class, see Dmitri Tymoczko, "Scale Theory, Serial Theory and Voice Leading," *Music Analysis* 27, no. 1 (2008) 1-50.

Example 3-15: Comparison of displacement from 6-Z49 and 6-34 by $*T_3$ and $*T_6$

<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> <p>E ————— G</p> <p>A ————— C</p> <p>F# ————— A</p> <p>D - - - - - F</p> <p>Bb ————— Db</p> <p>C ————— Eb</p> <p style="margin-top: 10px;">$*T_3$ (1)</p> <p>6-Z49 6-34</p> <p>[9,10,0,1,4,6] [0,1,3,5,7,9]</p> <p>Invariant Pitch Classes: 0,1,9</p> <p>Displacement = 5</p> </div> <div style="text-align: center;"> <p>E ————— Bb</p> <p>A ————— Eb</p> <p>F# ————— C</p> <p>Db - - - - - Ab</p> <p>Bb ————— Fb</p> <p>C ————— Gb</p> <p style="margin-top: 10px;">$*T_6$ (1)</p> <p>6-Z49 6-34</p> <p>[9,10,0,1,4,6] [3,4,6,8,10,0]</p> <p>Invariant Pitch Classes: 0,4,6,10</p> <p>Displacement = 3</p> </div> </div>	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> <p>E ————— G</p> <p>A ————— C</p> <p>F# ————— A</p> <p>D - - - - - F</p> <p>Bb ————— Db</p> <p>C ————— Eb</p> <p style="margin-top: 10px;">$*T_3$ (1)</p> <p>6-Z49 6-34</p> <p>[9,10,0,1,4,6] [0,1,3,5,7,9]</p> <p>Invariant Pitch Classes: 0,1,9</p> <p>Displacement = 5</p> </div> <div style="text-align: center;"> <p>E ————— Bb</p> <p>A ————— Eb</p> <p>F# ————— C</p> <p>Db - - - - - Ab</p> <p>Bb ————— Fb</p> <p>C ————— Gb</p> <p style="margin-top: 10px;">$*T_6$ (1)</p> <p>6-Z49 6-34</p> <p>[9,10,0,1,4,6] [3,4,6,8,10,0]</p> <p>Invariant Pitch Classes: 0,4,6,10</p> <p>Displacement = 3</p> </div> </div>
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Instead, the relationship between each collection's maximally invariant transpositions and fuzzy transposition is best understood through the Scriabin's philosophical concepts of polarity and transpositional will. As discussed in chapter two, maximally invariant transposition was correlated with unifying desire because it created the highest union between pcsets in terms of pitch-class content.¹⁵ This philosophical connection between maximally invariant transposition and desire can be extended to the relationships of mutual, exclusive, and unaffiliated transposition. Mutual transposition reflects the unifying desire, in which the transpositional wills of the underlying collections agree with the interval of transposition. Unaffiliated transposition reflects the rejection of unifying desire, in which neither of the transpositional wills of the underlying collections is fulfilled. Finally, exclusive transposition suggests an opposition of transpositional wills reflected in the different collections' maximally invariant transpositions, in which only one collection's transpositional will is fulfilled. This concept relates to Schopenhauer's concept of oppositional wills in his definition of polarity as the "separation of forces that are ... in opposition to one another."¹⁶

¹⁵ Chapter two, 87-89

¹⁶ Arthur Schopenhauer, *The World as Will and Idea*, trans. R. B. Haldane and J. Kemp (London: Kegan Paul, Trench, Trübner, 1909), 199.

Three Complete Transpositional Analyses

The correspondence of mutual, exclusive, and unaffiliated transposition to the philosophical concept of competing wills leads to a rich interpretation of Scriabin's music that closely matches Scriabin's own dramatic compositional desires. The remainder of this chapter will demonstrate how the application of fuzzy transposition to the analysis of Scriabin's works allows one to show the opposing transpositional wills of the mystic-chord, whole-tone, octatonic, and diatonic collections across many of Scriabin's late piano miniatures. In total, three pieces will be analyzed in depth: Op. 69, No. 2; Op. 63, No. 2; and Op. 67, No. 2. On a surface level, this theory shows how the theory of transpositional will provides a comprehensive pcset analysis of an entire work. On a deeper level, this analysis shows large-scale relationships between a piece's entire transpositional network and its most prominent pcsets.

Op. 69, No. 2

Scriabin's Op. 69, No. 2 serves as a short introductory example of the benefits of fuzzy transposition and transpositional will. The relationship of fuzzy transposition to the audible and visual understanding of the piece is clearly conveyed in this piece by the parallel voice-leading motion on the musical surface. The intervals of fuzzy transposition reveal an active transpositional structure, in which the opposing and corresponding transpositional wills of the octatonic and mystic-chord collections relate on a number of musical levels. On the local level, each interval of transposition in the piece relates to its underlying pcsets through mutual and exclusive transposition. On a global level, each transposition in the piece is ultimately unified by the final mystic chord's transpositional will.

The opening of Scriabin's Op. 69, No. 2 reveals a tight correlation between my segmentation and the visual, aural, and physical changes on the musical surface. In mm. 1-5, my

analysis displays two transformations by T_6 and $*T_{10}$ (Example 3-16). These transformations are shown on the musical surface by similar voice leading in the right hand and uniform changes in pitch-class orthography. Disregarding the pedal D_b , each pcset maps at a specific interval in pitch space: the T_6 in mm. 1-4 maps at a diminished fifth, whereas the $*T_{10}$ in mm. 4-5 maps at an ascending minor seventh, except the one offset of $E_{bb} \mapsto D_b$, which maps at a major seventh. Since the pitch classes map in pitch space, each harmonic change is both audible to the listener and physically perceived by the performer.

One of the most interesting aspects of this opening phrase is the pedal D_b 's relationship to the initial fuzzy pitch-class mapping from E_{bb} to D_b . The D_b in the opening measures is marked in many ways from the other notes in the passage. Aurally, it is the lowest and longest note in the passage. Visually, the pedal D_b overlaps with the pitch-class orthography of pc1 in the melody's $C\#5$, the only instance of enharmonic overlap within any pcset in this opening phrase. These aspects charge the D_b pedal with a willful obstinacy that separates it from the remaining notes in the passage. This intransigence can be interpreted as the motivation for the first fuzzy pitch-class mapping of the piece in mm. 4-5. If the E_{bb} in m. 4 would have been treated like the remaining notes in the passage, it would have transposed up a minor seventh to D_{bb} . However, this pitch-class orthography would interfere with the D_b orthography in the pedal. Accordingly, the pitch-class mapping from E_{bb} is adjusted to conform to the pedal's D_b orthography through a fuzzy pitch-class mapping. This subtle shift ultimately initiates the first major change in pcset structure in the piece through the introduction of the first mystic chord, which will be shown to be the most pivotal collection in this piece.

Example 3-16: Voice-leading analysis of Scriabin's Op. 69, No. 2, mm. 1-5

A \flat	_____	E $\flat\flat$	¹¹ -----	D \flat
F	_____	C \flat	_____	B $\flat\flat$
E	_____	B \flat	_____	A \flat
C \sharp	_____	G	_____	F
B	_____	F	_____	E \flat
G	_____	D \flat	_____	C \flat

Pedal: D \flat _____ D \flat

Set Class	6-Z49	T_6	6-Z49	$*T_{10}^{(1)}$	6-34
Pcset	[4,5,7,8,11,1]		[10,11,1,2,5,7]		[8,9,11,1,3,5]
Mit-array	<3,6,9>	↔	<3,6,9>	↔	<2,4,6,8,10>

A transpositional analysis of Scriabin's Op. 69, No. 2 reveals a clear three-part formal structure (Example 3-17). The opening A Section in mm. 1-18 is followed by a second A Section in mm. 18-32, which features the exact same transpositional and set class structure transposed by T_6 . This section is followed by a varied A' Section that features the same opening transpositional structure as the previous sections, but breaks off to include different transpositions and set classes.

Example 3-17: Transpositional structure of Scriabin's Op. 69, No. 2

A) mm. 1-18 (mm. 18-36 replicate mm. 1-18 at T_6)

Allegretto

Set Class: 6-Z49 T_6 6-Z49
Pcset: [4,5,7,8,11,1] [10,11,1,2,5,7]
Mit-array: <3,6,9> <3,6,9>

avec une subite douceur

Set Class: $*T_{10}^{(1)}$ 6-34 $*T_8^{(1)}$ 6-Z49 T_6 6-Z49
Pcset: [8,9,11,1,3,5] [4,5,7,8,11,1] [10,11,1,2,5,7]
Mit-array: <2,4,6,8,10> <3,6,9> <3,6,9>

Più vivo

Set Class: $*T_{10}^{(1)}$ 6-34 $*T_2^{(1)}$ 6-Z49
Pcset: [8,9,11,1,3,5] [10,11,1,2,5,7]
Mit-array: <2,4,6,8,10> <3,6,9>

Tempo I

(Example 3-17 continued)

Set Class: $*T_{10}^{(1)}$ 6-34 $*T_2^{(1)}$ 6-Z49
 Pcset: [8,9,1,11,3,5] [10,11,1,2,5,7]
 Mit-array: $\langle 2,4,6,8,10 \rangle$ $\langle 3,6,9 \rangle$

B) mm. 36-43

Set Class: 6-Z49 T_6 6-Z49 T_6 6-Z49 $*T_4^{(2)}$ 6-31 $*T_0^{(1)}$ 6-34
 Pcset: [4,5,7,8,11,1] [10,11,1,2,5,7] [4,5,7,8,11,1] [8,9,0,1,3,5] [8,9,11,1,3,5]
 Mit-array: $\langle 3,6,9 \rangle$ $\langle 3,6,9 \rangle$ $\langle 3,6,9 \rangle$ $\langle 4,8 \rangle$ $\langle 2,4,6,8,10 \rangle$

On a basic level, this analysis shows how the transpositional structure of the entire piece is tied to the transpositional will of its underlying collections. Accordingly, each transposition is related to one of the surrounding pcsets through either mutual or exclusive transposition, which is shown by the corresponding arrows (Example 3-17). On a more intricate level, this analysis shows a progression from the transpositional will of the octatonic collection (6-Z49) to the transpositional will of the mystic-chord collection (6-34). Each section begins with a mutual transposition between octatonic pcsets (6-Z49) and ends with a series of exclusive transpositions to the mystic chord. This suggests that the transpositional will of the octatonic collection eventually yields to the mystic-chord collection's exclusive transpositions throughout the phrase. This transition from octatonic collections to mystic-chord collections on the phrase level is reflected on the global level by the progression from the opening pcset of 6-Z49 in m. 1 to the final mystic-chord pcset in m. 43.

Furthermore, one can show how all of the transpositions in the work are tied to this final mystic chord's transpositional will through their mutual affiliation to its mit-array. Every transposition in the piece is related to an index of the mystic chord's maximally invariant transpositions, regardless of whether the mystic chord (6-34) is present or not. In total, the work uses the transpositions of $*T_2$, $*T_4$, T_6 , $*T_8$, and $*T_{10}$. Accordingly, the mystic-chord collection is maximally invariant at T_2 , T_4 , T_6 , T_8 , and T_{10} . This relationship between the mystic chord and the global transpositional structure is significant for three reasons: First, no other collection in the piece features an array of maximally invariant transpositions that matches every transposition in the piece. Second, there is not a single transposition that lies outside of the mystic chord's mit-array. Third, the transpositions in the piece exhaust every maximally invariant transposition of the mystic chord.

In fact, one could view this exhaustion of the mystic chord's mit-array as a method of harmonic closure in this piece. Previous scholars have viewed aggregate completion as a method of closure in twentieth-century composers from Arnold Schoenberg to Elliot Carter, in which the fulfillment of the last element in a defined aggregate is associated with the end of a musical phrase or section.¹⁷ In this case, one could view the mystic chord's mit-array as a transpositional aggregate that is slowly fulfilled throughout the transpositional structure. As with other composers' works, the fulfillment of this transpositional aggregate is associated with the closure of the entire piece. The first two sections of the piece use only the transpositions of $*T_2$, T_6 , $*T_8$, and $*T_{10}$, which exhausts all of the mystic chord's maximally invariant transpositions except for one, $*T_4$. This exclusion suggests that the final section is crucial to the closure of the piece because it introduces the mystic chord's last remaining maximally invariant transposition of $*T_4$ in m. 42. As if on cue, the piece ends one measure after this final transpositional member of the mystic chord's mit-array is exhausted.

In summary, Scriabin's Op. 69, No. 2 shows how the transpositional wills projected through fuzzy transposition can be used to show unity on a local and global level. The transpositional network of the entire piece was comprised of mutual and exclusive transpositions, which suggests a unity between the transpositional structure and the maximally invariant transpositions of the underlying collections. On a global level, the transpositional structure of the entire piece was related to the maximally invariant transpositions of the final pcset of the piece, Scriabin's famous mystic-chord collection.

¹⁷ Milton Babbitt, "Set Structure as a Compositional Determinant," *Journal of Music Theory* 5 (1961): 86; Richard Bass, "Models of Octatonic and Whole-Tone Interaction: George Crumb and His Predecessors," *Journal of Music Theory* 38, no. 2 (1994): 186; Jonathan Bernard, "Problems of Pitch Structure in Elliott Carter's First and Second String Quartets," *Journal of Music Theory* 37, no. 2 (Autumn, 1993): 231-66; Elliot Carter, *Harmony Book*, eds. Nicholas Hopkins and John F. Link (New York: Carl Fischer, 2002), 358-61; Alan Theisen, "A Multifaceted Approach to Analyzing Form in Elliott Carter's *Boston Concerto*," (Ph.D. diss., Florida State University, 2010), 31-46.

Op. 63, No. 2

The previous piece featured a battle between the octatonic and mystic-chord collections that was based on their opposing transpositional wills. Accordingly, Scriabin's Op. 63, No. 2 features a similar battle between its underlying collections of the octatonic and whole-tone collection and their maximally invariant transpositions. Yet, the pieces are different in many significant ways. In Op. 69, No. 2, there was a steady transition from the transpositional will of the octatonic collection to the mystic-chord collection, whose array of maximally invariant transpositions ultimately unified the entire transpositional structure. In Op. 63, No. 2, the structure is dominated by the octatonic collection and its maximally invariant transpositions by T_3 , T_6 , and T_9 , whereas the whole-tone collection and its affiliated exclusive transpositions by T_2 , T_4 , T_8 , and T_{10} are featured sparingly. In fact, T_2 and T_{10} are not featured at all. Yet, the denial and fulfillment of the whole-tone collection's transpositional will has a direct impact on the octatonic collection's transpositional treatment at critical moments in the piece. The denial of the whole-tone collection's transpositional will in the first half of the piece correlates with disruptive, non-maximally invariant transpositions of the octatonic collection at the end of the first half, whereas the fulfillment of the whole-tone collection's transpositional will in the second half correlates with smooth, maximally invariant transpositions of the octatonic collection at the end of the piece.

As before, the analysis of Op. 63, No. 2 is simplified by the relatively limited use of a small number of different set classes and the correlation of the transpositional structure to the parallel voice leading on the musical surface (Example 3-18). The piece primarily uses the octatonic subsets of 7-31, 6-Z49, and 5-22, but also features the whole-tone subset of 5-33.

Example 3-18: Full transpositional analysis of Scriabin's Op. 63, No. 2

Set Class: 6-Z49 T_9 6-Z49
 Pcset: [9,10,0,1,4,6] [6,7,9,10,1,3]
 Mit-array: <3,6,9> \longleftrightarrow <3,6,9>

Set Class: T_3 6-Z49 $*T_6^{(2)}$ 5-33 $*T_6^{(2)}$ 6-Z49 $*T_6^{(2)}$ 5-33
 Pcset: [9,10,0,1,4,6] [10,0,2,4,6] [9,10,0,1,4,6] [10,0,2,4,6]
 Mit-array: <3,6,9> \longleftrightarrow <2,4,6,8,10> \longleftrightarrow <3,6,9> \longleftrightarrow <2,4,6,8,10>

Set Class: $*T_9^{(2)}$ 5-32 $*T_9^{(1)}$ 6-Z49
 Pcset: [7,9,0,1,4] [9,10,0,1,4,6]
 Mit-array: <3,6,9> \longleftrightarrow <3,6,9>

Set Class: T_3 6-Z49 $*T_1^{(2)}$ 7-31
 Pcset: [0,1,3,4,7,9] [8,10,11,1,2,4,5]
 Mit-array: <3,6,9> X <3,6,9>

(Example 3-18 continued)

7-31 [8,10,11,1,2,4,5] continued

Set Class:	(same)	7-31	T_4	7-31
Pcset:		[8,10,11,1,2,4,5]		[0,2,3,5,6,8,9]
Mit-array:		<3,6,9>	X	<3,6,9>

7-31 [0,2,3,5,6,8,9] continued

Set Class:	(same)	7-31	T_3	7-31
Pcset:		[0,2,3,5,6,8,9]		[3,5,6,8,9,11,0]
Mit-array:		<3,6,9>	↔	<3,6,9>

(Example 3-18 continued)

Set Class: (same) 7-31 T_3 7-31
 Pcset: [3,5,6,8,9,11,0] [6,8,9,11,0,2,3]
 Mit-array: <3,6,9> \longleftrightarrow <3,6,9>

Set Class: $*T_0$ 5-32
 Pcset: (2) [9,11,2,3,6]
 Mit-array: <3,6,9>

Set Class: (same) 5-32 T_9 5-32
 Pcset: [9,11,2,3,6] [6,8,11,0,3]
 Mit-array: <3,6,9> \longleftrightarrow <3,6,9>

Set Class: T_9 5-32 $*T_1$ 6-Z49 T_9 6-Z49
 Pcset: [3,5,8,9,0] (1) [9,10,0,1,4,6] [6,7,9,10,1,3]
 Mit-array: <3,6,9> X <3,6,9> \longleftrightarrow <3,6,9>

(Example 3-18 continued)

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Set Class: T_3 6-Z49 $*T_6^{(2)}$ 5-33 $*T_8^{(2)}$ 6-Z49 $*T_6^{(2)}$ 5-33 $*T_8^{(2)}$
 Pcset: [9,10,0,1,4,6] [10,0,2,4,6] [11,0,2,3,6,8] [0,2,4,6,8]
 Mit-array: \longleftrightarrow $\langle 3,6,9 \rangle$ \longleftrightarrow $\langle 2,4,6,8,10 \rangle$ \longleftrightarrow $\langle 3,6,9 \rangle$ \longleftrightarrow $\langle 2,4,6,8,10 \rangle$ \longleftrightarrow

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Set Class: 6-Z49 $*T_6^{(2)}$ 5-33 $*T_8^{(2)}$ 6-Z49 $*T_6^{(2)}$ 5-33 (same as previous two)
 Pcset: [1,2,4,5,8,10] [2,4,6,8,10] [3,4,6,7,10,0] [4,6,8,10,0]
 Mit-array: $\langle 3,6,9 \rangle$ \longleftrightarrow $\langle 2,4,6,8,10 \rangle$ \longleftrightarrow $\langle 3,6,9 \rangle$ \longleftrightarrow $\langle 2,4,6,8,10 \rangle$

22

Set Class: $*T_9^{(2)}$ 5-32 $*T_9^{(1)}$ 6-Z49
 Pcset: [7,9,01,4] [3,4,6,7,10,0]
 Mit-array: \longrightarrow $\langle 3,6,9 \rangle$ \longleftrightarrow $\langle 3,6,9 \rangle$

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Set Class: T_3 6-Z49 $*T_3^{(1)}$ 7-31
 Pcset: [6,7,9,10,1,3] [4,6,7,9,10,0,1]
 Mit-array: \longleftrightarrow $\langle 3,6,9 \rangle$ \longleftrightarrow $\langle 3,6,9 \rangle$

(Example 3-18 continued)

7-31 [4,6,7,9,10,0,1] continued

Since Op. 63, No. 2 has a much larger score than Op. 69, No. 2, it is necessary to provide a reduction of the harmonic structure so that the transpositional relationships can be easily conveyed. I provide a complete bass-line reduction of the piece that lists the set classes, bass line, and measure numbers (Example 3-19).¹⁸ This reduction retains much of the important information on the musical surface. Most importantly, the use of a bass line ties the

¹⁸ Bass-line reductions are used by a number of Scriabin scholars, including: James Baker, *The Music of Alexander Scriabin* (New Haven: Yale University Press, 1986), 129-30; Anna Gawboy, "Alexander Scriabin's Theurgy in Blue: Esotericism and the Analysis of *Prometheus: Poem of Fire*, op. 60." (Ph.D. diss., Yale University, 2010), 136-41.

transpositional structure of the piece to the aural perception of the music.¹⁹ As the previous musical examples have shown, the transposition on the musical surface is frequently reflected in the underlying motion of the bass. This fact remains true in this piece, in which most of the transpositions listed under the bass-line reduction match the intervallic motion of the bass. One of the only exceptions to this bass-line correspondence is the transposition by T_3 between the opening two sections (Example 3-20). While the bass motion from G3 to F#3 suggests a transposition of T_{11} , this transpositional relationship is a crisp T_3 from 6-Z49 [6,7,9,10,1,3] to 6-Z49 [9,10,0,1,4,6]. The reason for the lack of correlation is also clear: the phrase starting in m. 3 introduces a new musical idea that inverts the bass note of the previous 6-Z49 pcset. Nearly all of the remaining exceptions correlate with a similar change in figuration between sections of the form.

This reduction was also selected in order to reflect Scriabin's own harmonic reduction in his *Prometheus*. As shown in chapter one, the intervallic motion of the fast *luce* part correlates with the transpositional structure of the theme of will in the opening passage of the work. Accordingly, both my reduction and Scriabin's fast *luce* use a singular voice to convey the overall transpositional motion on the musical surface.²⁰ The main difference is that the slow *luce* is an arbitrary note given in the treble clef, whereas my bass-line reduction gives the actual bass line in the bass clef. The identification of the set class under the bass line progression also correlates with Scriabin's indication of the harmonic material in his compositional sketches, which give the underlying harmony through linear scales or block chords.²¹

¹⁹ The bass-line reduction in this piece is transposed down one octave to avoid the use of ledger lines.

²⁰ The cyclic aspects of both *luce* parts are also explored in depth in Gawboy, "Alexander Scriabin's Theurgy in Blue," 219-26.

²¹ References to Scriabin's harmonic reductions are found in Faubion Bowers, *Scriabin, a Biography* (New York: Dover, 1996), vol. 1, 335; Simon Morrison, "Skryabin and the Impossible," *Journal of the American Musicological Society* 51, no. 2. (Summer, 1998), 312-27; Leonid Sabaneev, *Vospominaniya O Scriabine* (Moscow: Klassika-XXI, 2000), 135.

Example 3-19: Full bass-line reduction of Scriabin's Op. 63, No. 2

Section A Section B Section C Section D

6-Z49 6-Z49 6-Z49 5-33 6-Z49 5-33 5-32 6-Z49 6-Z49 7-31 7-31 7-31 7-31 5-32 5-32 5-32 5-32

T_9 T_3 $*T_6$ $*T_6$ $*T_6$ $*T_9$ $*T_3$ T_3 $*T_1$ T_4 T_0 T_3 T_3 T_9 T_9 T_9

mm. 1 2 3 4 5 6 6-11 11-12 13-14 14-15 15 16-17 17

Superset: Oct_{0,1} (WT₀) Oct_{0,1} (WT₀) Oct_{0,1} Oct_{1,2} Oct_{2,3}

Section A Section B Section C

6-Z49 6-Z49 6-Z49 5-33 6-Z49 5-33 6-Z49 5-33 6-Z49 5-33 6-Z49 5-33 5-32 6-Z49 6-Z49 7-31

T_9 T_3 $*T_6$ $*T_8$ $*T_6$ $*T_8$ $*T_6$ $*T_8$ $*T_6$ $*T_6$ $*T_6$ $*T_6$ $*T_9$ $*T_3$ T_3 $*T_3$

mm. 18 19 20 21 22 23 24 25-31

Superset: Oct_{0,1} (WT₀) Oct_{2,3} (WT₀) Oct_{1,2} (WT₀) Oct_{0,1} (WT₀) Oct_{0,1} (WT₀) Oct_{0,1}

Example 3-20: Transpositional analysis of Scriabin's Op. 63, No. 2, mm. 1-3

Set Class: 6-Z49 T_9 6-Z49 T_3 6-Z49

Pcset: [9,10,0,1,4,6] [6,7,9,10,1,3] [9,10,0,1,4,6]

In order to convey the form of the piece, I have separated the bass lines into two parts to reflect the two-part structure of the piece. These two halves are aligned vertically so that the corresponding sections of the two halves can be easily compared. This comparison reveals two major differences between the two sections. First, the corresponding B Sections feature a difference in length and transpositional structure. The first B Section is comparatively short and only features octatonic-affiliated transpositions by $*T_6$ and T_9 , whereas the second B Section is comparatively long and features both octatonic and whole-tone affiliated transpositions by $*T_4$, $*T_6$, and $*T_9$. Second, the corresponding C Sections feature different transpositional structures, but the same octatonic set classes. The first C Section features octatonic, whole-tone, unaffiliated transpositions, whereas the second C Section features only features octatonic-affiliated transpositions.

This pcset analysis also shows how the transpositional differences between the two halves of the piece balance one another. The first half of the piece features a B section with only octatonic affiliated transpositions and a C Section with octatonic, whole-tone, and unaffiliated transpositions, whereas the second half of the piece features a B Section with both octatonic and whole-tone affiliated transpositions and a C Section with only octatonic affiliated transpositions (Example 3-21).

Example 3-21: Comparison of transpositions by section in Scriabin's Op. 63, No. 2

First Half		Second Half	
Section B:	$*T_6, *T_9$	Section B:	$T_1, *T_8 (!), *T_6, *T_9$
Section C:	$T_3, T_4 (!)$	Section C:	T_3

The reversal of transpositional will between the octatonic collections and the whole-tone collection between the two B Sections has a significant impact on the C Sections later on in the piece. As the diagram shows, the B Sections are the only formal sections in the piece that feature

both whole-tone subsets (sc 5-33) and octatonic subsets (scs 6-Z49 and 5-32), whereas the remainder of the piece only features octatonic subsets (scs 7-31, 6-Z49, and 5-32). While both B Sections feature an equal proportion of mutual octatonic/whole-tone transpositions, the first half of the piece only features exclusive transpositions of the octatonic collections. Conversely, the B Section in the second half of the piece features primarily exclusive transpositions of the whole-tone collection: precisely three exclusive whole-tone transpositions by $*T_8$ and only one exclusive octatonic transposition by $*T_3$.

This conflict of transpositional will between the octatonic and whole-tone collections is also reflected in the conflicting prolongations of the octatonic and whole-tone supersets between the B Sections. In the first B Section, all of the octatonic subsets prolong the same $Oct_{0,1}$ superset, whereas the whole-tone subset is not prolonged through either exclusive whole-tone transpositions or different WT_0 subsets. Conversely, the second B Section features a prolongation of the whole-tone collection through various WT_0 subsets and exclusive whole-tone transpositions, whereas the octatonic subsets alternate between the three octatonic supersets of $Oct_{0,1}$, $Oct_{1,2}$, and $Oct_{2,3}$. The prominence of the WT_0 superset in the second B Sections is especially salient because of the bass line's complete outlining of the WT_0 collection in mm. 20-21 (see Example 3-19).

The breakdown in transpositional structure between the two C Sections in the piece can be related to the denial or fulfillment of the whole-tone collection's transpositional will in their preceding B Sections. The transpositional will of the whole-tone collection is initially denied in the first B Section because there are no exclusive transpositions of the whole-tone collection. Consequently, the denied transpositional will of the whole-tone collection in the first half of the piece is fulfilled later in its corresponding C Section through the whole-tone affiliated

transposition by T_4 in m. 11, which results in non-maximally invariant transpositions of the octatonic collection. This correlates with a breakdown in the octatonic superset structure, which rotates abruptly between the three octatonic supersets of $Oct_{0,1}$, $Oct_{1,2}$, and $Oct_{2,3}$ in mm. 5-12 through unaffiliated transposition. In the second half of the piece, the fulfillment of the whole-tone collection's transpositional will in the B Section through $*T_4$ suggests that there is no need to assert its will in its corresponding C Section. Accordingly, the C Section in the second half of the piece features only octatonic-affiliated transpositions. This change in the transpositional structure results in a smoother progression of maximally invariant octatonic collections at the end of the piece, which are all unified by the same $Oct_{0,1}$ superset.

In summary, the analysis of Scriabin's Op. 63, No. 2 represents a reversal of the pcset and transpositional structure of his Op. 69, No. 2. In Op. 69, No. 2, the piece featured an equal number of different octatonic and mystic-chord collections that were ultimately unified by the transpositional structure's selective use of the mystic-chord's maximally invariant transpositions. Conversely, Op. 63, No.2 is locally unified by the consistent use of octatonic pcsets, whereas the piece is ultimately differentiated by the opposition of octatonic and whole-tone affiliated transpositions. The denial or fulfillment of the whole-tone's transpositional will was shown to be a critical element to the stability of the entire work. The denial of the whole-tone collection's will in the beginning of the piece resulted in the abrupt unaffiliated transpositions of the octatonic subsets at the end of the first half, whereas the fulfillment of the whole-tone collection's transpositional will in the beginning of the second half resulted in a series of smooth mutual transpositions of the octatonic subsets at the end of the piece.

Op. 67, No. 2

The previous analyses have shown how the transpositional wills of the octatonic, mystic-chord, and whole-tone collections interact in Scriabin's late music through opposing and unified transpositional wills. This theory of transpositional will is based on the tonal theory of closely related keys, in which diatonic collections in tonal works are commonly related by maximally invariant transpositions. This final analysis shows how the diatonic collection's desire to transpose by perfect fifth is incorporated into one of Scriabin's post-tonal works. Currently, no scholar has identified Scriabin's use of the diatonic collection in his late works, suggesting that Scriabin's departure from common practice tonality correlated with his abandonment of the diatonic collection. This analysis will show instead how Scriabin's late music not only features the diatonic collection, but how its transpositional will to transpose by perfect fifth interacts with the transpositional wills of Scriabin's other post-tonal collections.

A full segmentation of Scriabin's Op. 67, No. 1 reveals the use of three different set classes: the octatonic subset (6-27), the near octatonic set class (6-Z29), and the diatonic collection (7-35) (Example 3-22). The first collection is an unusual octatonic subset because it is only maximally invariant at T_3 and T_9 , as opposed to the full octatonic collection, which is also maximally invariant at T_6 .²² The second collection is referred to as a near octatonic collection because it is only a semitone away from being a subset of the octatonic collection and—more importantly—the collection features the same maximally invariant transpositions as the octatonic collection: T_3 , T_6 , and T_9 . The final collection is the full diatonic collection of 7-35, whose transpositional wills of T_5 and T_7 are based on the collection's high interval-class content of ic5.

²² Accordingly, members of sc 6-27 are never transposed by T_6 in this piece.

Example 3-22: Full transpositional analysis of Scriabin's Op. 67, No. 2

pp inquiet

Set Class: 6-27 T_3 6-27 T_3 6-27 $*T_6$ 6-Z29 $*T_7$ 7-35
 Pcset: [6,7,9,10,0,3] [9,10,0,1,3,6] [0,1,3,4,6,9] (2) [0,2,3,6,7,9] (3) [9,10,0,2,3,5,7]
 Mit-array: <3,9> <3,9> <3,9> <3,6,9> <5,7>

mp

Set Class: (same) $*T_3$ 6-Z29 $*T_7$ 7-35
 Pcset: [10,0,1,4,5,7] [7,8,10,0,1,3,5]
 Mit-array: <3,6,9> <5,7>

poco cresc.

Set Class: (Same) T_3 7-35 $*T_3$ 6-Z29 T_9 6-Z29 T_3
 Pcset: [0,1,3,5,6,8,10] [1,3,4,7,8,10] [10,0,1,4,5,7]
 Mit-array: <5,7> <3,6,9> <3,6,9> <3,6,9>

mp

Set Class: 6-Z29 T_3 6-Z29 T_3 6-Z29 $*T_7$ 7-35 $*T_3$
 Pcset: [1,3,4,7,8,10] [4,6,7,10,11,1] [7,9,10,1,2,4] (3) [4,5,7,9,10,0,2] (3)
 Mit-array: <3,6,9> <3,6,9> <3,6,9> <3,6,9> <5,7>

cresc. *mf*

Set Class: 6-Z29 T_9 6-Z29 T_3 6-Z29 T_3 6-Z29 T_3 6-Z29 $*T_7$ 7-35
 Pcset: [5,7,8,11,0,2] [2,4,5,8,9,11] [5,7,8,11,0,2] [8,10,11,2,3,5] [11,1,2,5,6,8] (3) [8,9,11,1,2,4,6]
 Mit-array: <3,6,9> <3,6,9> <3,6,9> <3,6,9> <3,6,9> <3,6,9> <5,7>

(Example 3-22 continued)

16

Set Class: (same) $*T_3$ 6-Z29 $*T_7$ 7-35 $*T_3$
Pcset: [9,11,0,3,4,6] [6,7,9,11,0,2,4]
Mit-array: $\langle 3,6,9 \rangle$ $\langle 5,7 \rangle$

19

Set Class: 6-Z29 T_{10} 6-Z29 T_{10} 6-Z29 T_{10} 6-Z29 T_{10} 6-Z29 T_{10} 6-Z29
Pcset: [10,0,1,2,4,7] [8,10,11,0,2,5] [6,8,9,10,0,3] [4,6,7,8,10,1] [2,4,5,6,8,11] [0,2,3,4,6,9]
Mit-array: $\langle 3,6,9 \rangle$ X $\langle 3,6,9 \rangle$ X $\langle 3,6,9 \rangle$ X $\langle 3,6,9 \rangle$ X $\langle 3,6,9 \rangle$

22

Set Class: T_{10} 6-Z29 T_{10} 6-Z29 $*T_7$ 6-27 T_3 6-27 T_3 6-27 $*T_6$
Pcset: [10,0,1,2,4,7] [8,10,11,0,2,5] (2) [6,7,9,10,0,3] [9,10,0,1,3,6] [0,1,3,4,6,9] (2)
Mit-array: X $\langle 3,6,9 \rangle$ X $\langle 3,6,9 \rangle$ X $\langle 3,9 \rangle$ $\langle 3,9 \rangle$ $\langle 3,9 \rangle$ $\langle 3,9 \rangle$

25

Set Class: 6-Z29 $*T_7$ 7-35 $*T_3$ 6-Z29 $*T_7$ 7-35
Pcset: [0,2,3,6,7,9] [9,10,0,2,3,57] [10,0,1,4,5,7] [7,8,10,0,1,3,5]
Mit-array: $\langle 3,6,9 \rangle$ $\langle 5,7 \rangle$ $\langle 3,6,9 \rangle$ $\langle 5,7 \rangle$

28

Set Class: (same) $*T_5$ 6-Z29 $*T_7$ 7-35
Pcset: [10,0,1,4,5,7] [7,8,10,0,1,3,5]
Mit-array: $\langle 3,6,9 \rangle$ $\langle 5,7 \rangle$

(Example 3-22 continued)

Set Class: (same) *T₇ 6-27 *T₉ 5-28
 Pcset: (3) [6,7,9,10,0,3] (2) [10,0,3,4,6]
 Mit-array: X <3,9> ← <6>

While the first members of 6-27 are clearly segmented by their crisp transpositions by T₃ in mm. 1-2, the segmentation of the following two collections is complicated by the descending chromatic lines in the lower three voices. Consequently, one must identify non-chord tones in this piece to clarify the underlying pcset structure because none of Scriabin's preferred post-tonal collections feature multiple consecutive semitones.²³ My analysis assumes that the pitch classes on the strong beats are chord tones, whereas the remaining pitch classes are metrically unaccented chromatic passing tones. For example, my analysis of mm. 3-5 only labels non-chord tones on the offbeats of the measure (Example 3-23). The only exception is the E \flat 3 in m. 4, which lies as a chromatic passing tone between downbeat F3 and final note of E \flat 3.

Example 3-23: Transpositional analysis of Scriabin Op. 67, No. 2, mm. 3-5


Set Class 6-29 *T₇ 7-35 *T₃ 6-Z29
 Pcset: [0,2,3,6,7,9] (3) [9,10,0,2,3,5,7] (3) [10,0,1,4,5,7]
 Mit-array: <3,6,9> → <5,7> → <3,6,9>
 "B \flat Major"

²³ Chapter one, 21-24.

While the presentation of the diatonic collection in mm. 3-4 is obscured by these chromatic passing tones, the music clearly projects the key of B \flat Major through its chords, melody, and bass line. The first chord in the sc 7-35 segmentation is a B \flat -major triad in first inversion. The melody in mm. 3-5 is completely within the key of B \flat major with no non-chord tones. Finally, the bass outlines members of the B \flat -major triad by chromatically passing from the D3 to B \flat 2.²⁴ Most importantly, the diatonic collection's will to move by a perfect fifth is seen in the bass motion from the E \flat 3 at the beginning of m. 3 to the B \flat 2 at the end of m. 4. In fact, this transposition by *T $_7$ is exceptionally marked because none of the previous post-tonal excerpts has featured a diatonic-affiliated transposition by either T $_5$ or T $_7$.

This piece's transpositional structure suggests an opposition between the octatonic and diatonic collections, which is foreshadowed in the first phrase through the opposition of major chords and octatonic transpositions. This phrase projects the major diatonic collection by placing major triads on every single strong beat (Example 3-24). For example, the first four strong beat chords create E \flat major, G \flat major, and A major. However, this diatonicism is countered by the use of octatonic subsets (6-27) and the octatonic affiliated transpositions by T $_3$.

Example 3-24: Transpositional analysis of Scriabin's Op. 67, No. 2, mm. 1-2



Set Class: 6-27 T $_3$ 6-27 T $_3$ 6-27
Pcset: [6,7,9,10,0,3] [9,10,0,1,3,6] [0,1,3,4,6,9]
Mit-array: <3,9> <3,9> <3,9>

²⁴ In Scriabin's late period, he avoided the minor key because the joy of unifying desire and the natural progression of the harmonic series could only be represented by the major key. Sabaneev, *Vospominaniya*, 265.

Example 3-25: Full bass-line reduction of Scriabin's Op. 67, No. 2

Section A Section B Section C Section B

mm. 1 2 3 3-4 5 5-7 7-8 9 10 11 11-12

Section C Section B Section D

mm. 13 14 15 15-16 17 17-18 19 20 21 22

Section A Section B Coda

mm. 23 24 25 25-26 27 27-28 29 29-32 32 33-34

Example 3-26: Transpositional analysis of Scriabin's Op. 67, No. 2, mm. 19-22

Set Class: 6-Z29 6-Z29 6-Z29 6-Z29 6-Z29 6-Z29 6-Z29 6-Z29

Pset: [7,9,10,1,2,4] [5,7,8,11,0,2] [3,5,6,9,10,0] [1,3,4,7,8,10] [11,1,2,5,6,8] [9,11,0,3,4,6] [7,9,10,1,2,4] [5,7,8,11,0,2]

This battle between the octatonic and diatonic collections in the beginning of the piece is played out in the transpositional structure of the entire piece (Example 3-25). The majority of the piece features a transpositional system based on the octatonic transpositions of T_3 , T_6 , and T_9 and the diatonic transpositions by T_5 and T_7 . For example, the transpositional structure from mm. 3-5 is based on a series of exclusive diatonic and octatonic transpositions (see Example 3-23). The passage begins with a 6-Z29 [0,2,3,6,7,9] pcset that maps onto the $B\flat$ -major diatonic pcset at the diatonic-affiliated transposition of $*T_7$. This transformation is followed by an octatonic-affiliated transposition of $*T_3$ to another 6-Z29 collection [10,0,1,4,5,7]. These transposition by $*T_7$ and $*T_3$ replicate the total bass line progression of the passage from $E\flat_3 \mapsto B\flat_2 \mapsto D\flat_3$, resulting in a total transposition of the 6-Z29 member in m. 3 to the 6-Z29 member in m. 5 by T_{10} .²⁵

The one exception to this octatonic/diatonic transformational scheme is in mm. 18-22, which features a descending whole-tone transpositional network (Example 3-26). This shift to T_{10} relates to the melody's projection of the whole-tone scale. Whereas the underlying pcset structure of mm. 18-22 only features members of the near octatonic collection of 6-Z29, the melody outlines a complete whole-tone collection that extends from G_5 to G_4 . Accordingly, the transposition by T_{10} is related to the whole-tone collection's maximally invariant transpositions of $\langle 2,4,6,8,10 \rangle$.

In summary, Scriabin's Op. 67, No. 2 displays a post-tonal treatment of the diatonic collection that brings Scriabin's compositional practice full circle. The beginning of this chapter showed how Scriabin's music extended the tonal theory of closely related diatonic keys to non-diatonic collections through maximally invariant transposition. This desire to transpose octatonic,

²⁵ One could view this transposition of 6-Z29 by T_{10} as a foreshadowing of the series of T_{10} transpositions in mm. 18-22 discussed in the following passage.

mystic-chord, and whole-tone collections by maximally invariant transpositions revealed a system of conflicting transpositional wills that corresponded to the intervals of fuzzy transposition that connected them. In this piece, the diatonic collection itself was subsumed into this post-tonal harmonic universe, in which the diatonic collection's will to transpose by perfect fifths competes with the transpositional wills of the octatonic and whole-tone collections. In doing so, it reveals a clear progression of Scriabin's harmonic practice that blends tonal and post-tonal aspects. Scriabin's early tonal music began by using common-practice techniques that related diatonic collections by maximally invariant transpositions. His late music extended this concept by relating non-diatonic collections by their maximally invariant transpositions. Finally, this work contrasted the maximally invariant transpositions of both diatonic and non-diatonic collections by creating a system of competing transpositional wills manifested through fuzzy transposition.

Summary

This chapter synthesizes the previous theories on Scriabin's music in order to provide a more comprehensive system of analysis for his later works. While the previous theories of parsimonious voice leading and maximally invariant transposition were shown to be effective in addressing some areas of Scriabin's late works, they were ultimately incapable of analyzing a complete work. This chapter finds that Straus's fuzzy transposition is a theoretically and aurally viable system of analysis that accounts for the problematic areas of music that impede a complete analysis. Furthermore, fuzzy transposition extends the previous theories on Scriabin's post-tonal music by combining the operations of parsimonious voice leading and maximally invariant transposition into a singular operation.

Fuzzy transposition also allows a hermeneutic interpretation of Scriabin's late works by extending the philosophical associations of maximally invariant transposition and unifying desire. In the previous chapter, the philosophical notion of unifying desire was related to the transformation of maximally invariant transposition, which represented unity between collections in terms of shared pitch-class content. This basic theory of transpositional will was expanded in this chapter to include the notion of competing transpositional wills represented by fuzzy transposition. In this theory, the transpositional will of a transformation associated the interval of transposition in an operation with the maximally invariant transpositions of the underlying pcsets. In total, there were three possible interactions between the interval of fuzzy transposition and maximally invariant transpositions of the underlying collections: (1) mutual transposition, in which the interval of transposition correlates with the maximally invariant transpositions of both collections; (2) exclusive transposition, in which the interval of transposition correlates with the maximally invariant transpositions of only one of the surrounding collections; and (3) unaffiliated transposition, in which the interval of transposition matches neither of the surrounding collections' maximally invariant transpositions.

This theory of transpositional will was then applied to three of Scriabin's piano miniatures to provide three complete transpositional analyses of Scriabin's Op. 63, No. 2; Op. 67, No. 2; and Op. 69, No. 2. In most cases, the intervals of transposition correlated to the maximally invariant transpositions of the underlying pcsets through either mutual or exclusive transposition. Conversely, the marked instances of unaffiliated transposition were related to large-scale transpositional conflicts. These global conflicts were often related to the competing transpositional wills of the underlying collections in the piece. For example, the denial of the whole-tone collection's transpositional will in the first half of Op. 63, No. 2 was related to the

series of unaffiliated and distant transpositions in the middle of the work by whole-tone affiliated transpositions.

This new conception of Scriabin's late works as a series of competing transpositional wills suggests distinct implications for both the performer and listener of Scriabin's late works. This theory suggests that the performer could isolate important passages in the music by knowing the significant collections and transpositions in Scriabin's late works. For example, a composer could use changes in tempi and dynamics to emphasize the surprising reemergence of the all-unifying mystic chord at the end of Op. 69, No. 2.²⁶ This theory also suggests that listeners can use their tonal knowledge of closely related keys to hear the interacting relationships between different post-tonal collections and their maximally invariant transpositions.

²⁶ One such example is Vladimir Horowitz's performance, which greatly elongates the rolled mystic chord at the end of Op. 69, No. 2. Vladimir Horowitz, *Horowitz plays Scriabin* (New York: RCA, 1989).

CHAPTER FOUR INDEPENDENT TRANSPOSITION AND THE ETERNAL FEMININE

Defining Independent Transposition

The previous chapter introduced a theory of transpositional will that analyzed entire works through a series of crisp and fuzzy transpositions. This theory was based on the premise that Scriabin's works feature uniform voice-leading motion on the musical surface that can be analyzed through crisp and fuzzy transposition. However, many of Scriabin's works feature contrary and oblique motion between the left and right hands, which cannot be conveyed through a singular transpositional operation. While contrary and oblique motions between the hands are not found in all of Scriabin's late works, pieces that feature these motions cannot be completely analyzed with the previous methods of voice-leading analysis.

This chapter establishes the prevalence of independent transposition in Scriabin's late works, in which the motions of each hand are treated as separate transpositions.¹ This separation allows one to precisely analyze these contrary and oblique voice-leading passages in Scriabin's late music, while extending the previous theory of transpositional will. Independent transposition refers specifically to the separate segmentation and transpositional analysis of the two hands, which contrasts with the unified analysis of both hands in the previous chapter.

As in the previous chapters, independent transposition is also explored through Scriabin's philosophical beliefs. The philosophically driven theory of transposition will is extended to independent transposition because the intervals of independent transposition correlate with the maximally invariant transpositions of the underlying collections in the pcset structure. On a deeper level, the separation of the two hands is related to Scriabin's philosophy of polarity,

¹ The concept of dual transposition is also found in Julian Hook, "Uniform Triadic Transformation," *Journal of Music Theory* 46, no. 1/2 (Spring-Autumn, 2002): 57-126; and Shaugn O'Donnell, "Transformational Voice Leading in Atonal Music," (Ph.D. diss., City University of New York, 1997).

whereas the alternation between unified and independent transposition is related Ivanov's concept of the Eternal Feminine.²

Ultimately, the theory of independent transposition allows for a complete and precise voice-leading analysis of a larger group of Scriabin's late works that reveals a connection between the use independent transposition and the representation of his philosophical beliefs. This chapter is divided into two parts. The first part introduces the theory of independent transposition that analyzes an extended passage of Scriabin's Op. 73, No. 1. The second part extends this theory to analyze two complete works by Scriabin and relates the structure of each work to Ivanov's concept of the Eternal Feminine. The first analysis correlates the alternation of unified and independent transposition in Op. 63, No. 1 with the Eternal Feminine plot archetype of unity–breakdown–unity. The second analysis relates the pervasive use of independent transposition in Op. 74, No. 3 with the separation of the masculine and feminine principle in the opening duet of Scriabin's *Preparatory Act*, which directly recycles material from his Op. 74, No. 3.

The addition of independent transposition to the understanding of Scriabin's late music is necessary because the previous voice-leading theories do not completely reflect the musical surface of some of his works. Parsimonious and transpositional voice leading were both based on the parsimonious and similar voice leading on the musical surface. However, some passages in Scriabin's late works lack purely parsimonious or transpositional motion. For example, the opening of Scriabin's Op. 73, No. 1 features oblique voice-leading motion between the left and

² Susanna Garcia, "Scriabin's Symbolist Plot Archetype in the Late Piano Sonatas," *Nineteenth-Century Music* 23, no. 3 (2000): 287-300; Simon Morrison, "Skrjabin and the Impossible," *Journal of the American Musicological Society* 51, no. 2. (Summer, 1998), 285-330; Boris de Schloezer, *Scriabin: Artist and Mystic*, trans. Nicolas Slonimsky (Berkeley: University of California Press, 1987), 131; James D. West, *Russian Symbolism: A Study of Vyacheslav Ivanov and the Russian Symbolist Aesthetic* (London: Methuen, 1970), 64-65.

right hands (Example 4-1). The left hand shows no sign of voice-leading motion in mm. 31-37, whereas the right hand is clearly transposed by an ascending T_2 , T_2 , T_2 , and T_3 in pitch space.

Example 4-1: Oblique voice leading in Scriabin's Op. 73, No. 1, mm. 31-36

Set Class: 7-34 P^1 7-31 8-24 P^1 8-19
 Pcset: [3,4,6,7,9,11,1] [10,11,1,3,4,6,7] [3,4,5,7,8,9,11,1] [0,1,3,4,5,7,8,9]

Set Class: 7-28 6-21 7-Z36
 Pcset: [7,9,10,11,1,3,4] [1,3,4,5,7,9] [1,3,4,6,7,8,9]

Thus, the music cannot be analyzed through either parsimonious voice leading or maximally invariant transposition because the passage is not purely static or transpositional; it is both.

While fuzzy transposition can theoretically relate any two pcsets, its application to this passage is unconvincing because it would either result in a high degree of offset or require a high deviation from the musical surface.

Accordingly, the previous practice of using time-span segmentation is unpersuasive because it results in unusually formed pcsets. For example, a time-span segmentation of the previous passage results in abnormally large and chromatically dense pcsets that are not recognized in Scriabin's late period (Example 4-1). Segmenting by the transpositional movements of the right hand results in a series of progressively uncommon and abnormally


constructed collections for Scriabin's late stylistic period. For instance, the passage begins with the common collections of the acoustic chord and the octatonic subset 7-31 and ends with the uncommonly large and chromatically dense collections such as 8-24 and 8-19.

Since time-span segmentation does not consistently reveal significant pcsets, it is necessary to return to the more direct method of segmentation of this passage through independent transposition, in which the hands are analyzed separately. As with the previous parsimonious and transpositional voice-leading theories, independent transposition is shown on Straus's atonal voice-leading diagram (Example 4-2). The independent segmentation of the two hands is shown by the boxes within the voice-leading diagram, in which the upper box represents the higher register of the right hand and the lower box represents the lower register of the left hand. This segmentation within the voice-leading diagram matches the segmentation of the music itself, which is shown on the musical score.

This diagram also shows the transition between unified and independent transposition on the voice-leading diagram itself. Unified transposition is shown when there are no segmentations within the voice-leading diagram, and features the transpositional operation at the very bottom of the diagram. Individual transposition is shown when there are segmentations in the voice-leading diagram, in which case the transpositional operation is shown on the bottom of each individual segmentation.

An independent-transpositional analysis of Scriabin's Op. 73, No. 2, mm. 31-37 reveals a close correspondence between the musical surface and the transpositions within the voice-leading diagram. The right hand moves through a series of T_2 , T_2 , T_2 , T_3 , and T_5 motions, whereas the left hand remains static until a singular transposition by T_2 occurs, which is reflected by an ascending major-second motion in pitch space in mm. 36-37.

Example 4-2: Unified and independent transposition in Scriabin's Op. 73, No. 1, mm. 31-37



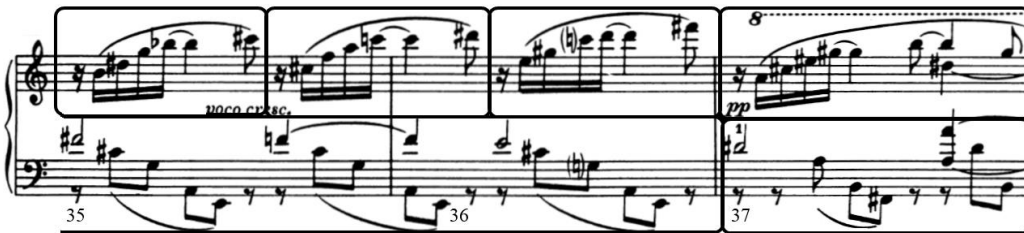
Right Hand:

A	----- ¹ -----	B \flat	----- ¹ -----	B	----- ¹ -----	C	----- ¹ -----
F \sharp	-----	F \sharp	-----	G \sharp	-----	G \sharp	-----
D \sharp	-----	D \sharp	-----	F	-----	F	-----
B	-----	B	-----	C \sharp	-----	C \sharp	-----
G	-----	G	-----	A	-----	A	-----
				$\ast T_2$ (1)		$\ast T_0$ (1)	$\ast T_2$ (1)

Left Hand:

D \sharp	-----	D \sharp	-----	D \sharp	-----
C \sharp	-----	C \sharp	-----	C \sharp	-----
G	-----	G	-----	G	-----
A	-----	A	-----	A	-----
E	-----	E	-----	E	-----
				T_0	

Set Class: 7-34 $\ast T_0$ 7-31
Pcset: [3,4,6,7,9,11,1] (1) [10,11,1,3,4,6,7]
Mit-array: <2,10> <3,6,9>



Right Hand:

C \sharp	-----	D \sharp	-----	F \sharp	-----	B
B \flat	-----	C	-----	D \sharp	-----	G \sharp
G	-----	A	-----	C	-----	E \sharp
D \sharp	-----	F	-----	G \sharp	-----	C \sharp
B	-----	C \sharp	-----	E	-----	A
	T_2		T_3		T_5	

Left Hand:

D \sharp	-----	E \sharp
C \sharp	-----	D \sharp
G	-----	A
A	-----	B
E	-----	F \sharp
	T_2	

Set Class: 7-34
Pcset: [5,6,8,9,11,1,0]
Mit-array: <2,10>

The separating effect of independent transposition also suggests the impetus behind the motion from common to uncommon pcset collections: the divergent transpositions of subsets within a large superset result in a dissonant alignment of the two subsets. For example, the left and right hands in the previous passage each begin with subsets of the acoustic collection, 5-28 [1,3,4,7,9] and 5-26 [3,6,7,9,11] respectively. When these two subsets are transposed independently, they result in a proliferation of new pitch classes, which combine to create larger, more chromatically dense pcsets such as the 8-24 (see Example 4-1).

This process of moving from a singular, unified collection to a series of disparate subsets relates closely to Scriabin's philosophical concept of materialization. As discussed in chapter two, Scriabin believed that all life began in a state of pure unity, which was later transformed through individual will into a state of fragmented chaos.³ This process correlates with the previous passage, in which a singular collection is fragmented through the independent transpositions of the two hands to create unrecognized, chromatically dense supersets.

This philosophical process of materialization has a deep connection to Scriabin's late music because Scriabin himself referred to his compositional process as fragmenting and restoring unity through the processes of analysis and synthesis. Schloezer recalls:

Scriabin's creative process worked now [sic.]: "First moment—intuition of the whole, the act of synthesis, harmonious unity. Second moment—act of analysis, the breaking down of the vision seen by the intuition. Third moment—reconstruction, creation of a new whole, harmonization on another plane."⁴

This process of unity–breakdown–reunion can be seen in Scriabin's Op. 73, No. 1, mm. 31-37 in the breakdown and restoration of the acoustic collection through independent transposition (see Example 4-2). This passage begins with a singular acoustic-chord collection (7-34), which represents the unity of the individual pitch classes under a familiar pcset. This acoustic chord is

³ Chapter two, 54-79.

⁴ Faubion Bowers, *Scriabin, a Biography* (New York: Dover, 1996), vol. 2, 182.

then fragmented through the independent transpositions of the hands to create unfamiliar, chromatically dense pcsets. These two streams of individual transpositions eventually coalesce in m. 37 to reform the acoustic-chord collection. Accordingly, the two hands are cumulatively transposed the same distance from m. 31 to m. 37: i.e. T_2 . The left hand is simply transposed by T_2 , whereas right hand is transposed by T_2, T_2, T_2, T_3 , and T_5 , which combine to $T_2 \bmod 12$.⁵

As with crisp and fuzzy transpositions, the intervals of independent transposition are related to the maximally invariant transpositions of the underlying collection. The transposition of the left hand by T_2 matches the acoustic collection's mit-array of $\langle 2, 10 \rangle$. The transpositions of the right hand are related to the opening chords of the acoustic and octatonic collection. The right hand's opening series of T_2 transpositions relate to the acoustic chord's mit-array of $\langle 2, 10 \rangle$, whereas the latter transposition by T_3 relates to the octatonic subset (7-31) in m. 32 created by the parsimonious motion from $A_5 \mapsto B_5$ in the upper voice. The lone unaffiliated transposition of T_5 can be interpreted as the rejection of the right hand's individual will in lieu of reunification with the left hand. The individual will of the right hand is represented by its independent transposition against the left hand. The presence of the unaffiliated transposition in m. 37 represents the eventual rejection of this independent desire, which coincides with the moment the two hands rejoin to form the acoustic collection in m. 37.

Consequently, the use of independent transposition in Scriabin's voice-leading practice is primarily an extension of segmentation procedures, rather than an additional theoretical procedure. As with parsimonious, crisp, and fuzzy transposition, the segmentation of the music in independent transposition follows the voice leading on the musical surface. Accordingly, independent transposition maintains the same theoretical links between the interval of transposition and the maximally invariant transpositions of the underlying collections. In fact,

⁵ In fact, both hands are cumulatively transposed up T_2 in pitch space because T_5 is realized as a descending T_7 .

the biggest difference between independent transpositions and the previous transformational procedures is that the segmentations produced by independent transposition do not necessarily produce common pcsets because they are considered incomplete fragments of a previously unified collection.

It is important to note that the concept of independent hand transpositions would be consistent with Scriabin's thought process, both as a philosopher and as a pianist. The separate conception of the hands correlates closely with Scriabin's philosophy of polarity. Like other polarities, the right and left hands represent distinct opposites that are unified by a singular body. This thought process would be natural to any pianist, whose playing requires the unification of the independent movements of the hands in order to produce a fluid musical performance. This association would be especially relevant to Scriabin, who was forced to isolate his hands after severely straining his right hand during his student years at the Moscow Conservatory.⁶

The largest study of independence in Scriabin's late works has been through the musicological writings of Simon Morrison and Susanna Garcia on Ivanov's philosophical concept of the Eternal Feminine.⁷ This philosophy states that primal unity consists of two polarities: the masculine principle and the feminine principle.⁸ The feminine principle seeks to reunite with the masculine principle, whereas the masculine principle has the will to seek independence or reunification.⁹ Morrison shows how Scriabin actually incorporated the feminine and masculine principles into his *Preparatory Act* as actual characters in the work.¹⁰ Garcia claims that the representation of the Eternal Feminine is a fundamental plot archetype in

⁶ This unfortunate incident famously influenced Scriabin as a composer, directly resulting in the composition of his Nocturne for the Left Hand, Op. 9, No. 2. Bowers, *Scriabin*, vol. 1, 150-54.

⁷ Garcia, "Scriabin's Symbolist Plot Archetype in the Late Piano Sonatas," 289-300; Morrison, "Skryabin and the Impossible," 302-310.

⁸ Chapter two, 72.

⁹ West, *Russian Symbolism*, 64-65.

¹⁰ Morrison, "Skryabin and the Impossible," 319-22.

his late sonatas, which is conveyed through his French performance indications and their associated motives.¹¹

The following section consists of two complete analyses that show the connection of independent transposition to the concept of the Eternal Feminine. The first piece is Scriabin's Op. 63, No. 1, which features an alternation between unified to independent transpositions, which correlates with Garcia's Eternal Feminine plot archetype of unity–breakdown–unity. The second piece is Scriabin's Op. 74, No. 3, which uses only independent transposition. Accordingly, this complete separation of the two hands is associated with the separation of the feminine and masculine principles character in their opening duet in Scriabin's *Preparatory Act*, which recycles material from his Op. 74, No. 3.

Two Complete Transpositional Analyses

Op. 63, No. 1

Scriabin's Op. 63, No. 1 establishes the analytical value of using independent transposition in Scriabin's late works. The piece alternates between unified and independent transpositions that correlate with uniformly and independently transposed motives of two hands. On a structural level, the rotation between unified and independent transposition underscores the changes between sections of the form, and correlates with the opposing transpositional wills of the mystic-chord and octatonic collections. This mystic-chord/octatonic conflict culminates in the final section, which features a frequent alteration of octatonic and mystic-chord affiliated transpositions and the ambiguous mystic-chord/octatonic subset, 5-28. On a hermeneutic level, the alternation between unified and independent transposition reflects the plot archetype of the

¹¹ Garcia, "Scriabin's Symbolist Plot Archetype in the Late Piano Sonatas," 273-300.

Eternal Feminine, which represents the breakdown of primal unity into the masculine and feminine principles and their subsequent reunification.

Scriabin's Op. 63, No. 1 "Masque" is in a four-part form (ABCA) that is separated by changes in melody, rests, and performance indications (Example 4-3). Section A runs until the *énigmatique* performance indication and the rest in m. 4; Section B runs from the end of m. 4 to *bizarre* performance indication in m. 10; and Section C runs until the reprise of the opening Section A in m. 24.

Example 4-3: Formal diagram of Scriabin's Op. 63, No. 1

Performance indication:	<i>avec une douceur cachée</i>	<i>énigmatique</i>	<i>bizarre</i>	(none)
Section:	A	B	C	A
	mm. 1-4	mm. 5-9	mm. 10-23	mm. 24-31

An analysis of this work through independent transposition reveals that the piece is further differentiated through the use of unified and independent transposition. Section A begins with unified transpositions and ends with independent transposition. Each hand features a distinct motive that is crisply transposed throughout the section, labeled Motive L(eft hand) and Motive R(ight hand) (Example 4-4). Motive L consists of a minor seventh and a rising third, while Motive R consists of two parts: (1) a descending three-note motive and (2) an ascending three-note motive. Section A begins with a unified transposition, in which the two motives are each transposed by $*T_3$ (Example 4-5).¹² At the *énigmatique* performance marking in m. 4, the two hands are transposed independently. The right hand is transposed up by T_4 , whereas the left hand is transposed down by T_6 , which is manifested in pitch space. While the left hand does not feature Motive L in m. 4, the motive is quickly reinstated in mm. 5-6 (see Example 4-6). Accordingly, the return of Section A at the end of the piece (mm. 24-31) features the same pcset

¹² As discussed in chapter two, the half-step descent in causes a parsimonious transformation from the mystic chord (6-34) to an octatonic subset (6-Z49).

and transpositional structure as mm. 1-4, which is slightly expanded through a two-measure phrase extension.

Example 4-4: Demonstrations of Motive R and Motive L

Motive R

Motive L

Example 4-5: Unified and independent transposition in Scriabin Op. 63, No. 1, mm. 0-4

Right Hand:	E	_____	E	_____	G	_____	G	_____	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <table border="0"> <tr><td>_____</td><td>B</td></tr> <tr><td>_____</td><td>A</td></tr> <tr><td>_____</td><td>F</td></tr> <tr><td>_____</td><td>E</td></tr> <tr><td>_____</td><td>C#</td></tr> </table> <p style="text-align: center;">T₄</p> </div>	_____	B	_____	A	_____	F	_____	E	_____	C#
_____	B																		
_____	A																		
_____	F																		
_____	E																		
_____	C#																		
	D	_____	D	_____	F	_____	F	_____											
	B _b	_____	B _b	_____	D _b	_____	D _b	_____											
	A	_____	A	_____	C	_____	C	_____											
	F#	_____	F#	_____	A	_____	A	_____											
Left Hand:	D	¹ -----	D _b	¹ -----	F	¹ -----	F _b	¹ -----	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <table border="0"> <tr><td>_____</td><td>B</td></tr> <tr><td>_____</td><td>G</td></tr> <tr><td>_____</td><td>A</td></tr> </table> <p style="text-align: center;">T₆</p> </div>	_____	B	_____	G	_____	A				
_____	B																		
_____	G																		
_____	A																		
	B _b	_____	B _b	_____	D _b	_____	D _b	_____											
	C	_____	C	_____	E _b	_____	E _b	_____											
Set Class	6-34	[*] T ₀	6-Z49	[*] T ₃	6-34	[*] T ₀	6-Z49												
Pcset	[9,10,0,2,4,6]	(1)	[9,10,0,1,4,6]	(1)	[0,1,3,5,7,9]	(1)	[0,1,3,4,7,9]												
Mit-array	<2,4,6,8,10>		<3,6,9>		<2,4,6,8,10>		<3,6,9>												

Section B reverses the relationship in Section A by progressing from independent transpositions to unified transposition. This section features the same motives from Section A, which are independently transposed until the end of the section in m. 9 (Example 4-6). The left hand shows the clearest realization of independent transposition, which features four crisp

transpositions of the Motive L in mm. 4-9. The only exception is in m. 5B, which features only the minor-seventh fragment of the motive (F3-E \flat 4). The continuation of Motive R is less clear because of the chromatic lines in the upper voice. These chromatic lines are treated as passing tones in my analysis, which chromatically fill out the transpositional interval between repetitions of Motive R. For example, the chromatic ascent from E4 \mapsto G \sharp 4 in mm. 4-5 outlines the underlying transposition of Motive R by T₄.

Example 4-6: Independent transposition in Scriabin's Op. 63, No. 1, mm. 4-9

(Lower Motive R Only)

Right Hand:

(B)	_____	E \flat	_____	(C \sharp)	_____	(D \sharp)	_____	(F)
(A)	_____	D \flat	_____	(B)	_____	(C \sharp)	_____	(D \sharp)
E \sharp	_____	A	_____	G	_____	A	_____	B
E \natural	_____	G \sharp	_____	F \sharp	_____	G \sharp	_____	B \flat
C \sharp	_____	F	_____	D \sharp	_____	E \sharp	_____	F \sharp
	T ₄		T ₁₀		T ₂		T ₂	

Left Hand:

B	----	B \flat	----	(G)	----	G \flat	----	C \sharp	----	C	----	D \sharp	----	D
G	_____	E \flat	_____	A	_____	B	_____	C \sharp	_____	D	_____	E	_____	F
A	_____	F	_____	G	_____	A	_____	B	_____	C	_____	D	_____	E
	T ₈		T ₆		T ₂									

Eventually, the upper portion of Motive R drops from the musical surface beginning in m. 7. However, the implied continuation of these voices is suggested by the crisp transposition of the lower portion of Motive R in mm. 7-9. In fact, these notes are not truly implied because the majority of the right hand's "implied" notes are contained in the left hand.

The reunification of the two hands at the end of this phrase is implied by equivalence of the cumulative independent transpositions of the two hands. In total, both hands are cumulatively transposed by T₁₀ (mod12) from the beginning of independent transposition in m. 3 to the end of independent transposition in m. 9 (Example 4-7).

Example 4-7: Diagram of independent transpositions in Scriabin's Op. 63, No. 1, mm. 3-9

Right Hand:	T ₄	T ₄	T ₁₀	T ₂	T ₂	T ₁₀
Left Hand:	T ₆	T ₈	T ₆	T ₂	(T ₀)	T ₁₀
	mm. 3-4	m. 5	m. 6	m. 7	mm. 8-9	Total

While the orthography of Section C features only unified transposition, the musical surface hints at the continuation of independent transposition through contrary registral motions between the two hands. For example, mm. 10-12 of Section C features two unified transpositions by T₃ and T₉ that are underscored by uniform ascending and descending augmented-second orthography. However, independent transposition is suggested in this passage by the opposition of the right-hand's ascending spatial movement against the descending spatial movement of the left hand, shown by the crossing voice-leading lines (Example 4-8).

Example 4-8: Unified transpositions in Scriabin's Op. 63, No. 1, mm. 10-24

System 1: mm. 10-17

mm. 10-11: $\begin{matrix} B_b & C\# \\ F & G\# \end{matrix}$ (Set Class: 5-28, Pcset: [5,7,10,11,1], m. 10)

m. 12: $\begin{matrix} C\# & D \\ D_b & A\# \\ G & E \end{matrix}$ (Set Class: 5-28, Pcset: [8,10,1,2,4], m. 11)

mm. 13-14: $\begin{matrix} B_b & C\# \\ F & G\# \\ E_b & D_b \end{matrix}$ (Set Class: 6-34, Pcset: [10,11,1,3,5,7], mm. 12-14)

m. 15: $\begin{matrix} B_b & C\# \\ F & G\# \\ E_b & D_b \end{matrix}$ (Set Class: 5-28, Pcset: [8,10,1,2,4], m. 15)

m. 16: $\begin{matrix} B_b & C\# \\ F & G\# \\ E_b & D_b \end{matrix}$ (Set Class: 6-34, Pcset: [10,11,1,3,5,7], m. 16)

System 2: mm. 18-24

mm. 17-18: $\begin{matrix} D & F \\ A & C \\ E_b & G_b \\ F & D \\ B & A_b \end{matrix}$ (Set Class: 5-28, Pcset: [9,11,2,3,5], mm. 17-18)

m. 19: $\begin{matrix} D & F \\ A & C \\ E_b & G_b \\ F & D \\ B & A_b \end{matrix}$ (Set Class: 5-28, Pcset: [0,2,5,6,8], m. 19)

mm. 20-21: $\begin{matrix} D & F \\ A & C \\ G & B_b \\ E_b & G_b \\ B & D \\ F & A_b \end{matrix}$ (Set Class: 6-34, Pcset: [2,3,5,7,9,11], mm. 20-21)

mm. 22-23: $\begin{matrix} D & F \\ A & C \\ G & B_b \\ E_b & G_b \\ B & D \\ F & A_b \end{matrix}$ (Set Class: 6-34, Pcset: [5,6,8,10,0,2], mm. 22-23)

mm. 24-26: $\begin{matrix} D & F \\ A & C \\ G & B_b \\ E_b & G_b \\ B & D \\ F & A_b \end{matrix}$ (Set Class: 6-34, Pcset: [9,10,0,2,4,6], mm. 24-26)

Viewed as a whole, the transpositional structure of this piece reveals an alternation between unified transposition and independent transposition that closely follows the plot archetype of the Eternal Feminine: unity–breakdown–unity. Accordingly, the transpositional structure of the work begins with unified transposition in Section A, breaks into independent transposition in Section B, and returns to unified transposition in Section C (Example 4-9). In each case, the beginning of independent transposition and the return to unified transposition correlates with Scriabin’s performance indications. The beginning of independent transposition correlates with the *énigmatique* indication in m. 4; whereas the return to unified transposition correlates with the *bizarre* indication in m. 10 (see Example 4-3). The correlation of independent transposition to performance markings agrees with Garcia’s study of Scriabin’s music, which states that the Eternal Feminine plot is reflected in Scriabin’s late piano sonatas through his French performance indications.¹³ In fact, this analysis expands on Garcia research by pairing the philosophical concept of separate masculine and feminine principles to the physical separation of the harmonic structure through the independent motions of the hands.

These alternations between unified and independent transposition are also tied to the theory of opposing transpositional wills. Accordingly, each section of the form is associated with the transpositional wills of either the octatonic and mystic-chord collection. The opposition of these two collections is foreshadowed by the juxtaposition of opening two pcsets: the parsimoniously related mystic-chord (6-34) and octatonic subset (6-Z49) collections (Example 4-5). The transpositional will of Section A is indicated by the one unified transposition of $*T_3$, which is exclusively related to the octatonic collection. Conversely, each independent transposition in Section B is affiliated with the mystic-chord collection’s mit-array $\langle 2,4,6,8,10 \rangle$.

¹³ Garcia, “Scriabin's Symbolist Plot Archetype in the Late Piano Sonatas,” 276-89.

Example 4-9: Atonal voice-leading diagram of Scriabin Op. 63, No.1, mm. 0-26 featuring unified and independent transpositions

Unified Transposition

Section A

Right Hand:	E	_____	E	_____	G	_____	G	_____
	D	_____	D	_____	F	_____	F	_____
	B \flat	_____	B \flat	_____	D \flat	_____	D \flat	_____
	A	_____	A	_____	C	_____	C	_____
	F \sharp	_____	F \sharp	_____	A	_____	A	_____
Left Hand:	D	¹ -----	D \flat	¹ -----	F	¹ -----	F	¹ -----
	B \flat	_____	B \flat	_____	D \flat	_____	D \flat	_____
	C	_____	C	_____	E \flat	_____	E \flat	_____
Set Class	6-34 mm. 0-2	*T ₀ (1)	6-Z49	*T ₃ (1)	6-34 m. 3	*T ₀ (1)	6-Z49	

Independent Transposition

Section B

	B	_____	E \flat	_____	(C \sharp)	_____	(D \sharp)	_____	(F)	_____						
	A	_____	D \flat	_____	(B)	_____	(C \sharp)	_____	(D \sharp)	_____						
	F	_____	A	_____	G	_____	A	_____	B	_____						
	E	_____	G \sharp	_____	F \sharp	_____	G \sharp	_____	B \flat	_____						
	C \sharp	_____	F	_____	D \sharp	_____	E \sharp	_____	F \times	_____						
	T ₄		T ₄		T ₁₀		T ₂		T ₂							
	B	---	B \flat	---	(G)	---	(G \flat)	---	C \sharp	---	C	---	D \sharp	---	D	---
	G	_____	E \flat	_____	A	_____	B	_____	C \sharp	_____						
	A	_____	F	_____	B	_____	C \sharp	_____								
	T ₆		T ₈		T ₆		T ₂									
	mm. 4-5		m. 6		m. 7		m. 8		m. 9							

Unified Transposition

Section C

Both Hands:	B \flat	_____	C \sharp	_____	B \flat	_____	C \sharp	_____	B \flat	_____	D	_____	F	_____	D	_____	F	_____	E	_____
	F	_____	G \sharp	-----	F	-----	G \sharp	-----	F	-----	A	_____	C	-----	A	_____	C	-----	D	_____
	C \flat	_____	D	_____	C \flat	_____	D	_____	C \flat	_____	E \flat	_____	G \flat	_____	E \flat	_____	G \flat	_____	B \flat	_____
	D \flat	_____	A \sharp	_____	G	_____	A \sharp	_____	G	_____	F	_____	D	_____	B	_____	D	_____	F \sharp	_____
	G	_____	E	_____	D \flat	_____	E	_____	D \flat	_____	B	_____	A \flat	_____	F	_____	A \flat	_____	C	_____
Set Class:	5-28 m. 10	T ₃	5-28 m. 11	*T ₉ (2)	6-34 mm. 12-14	*T ₃ (2)	5-28 m. 15	*T ₉ (2)	6-34 m. 16	*T ₄ (2)	5-28 mm. 17-18	T ₃	5-28 m. 19	*T ₉ (2)	6-34 mm. 20-21	T ₃	6-34 mm. 22-23	T ₄	6-34 mm. 24-26	

In fact, these independent transpositions in Section B feature every possible interval of transposition associated with the mystic-chord collection: T_2 , T_4 , T_6 , T_8 , and T_{10} .

Section C features a mixture of both octatonic and mystic-chord affiliated transpositions which relates ambiguous nature of the section's main collection, sc 5-28, a shared subset of both the mystic-chord (6-34) and octatonic subset (6-Z49). An understanding of Section C's transpositional structure through sc 5-28's maximally invariant transpositions is problematic because none of the transpositions relate to sc 5-28's sole maximally invariant transposition of T_6 .¹⁴ However, the octatonic and mystic-chord affiliated transpositions in the section by T_3 , T_4 , and T_9 relate to 5-28's mutual subset relationship to scs 6-Z49 and 6-34, whose maximally invariant transpositions are $\langle 3,6,9 \rangle$ and $\langle 2,4,6,8,10 \rangle$ respectively. Accordingly, set class 5-28 shares the same five common tones with both scs 6-Z49 and 6-34, thus missing the one pitch class that differentiates 6-Z49 from 6-34. Thus, one could interpret sc 5-28 as exhibiting an ambiguous octatonic/mystic-chord quality. This ambiguous interpretation explains the vacillation between octatonic and mystic-chord affiliated transpositions throughout the section.

In summary, this analysis has shown how the use of independent transposition provides a deeper understanding of the structure and meaning behind Scriabin's Op. 63, No. 1. It provides a clear understanding of the voice-leading structure by precisely reflecting the unified and independent transpositions of the left and right hands. The alternation between unified and independent transposition correlated with the changes of formal sections and their associated transpositional wills of either the mystic-chord or octatonic collection. The meaning of the piece is ultimately related to Ivanov's philosophical concept of the Eternal Feminine, which represents

¹⁴ 5-28's ic-vector is 122212, which indicates that the collection is only maximally invariant at T_6 , which produces four common tones.

the breakdown and return to ultimate unity through the progression from independent transposition back to unified transposition throughout the form of the work.

Op. 74, No. 3

Op. 74, No. 3 is one of the most analyzed pieces by Scriabin because it is one of the few Scriabin works to use the octatonic collection exclusively.¹⁵ However, the various transpositional analyses of this harmonically simple piece have resulted in diametrically opposite results. For instance, Gawboy and François de Médicis have provided completely complementary analyses of the transposition structure of this piece (Example 4-10).¹⁶ De Médicis provides a foreground transpositional analysis of the melody, which features successive transpositions by T_{-3} , T_{-3} , and T_3 , whereas Gawboy's bass-line analysis features the inverse transpositions of T_3 , T_3 , and T_{-3} . While both analysts clearly connect their analysis to the musical surface, the transpositional understanding of this passage requires further refinement because it cannot be ascending and descending simultaneously.

The most precise understanding of this piece is that the transpositional structure consists of opposing independent transpositions of the right and left hands. My transpositional analysis of this piece only covers the first half because the remaining half is a precise repetition of mm. 1-12 plus a two measure extension.¹⁷ The left hand consists of a tritone dyad that is crisply transposed in the lower bass register, whereas the right hand consists of an octatonic subset (6-30) that accounts for the remaining notes in the passage.

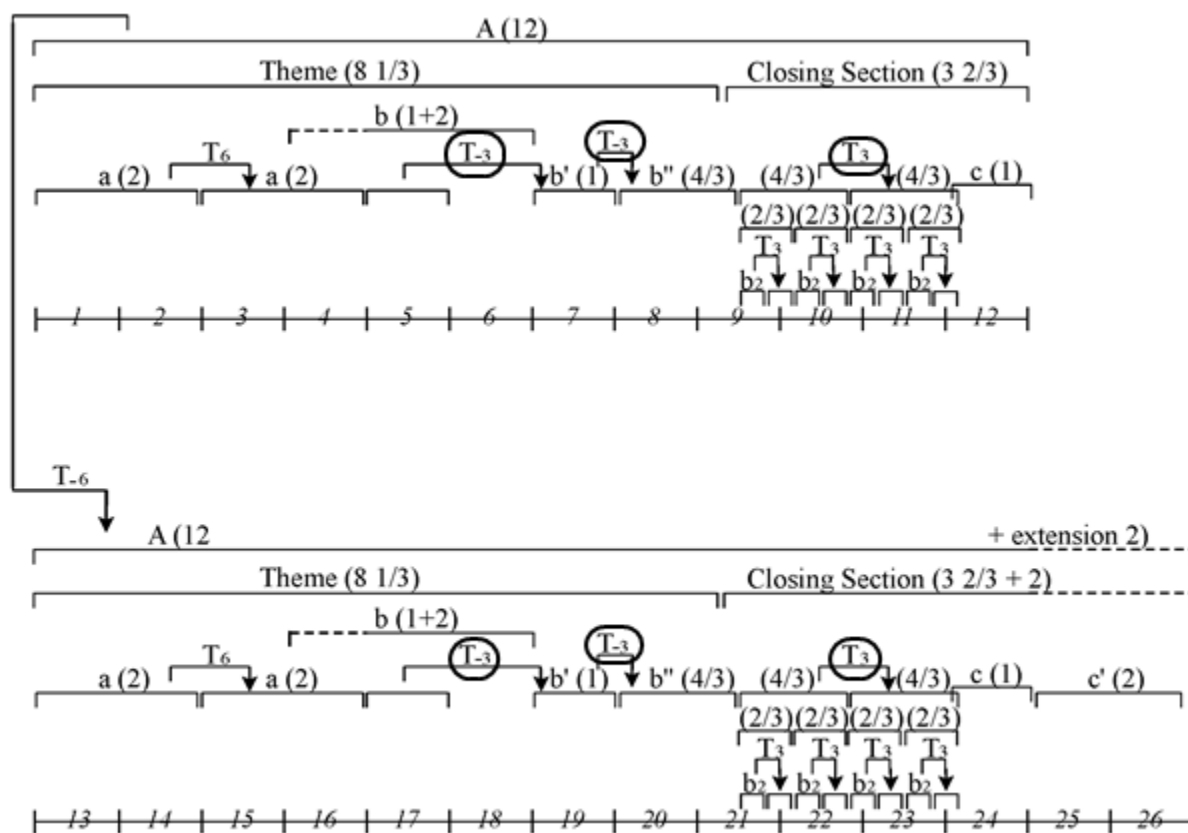
¹⁵ Anna Gawboy, "Alexander Scriabin's Theurgy in Blue: Esotericism and the Analysis of *Prometheus: Poem of Fire*, op. 60." (Ph.D. diss., Yale University, 2010), 136-39; François de Médicis, "Scriabin's Mature Style and the coordination of Form, Grouping and Pitch Structures," *Svenska samfundet för musikforskning* 12 (2009). http://musikforskning.se/stmonline/vol_12/medicis/index.php?menu=3; Morrison, "Scriabin and the Impossible," 319; George Perle, "Scriabin's Self-Analyses," *Music Analysis* 3, no. 2 (1984): 119.

¹⁶ Gawboy, "Alexander Scriabin's Theurgy in Blue," 136-39; de Médicis, "Scriabin's Mature Style."

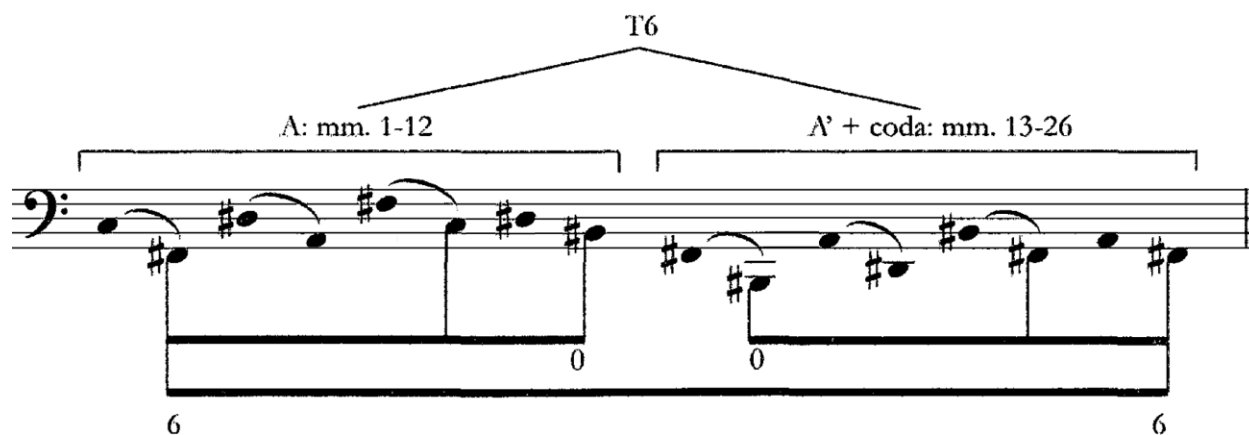
¹⁷ Cf. de Médicis's and Gawboy's analyses in Example 4-10.

Example 4-10: Comparison of two transpositional analyses by de Médicis and Gawboy

de Médicis's Analysis



Gawboy's Analysis



As previous scholars have shown, the only non-chord tones in this piece are the chromatic passing tones in the upper melody of the right hand.¹⁸ For example, the G#4 in the opening measure is a chromatic passing tones between A4 and G#4.

Example 4-11: Independent transposition in Scriabin's Op. 74, No. 3, mm. 1-12

Reprise I:

1 2 3

(T₀)

4 5 6 7

8 9 10

11 12

Beginning of Refrain II: (same as mm. 1-12 at T₆)

¹⁸ This note is also analyzed as a chromatic passing tone in Perle, "Scriabin's Self-Analyses," 119; and Anthony Pople, *Scriabin and Stravinsky, 1908-1914: Studies in Theory and Analysis* (New York: Garland Pub., 1989), 43-70.

This piece exhibits a pervasive transpositional opposition between the independent transpositions of hands throughout the piece, which is manifested in two ways. The first manifestation of opposition is the conflict of active motion against static motion. In this case, one hand features a transpositional motion, whereas the other piece remains static. For example, the right hand in mm. 1-5 features multiple ascending transpositions by T_6 that opposes the fixed motion of the left hand (Example 4-11). The second manifestation of opposition in this piece is the conflict of contrary transpositional motion. In this case, the two hands are independently transposed by contrary motion in pitch space. For example, mm. 5-9 feature a complementary transpositional structure of ascending and descending minor-third progressions. The right hand is transposed by T_{-3} , T_{-3} , T_{-3} , and T_3 , in direct opposition to the left hand, which is transposed by T_3 , T_3 , T_3 , and T_{-3} . Each of these complementary transpositions is directly realized on the musical surface through contrary minor-third transpositions in pitch space.

While these independent transpositions suggest a purely oppositional structure, unity is established between the two hands through the preservation of the octatonic collection. The continuation of the full octatonic collection (8-28) in this piece requires both hands: the six notes in the right hand (6-30) and the tritone in the left hand. Consequently, the two hands cannot be transposed in a manner that creates any overlapping pitch classes because the result would not include the eight distinct pitch classes necessary to produce the full octatonic collection. While the transposition of the two hands in different directions can produce pitch-class overlap, the specific transpositions of the two hands in this piece preserves the full octatonic collection by exploiting the invariance properties of the tritone. Accordingly, the pitch classes produced by the left-hand tritone's transpositions produce the same pitches as if transposed by the right hand's transpositions. For instance, the transposition of $\{6,0\}$ by T_0 in mm. 1-4 produces $\{6,0\}$,

which is the same unordered pcset as if it were transposed by the right hand's T_6 , {0,6}.

Likewise, the tritone's transposition of {6,0} by T_3 in mm. 4-6 produces {9,3}, which is similarly invariant under the right hand's transposition under T_{-3} , {3,9}.¹⁹

A second form of unity is shown by the select use of octatonic-affiliated transpositions. Many of the previous pieces featured an opposition of transpositional wills based on the different transpositional wills of the set classes in the pcset structure. However, this piece exhibits unity in the transpositional structure because it only uses the octatonic collection's maximally invariant transpositions of T_3 , T_6 , and T_9 . This unity correlates to the pcset unity throughout the piece, which only features the full octatonic collection.

Unlike Op. 63, No. 1, this piece does not emulate the Eternal Feminine plot archetype of unity–breakdown–unity because it features independent transpositions exclusively. However, this piece does have a strong connection to the concept of the Eternal Feminine through the piece's association with Scriabin's final unfinished work, *Preparatory Act*. Morrison found that elements of Op. 74, No. 3 were directly recycled in the *Preparatory Act*, which explicitly features the roles of the feminine and masculine principles.²⁰ The plot of the corresponding part of the *Preparatory Act* has a strong correlation to the use of independent transposition in this passage. Morrison found that excerpts of Op. 74, No. 3 were likely used as opening material of *Preparatory Act* because the recycled material was found in the opening sketches (Example 4-12). The plot at the beginning of the *Preparatory Act* involves a duet between the masculine and feminine principles, in which they states their separation from each other in their lyrics. Morrison writes, "The recycled Prelude music might ... have depicted the moment of struggle

¹⁹ Conversely, the music avoids independent transpositions of the hands that would produce pitch-class overlap. For instance, if the two hands were transposed by T_3 and T_6 , there would invariably be pitch-class overlap because the tritone's transposition by T_3 does not produce the same pitch classes as if transposed by T_6 .

²⁰ Morrison, "Scriabin and the Impossible," 319.

that exploded them into heterogeneous materiality. It is even arguable that the Prelude music would have granted the characters a degree of autonomy or consciousness in the work.”²¹

Example 4-12: Morrison’s comparison of Scriabin’s *Preparatory Act* sketches with Scriabin’s Op. 74, No. 3

The image displays two musical staves. The top staff is a sketch, showing a treble clef and a bass clef with various notes and accidentals. The bottom staff is a more developed piano score, labeled 'Allegro drammatico'. It features a treble clef and a bass clef, with dynamics such as 'p' (piano) and 'cresc.' (crescendo). The score is divided into three measures, numbered 1, 2, and 3, with various musical notations including notes, rests, and accidentals.

Consequently, one could interpret the pervasive use of independent transposition in Op. 74, No. 3 as an expression of this autonomy between the masculine and feminine principles in the opening duet of *Preparatory Act*, whereas their mutual relationship to each other through their derivation from primal unity is expressed by the prolongation of a singular octatonic collection throughout the entire piece.

In summary, the use of independent transposition allows one to precisely convey the voice-leading structure in Scriabin’s Op 74, No. 3, and to reveal aspects of independence and unity within the work. Previously, scholars only considered the transpositional motion of one hand, which neglected the often diametrically opposite transpositional motion in the other hand. By viewing each hand as separate, independent transpositions, one is able to represent the

²¹ Ibid., 320.

musical surface more accurately. These independent transpositions reveal an oppositional relationship between the two hands that is unified through pitch-class invariance. The opposition between the two hands was shown in two ways: (1) the opposition of active motion in the right hand against the static motion of the left hand; and (2) the contrary motion of the right hand's descending minor-third transpositions against the left hand's ascending minor-third transpositions. Transpositional unity was shown through invariance relationships on both local and global levels. On the local level, unity was shown through the prolongation of a singular octatonic collection through transpositional invariance. On the global level, unity was shown by the exclusive use of octatonic-affiliated transpositions.

These manifestations of independence and unity were ultimately related to the separation of the masculine and feminine principles through Op. 74, No. 3's connection to the opening of his *Preparatory Act*. Excerpts of the former work were shown to be directly recycled in the opening of the latter work, whose drama centers on the separation of the masculine and feminine principles. This analysis suggests that the separation of the masculine and feminine principles was conveyed in the music by the pervasive use of independent transposition, whereas the unity between the principles was conveyed by the prolongation of a singular octatonic superset.

Summary

This chapter explores new methods of analyzing Scriabin's music through independent transposition when unified crisp and fuzzy transpositional approaches are insufficient. In previous chapters, transformations between pcsets in Scriabin's late music involved parallel or similar voice leading on the musical surface that could be analyzed through singular crisp and fuzzy transpositions. Accordingly, that approach used time-span segmentations that yielded common set classes previously identified in Scriabin's late music. However, this method could

not be applied to all of Scriabin's late music because the musical surface often featured contrary or oblique transpositional motions on the musical surface, resulting in the formation of unusual set classes. Therefore, I propose incorporating independent transposition, which treats the transpositional motion of each hand as two separate entities. This method results in a transpositional analysis that precisely matches the voice leading on the musical surface.

This theory connects to Scriabin's underlying philosophical beliefs and his experience as a pianist, both of which suggest he viewed his two hands as polar entities that were united by one body. This polar conception of the hands explains how the progression from unified to independent transposition results in unusual set classes. The process of separating Scriabin's hallmark collections into various directions through independent transposition results in an unstructured layering of large subsets, which correlates with Scriabin's philosophical belief that chaos is caused by dividing primal unity through individual will.

The transpositional intervals connecting these independent transpositions show a clear connection to the previous theory of transpositional will. In unified crisp and fuzzy transpositions, the transpositional will of a transformation was shown through the correlation of the interval of transposition to the maximally invariant transpositions of the surrounding collections. In independent transposition, the transpositional will of a transformation was shown through the correlation of the interval of transposition to the maximally invariant transpositions of the collections formed *before their separation* through independent transposition.

This approach provided a complete analysis of two of Scriabin's late works: Op. 63, No. 1 and Op. 74, No. 3. In each case, the use of independent transposition reveals a close correspondence to Ivanov's concept of the Eternal Feminine. In the first piece, the alternation from unified transposition to independent transposition correlated with the Eternal Feminine plot

archetype of unity–breakdown–unity. In the second piece, the exclusive use of independent transposition correlated with the separation of the masculine and feminine principle characters in the opening of Scriabin’s *Preparatory Act*, which recycles material from Op. 74, No. 3. Furthermore, each piece displayed either opposing or unifying transpositional wills in the global transpositional structure. In Op. 63, No. 1, the transpositional structure featured the competing transpositional wills of the primary collections in the piece, the mystic-chord and octatonic collections. In Op. 74, No. 3, the transpositional structure featured unity through the pervasive use of octatonic affiliated transposition, which correlated with the prolongation of a full octatonic collection throughout the piece.

CHAPTER FIVE SYNTHESIZING AND EXTENDING TRANSPOSITIONAL WILL

Summary and Conclusions

The goal of this study was to provide a method of analyzing complete works by Scriabin that reveals the interaction between his compositional process and his philosophical beliefs. Prior, the closest realization of this goal was the work of Taruskin, which showed how the static aspect of pitch-class invariant transposition represented Scriabin's goal of representing negated desire.¹ While Taruskin's work certainly draws one link between theory and philosophy, it leaves many more connections undiscovered. Thus, previous work on Scriabin's music focused primarily on small invariant segments of music, which left much of his music unexamined.²

This study expands on Taruskin's diachronic approach in order to provide a system of analysis that encompasses entire works.³ Accordingly, this study presents a diachronic system of analysis of transpositional will in chapters three and four that was built on independent studies of analysis and philosophy in chapters one and two. The first chapter investigated the previous and current analytical theories on Scriabin's late music and identified the strongest and weakest areas of analysis. It found that the strongest system of analysis was relating members of the same set

¹ Richard Taruskin, review of *The Music of Alexander Scriabin* by James Baker; *Scriabin: Artist and Mystic* by Boris de Schloezer, trans. Nicolas Slonimsky, *Music Theory Spectrum* 10, 144-45; "Scriabin and the Superhuman: A Millennial Essay," in *Defining Russia Musically: Historical and Hermeneutical Essays* (Princeton: Princeton University Press, 1997), 308-359; *Oxford History of Western Music*, vol. 4 (Oxford: Oxford University Press, 2005).

² James Baker, *The Music of Alexander Scriabin* (New Haven: Yale University Press, 1986); Clifton Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin," *Journal of Music Theory* 35, no. 2 (1991): 219-33; Varvara Dernova, "Garmoniia Skriabina," in *A. N. Skriabin: Sbornik statei*, eds. Sergei Pavchinsky and Viktor Tsukkerman (Moscow: Sovetskii kompozitor, 1991); Philip Ewell, "Scriabin and the Harmony of the 20th Century" Annotated Translation of Article by Yuri Kholopov, *Journal of the Scriabin Society of America* 11, no. 1 (Winter 2006-2007): 12-27; Vasilis Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period: The Piano Miniatures," *Music Theory Online* 14, no. 3 (2008), <http://www.mtosmt.org/issues/mto.08.14.3/mto.08.14.3.kallis.html>; George Perle, "Scriabin's Self-Analyses," *Music Analysis* 3, no. 2 (1984): 101-22; Anthony Pople, "Skryabin's Prelude, Op. 67, No. 1: Sets and Structure," *Music Analysis* 2, no. 2 (1983): 151-73; Jay Reise, "Late Skriabin: Some Principles Behind the Style," *Nineteenth-Century Music* 6, no. 3 (1983): 220-31; Peter Sabbagh, *The Development of Harmony in Scriabin's Works* (Boca Raton: Universal Publishers, 2003); Cheong Wai-Ling, "Orthography in Scriabin's Late Works," *Music Analysis* 12, no. 1 (1993): 43-69.

³ Taruskin discusses the benefits of a diachronic approach in "Chernomor to Kaschei: Harmonic Sorcery; or, Stravinsky's 'Angle.'" *Journal of the American Musicological Society* 38, no. 1 (1985): 72-142.

class through maximally invariant transposition, which encompassed the analytical studies of Dernova, Kholopov, Taruskin, Perle, and others.⁴ Conversely, this study found that the weakest aspect of analysis was relating members of different set classes, which was only partially explained by the parsimonious voice-leading theory of Callender.⁵

Having reached an impasse on the explicative powers of analysis, the second chapter explored Scriabin's philosophical influences to understand how the operations of maximally invariant transposition and parsimonious voice leading correlated with Scriabin's beliefs. A broad examination of Scriabin's philosophical influences revealed a connection between the concept of unifying desire and pitch-class invariance. While this study maintains Taruskin's claim that the negation of individual desire is represented by symmetrical collections, it found that the high invariance found in maximally invariant transposition and parsimonious voice leading correlated to the concept of unifying desire. This unifying desire correlates with the unity of pcsets under these operations in terms of shared pitch-class content and the unified motion of pitch classes on the musical surface through uniform voice leading.⁶ Based on the correlation of unifying desire with maximally invariant transposition, this study suggested that collections have transpositional wills to preserve pitch-class content based on their maximally invariant transpositions.

⁴ Dernova, "Garmoniia Skriabina;" Ewell, "Scriabin and the Harmony of the 20th Century;" Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period;" Perle, "Scriabin's Self-Analyses;" Pople, "Skryabin's Prelude, Op. 67, No. 1;" Reise, "Late Skriabin;" Taruskin, "Scriabin and the Superhuman;" Wai-Ling, "Orthography in Scriabin's Late Works."

⁵ Callender, "Voice-Leading Parsimony in the Music of Alexander Scriabin."

⁶ James Baker, "Scriabin's Music as Prism for Mystical Philosophy," in *Music Theory in Concept and Practice*, eds. James M. Baker, David Beach, and Jonathan W. Bernard, 53-96 (Rochester, NY: University of Rochester Press, 1997); Anna Gawboy, "Alexander Scriabin's Theurgy in Blue: Esotericism and the Analysis of *Prometheus: Poem of Fire*, op. 60." (Ph.D. diss., Yale University, 2010), 103-16; Simon Morrison, *Russian Opera and the Symbolist Movement*. (Berkeley: University of California Press, 2002), 221-31; Leonid Sabaneev, *Vospominaniya O Scriabine* (Moscow: Klassika-XXI, 2000), 73-74.

The third chapter introduced the concept of transpositional will, which combined the concept of transpositional desire through maximally invariant transposition with the intervals of crisp and fuzzy transposition in Scriabin's late works. The chapter began by solving the previous analytical problem of relating members of different set classes through Straus's fuzzy transposition, which precisely conveys the voice leading on the musical surface.⁷ These fuzzy transpositions were then associated with the transpositional wills found in crisp transposition, showing a consistent correlation between the maximally invariant transpositions of the underlying pcsets and the intervals of transposition. In total, this study established three transpositional relationships: (1) mutual transposition, in which the interval of transposition correlated with the maximally invariant transpositions of both of the underlying pcsets, (2) exclusive transposition, in which the interval of transposition correlated with the maximally invariant transposition of only one of the underlying pcsets, and (3) unaffiliated transposition, in which the interval of transposition correlated with neither of the maximally invariant transpositions of the underlying pcsets. In turn, these three types of relationships were associated with three representations of transpositional will. Mutual transposition represented a mutual fulfillment of transpositional will; exclusive transposition represented an opposition of transpositional will; and unaffiliated transposition represented a complete negation of transpositional will. These transpositional relationships were eventually used to analyze three of Scriabin's late works, showing unity and opposition in the transpositional structure based on the transpositional wills of collections found in the pcset structure.

Chapter four expanded on this theory by showing how the independent transpositions of the hands represented unity on a local and global level. On the local level, the independent

⁷ Joseph N. Straus, "Uniformity, Balance, and Smoothness in Atonal Voice Leading," *Music Theory Spectrum* 25, no. 2 (Autumn, 2003): 305-52.

transpositions of the two hands related to the maximally invariant transpositions of the underlying collections, continuing the relationship between the pcset structure and the transpositional structure found in chapter three. On a global level, the large-scale alternation between unified and independent was connected to the Ivanov's Eternal Feminine plot of unity–breakdown–unity.

Ultimately, this study finds that the transpositional structure of Scriabin's late works is based on the maximally invariant transpositions of the underlying pcsets, which represents each collection's transpositional wills. In turn, one can use this approach to completely analyze many of Scriabin's late works through a series of unifying or competing transpositional wills, based on the shared and conflicting maximally invariant transpositions of the collections in the pcset structure.

Further Extensions into the Analysis of Scriabin's Other Works

While this study only focused on oppositional and unifying relationships within a single work, one can extend these opposing and unifying relationships between works. For example, the same pcset oppositions found in Scriabin's Op. 63, No. 1 between the mystic-chord and octatonic collections extend to the opposing pcset centricities of the two pieces in the opus. Each piece in Op. 63 establishes a centricity on either the mystic chord or octatonic collection by beginning and ending with the same set classes. As Example 5-1 shows, Op. 63, No. 1 has a centricity on the mystic-chord collection (6-34), whereas Op. 63, No. 2 has a centricity on the opposing octatonic subset of 6-Z49. One can also show how pcset centricity establishes unity within an opus. For example, Op. 69 is unified through the mystic-chord collection by beginning and ending on members of 6-34, just as beginning and ending in the same key represents a form of unity in a tonal work. Accordingly, this extends the unifying function of the mystic-chord

collection found in Op. 69, No. 2, whose maximally invariant transpositions correlated with every transposition in the piece.⁸

Example 5-1: Summary of Scriabin's late two-part piano miniatures

Opus	First Set Class	Final Set Class	Independent Transposition
Op. 63, No. 1	Mystic Chord	Mystic Chord	Yes
Op. 63, No. 2	Octatonic Subset (6-Z49)	Octatonic Subset (6-Z49)	No
Op. 67, No. 1	Mystic Chord	Octatonic Subset (6-30)	Yes
Op. 67, No. 2	Octatonic Subset (6-27)	Octatonic Subset (6-Z29)	No
Op. 69, No. 1	Mystic Chord	Mystic-Chord Subset (5-34)	Yes
Op. 69, No. 2	Octatonic Subset (6-Z49)	Mystic Chord	No
Op. 71, No. 1	7-Z37*	Whole-Tone	Yes
Op. 71, No. 2	Mystic Chord	Mystic Chord	Yes
Op. 73, No. 1	Acoustic Chord	Octatonic Subset (6-Z49)	Yes
Op. 73, No. 2	Octatonic Subset (6-Z49)	Octatonic Subset (6-Z49)	No

* This unusual set class stems from the use of independent transposition at the beginning of the work.

Another form of intra-opus relationship is found in the use or absence of independent transposition within an opus. As Example 5-1 shows, the first work in each of Scriabin's late piano miniatures typically features independent transposition, whereas the second work features only unified transposition. This intra-opus relationship corresponds closely to Scriabin's concepts of materialization and spiritualization, which he explicitly relates to his other post-tonal works.⁹ The use of independent transposition at the beginning of the opus represents the breakdown of primal unity in materialization through the contrary motion of the hands, whereas the exclusive use of unified transposition at the end of the opus represents the reconstitution of primal unity in spiritualization through the uniform motion of the hands. In fact, this matches the program of Scriabin's most famous work, *Prometheus*, in which he explicitly states that the first half of the piece represents materialization and the second half represents spiritualization.¹⁰

⁸ Chapter three, 139-45.

⁹ Gawboy, "Alexander Scriabin's Theurgy in Blue," 217-38.

¹⁰ Scriabin alternatively refers to this process of materialization and dematerialization. Gawboy, "Alexander Scriabin's Theurgy in Blue," 112-16; Sabaneev, *Vospominaniya*, 261; Schloezer, *Scriabin: Artist as Mystic*, 130-32.

Example 5-2: Transpositional analysis of Scriabin's Poem-Nocturne Op. 61, mm. 0-14

avec une grâce capricieuse

Set Class: 6-Z49 $E\flat \mapsto E\flat$ 6-34
Pcset: [10,11,1,2,5,7] [10,11,1,3,5,7]
Mit-array: <3,6,9> <2,4,6,8,10>

poco cresc.

Set Class: (same) 6-34 $*T_8^{(3)}$ 6-Z50 $*T_6^{(2)}$ 6-Z49
Pcset: [10,11,1,3,5,7] [9,10,1,3,4,6] [0,1,3,4,7,9]
Mit-array: <2,4,6,8,10> <3,6,9> <3,6,9>

pp *poco cresc.* *mp*

Set Class: (same) 6-Z49 $F\flat \mapsto F$ 6-34 $*T_8^{(3)}$ 6-Z50
Pcset: [0,1,3,4,7,9] [0,1,3,5,7,9] [11,0,3,5,6,8]
Mit-array: <3,6,9> <2,4,6,8,10> <3,6,9>

p *cresc.*

Set Class: $*T_6^{(3)}$ 6-34 $G \mapsto G\flat$ 6-Z49 $*T_6^{(2)}$ 6-Z50 T_9
Pcset: [2,3,5,7,9,11] [2,3,5,6,9,11] [11,0,3,5,6,8]
Mit-array: <2,4,6,8,10> <3,6,9> <3,6,9>

comme un murmure confus

Set Class: 6-z50 T_{11} 6-z50
Pcset: [8,9,0,2,3,5] [8,9,0,2,3,5]
Mit-array: <3,6,9> X <3,6,9>

In order to provide a high number of complete analyses of Scriabin's late works, this study has primarily focused on his post-tonal piano miniatures. However, its system of analysis can easily be applied to Scriabin's larger works to show correspondences between formal sections and competing transpositional wills of the underlying collections. For example, a transpositional analysis of the beginning of Scriabin's Poem-Nocturne, Op. 61 reveals a tight correlation between the transpositional wills of the underlying mystic-chord and octatonic collections and the formal sections defined by the performance indications of *avec une grâce capricieuse, comme une ombre mouvante*, and *comme une murmure confus* (Example 5-2). As in Op. 63, No. 1, the opposition between the mystic-chord (6-34) and octatonic (6-Z49) collections is foreshadowed in the opening measures through the parsimonious motions of $E\flat\flat_4 \rightarrow E\flat_4 \rightarrow E\flat\flat_4$, which is boxed separately in the example.

Accordingly, each section features a different transpositional will based on the underlying mystic chords (6-34) and octatonic subsets (6-Z49 and 6-Z50). The first section exclusively features mystic-chord affiliated transpositions by $*T_6$ and $*T_8$ in mm. 1-8; whereas the second section features exclusively octatonic affiliated transpositions and collections by $*T_6$ and T_9 in mm. 9-11. The third section begins with a marked unaffiliated transposition by T_{11} in m. 12, which can be interpreted as a negation of both collections' transpositional wills. This last, unusual transpositional relationship closely reflects the enigmatic performance indication at the start of this section, *comme une murmure confus*.

One can also extend the concept of transpositional will to some of Scriabin's earlier transitional works. For example, Scriabin's Op. 45, No. 2, mm. 12-15 features a transpositional structure that is based on the opposing transpositional wills of the whole-tone and diatonic collections (Example 5-3). Previously, scholars such as Sampson have analyzed this passage as

a \flat II – V – I progression in the key of C major.¹¹ However, this passage is unusual in terms of tonal harmony because the \flat II is in root positional and both the \flat II and V chords feature an abundance of non-triadic members.

Example 5-3: Transpositional analysis of Scriabin's Op. 45, No. 2, mm. 12-16

Anticipation of the C-Major Triad Root

Set Class: 6-35
Pcset: [1,3,5,7,9,11]
Mit-array: <2,4,6,8,10>

T₆ T₅ (6-35) *T₂ 3-11 [0,4,7] <5,7>

"Whole-Tone Dominant" "Whole-Tone Tonic"

Instead, a transpositional analysis provides a clearer harmonic understanding of the passage that reveals a series of opposing whole-tone and diatonic affiliated transpositions. The pcset structure consists of two whole-tone collections and one C-major triad, which tacitly implies the C-major diatonic collection. The first transposition by T₆ is a mutual transposition between the two whole-tone collections that keeps the whole-tone collection completely invariant. As Sampson's analysis suggests, this second whole-tone collection closely resembles a dominant chord in C major, which transposes to a C-major triad through the exclusive transposition of T₅.¹² As the diagram shows, the voice-leading into the final chord is unusual because it involves a vast change in cardinality and the delayed resolution to the C-major triad.

¹¹ Jim Sampson, *Music in Transition* (London: J. M. Dent & Sons Ltd., 1977), 85.

¹² The analysis of a dominant chord is also found in Dernova, "Garmonii Skriabina," 38; Robert Guenther, "Varvara Dernova's *Garmonii Skriabina*: A Translation and Critical Commentary," (Ph.D. diss., Catholic University of America, 1979), 151.

My analysis relays this transformation in two phases. First, there is a crisp transposition by T_5 , which follows the transpositional will of the diatonic collection. This transformation results in four notes: two members of the C-major triad (C and E) and two non-triadic members (F^\sharp and A^\flat). Second, the two non-triadic members of F^\sharp and A^\flat resolve parsimoniously to G to complete the C-major triad. My analysis also suggests that the notes of D and B^\flat , implied by the T_5 transformation,¹³ are dropped from the final collection because they are neither members of the C-major triad nor can they resolve into the C-major triad by semitone.

Further Extensions into the Analysis of Music by Scriabin's Contemporaries

The general concept of maximally invariant transposition used throughout this study can also be used to show a more precise relationship between individual chords and their transpositions in the works of Scriabin's predecessor, Rimsky-Korsakov. Currently, scholars have focused on how the invariance properties of a background referential collection relate to the transpositions of the foreground chords. For example, Taruskin shows how the maximally invariant transpositions of the octatonic collection relate to the series of foreground transposition of members of sc 5-16 by T_9 in Rimsky-Korsakov's *Sadko*, Section C (-18).¹⁴ While Taruskin's analysis shows how the individual transpositions generate a unified octatonic referential collection, it does not speak to the perception of the individual pcset relationships (Example 5-4). A close analysis of the individual pcset relationships is warranted, however, because Rimsky-Korsakov's harmony book discusses unusual chord resolutions far more than special harmonic collections, revealing his attention to the individual relationships of chords in his own music.¹⁵

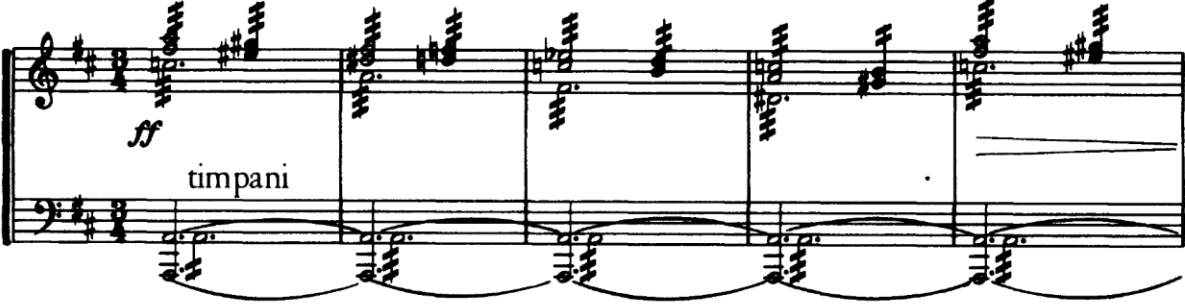
¹³ D and B^\flat occur in a similar phrase earlier in the work in m. 3.


¹⁴ Taruskin, "Stravinsky's 'Angle,'" 94-96.

¹⁵ Nikolai Rimsky-Korsakov, *Practical Manual of Harmony*, ed. Nicholas Hopkins, trans. Joseph Achron (New York: Carl Fischer, 2005).

Example 5-4: Transpositional Analysis of Rimsky-Korsakov's *Sadko*, Op. 5

- A) 18mm. before letter C (mm. 63-73)
- B) Taruskin transpositional reduction
- C) Diagram of maximally invariant relationships

A) *8va*

 timpani

B) 

C)

Set Class:	5-16	T_9	5-16	T_9	5-16	T_9	5-16
Pcset:	[5,6,8,9,0]		[2,3,5,6,9]		[11,0,2,3,6]		[8,9,11,0,3]
Mit-array:	<3,9>	\longleftrightarrow	<3,9>	\longleftrightarrow	<3,9>	\longleftrightarrow	<3,9>

One can show how the invariance properties of these sc 5-16 members are used to create a series of smooth pcset transformations by adhering to the maximally invariant properties of the set class. As with Scriabin's larger pcsets, one can use the ic-vector to establish the maximally invariant transpositions of sc 5-16, which are T_3 and T_9 .¹⁶ Accordingly, every transposition in this passage is a maximally invariant transposition, which ensures that the chords are connected

¹⁶ The ic-vector of sc 5-16 is 213211, which produces three common tones at members of ic3.

smoothly in pitch-class space (Example 5-4C). This analysis informs the listener that the passage is harmonically smooth on a foreground level, as well as being harmonically unified on a background level.

In addition, the concept of independent transposition illuminates smooth internal subset relationships in Stravinsky's music. Scholars already acknowledge that Stravinsky's music often consists of multiple, autonomous layers, which can be analyzed as independent elements.¹⁷ For example, Berger shows how Stravinsky's *Rite of Spring* R. 42 features distinct layers of tetrachords and trichords that are transposed at different durations.¹⁸ All of the tetrachords are major-minor seventh chords that alternate every measure or remain invariant throughout; whereas all of the trichords are major triads that alternate every measure or at every eighth-note subdivision.

While Berger focuses on how these independent chords sustain the full octatonic collection on a background level, one can show how each of these tetrachord and trichords are related on a foreground level through maximally invariant transposition. Each tetrachord is related by T_3 , T_6 , and T_9 , which corresponds to the maximally invariant transpositions of the major-minor seventh chord.¹⁹ Accordingly, each of the major triads is related by T_3 or T_9 , which corresponds to two of the maximally invariant transpositions of the major triad. It is important to note that these transpositions do not match every maximally invariant transposition of the major triad, whose mit-array is $\langle 3,4,5,7,8,9 \rangle$. This limitation to the maximally invariant transpositions of T_3 and T_9

¹⁷ Arthur Berger, "Problems of Pitch Organization in Stravinsky," *Perspectives of New Music* 2 (1963): 11-42; Edward Cone, "Stravinsky: The Progress of a Method," *Perspectives of New Music* 1 (1962): 18-26; Christopher Hasty, "On the Problem of Succession and Continuity in Twentieth-Century Music," *Music Theory Spectrum* 8 (1986): 58-74; Gretchen Horlacher, "The Rhythms of Reiteration: Formal Development in Stravinsky's Ostinati," *Music Theory Spectrum* 14, no. 2 (Autumn, 1992): 171-87; "Running in Place: Sketches and Superimposition in Stravinsky's Music," *Music Theory Spectrum* 23, no. 2 (Fall 2001): 196-216; van den Toorn, *The Music of Igor Stravinsky* (New Haven: Yale University Press, 1983): 195-96.

¹⁸ Berger, "Problems of Pitch Organization in Stravinsky," 27.

¹⁹ The ic-vector for the major-minor seventh chord (4-27) is 012111, which produces two common tones at members of ic3 and ic6.

is significant, however, as the use of T₄, T₅, T₇ or T₈ would disrupt the background octatonic collection.

Example 5-5: Transpositional analysis of Stravinsky's *Rite of Spring*, R. 42 (mm. 1-3)

Invariant Tetrachord Layer

E^b7

One-Measure Tetrachord Layer

E^b7 T₃ G^b7 T₉ E^b7 T₃ G^b7

One-Measure Trichord Layer

C T₃ E^b T₉ C T₃ E^b

A T₉ F[#]

Eighth-Note Trichord Layer

E^b F[#] E^b C A F[#] A F[#] E^b C A C A F[#] E^b C

Taken as a whole, these extensions show the clear importance of exploring invariance relationships in early twentieth-century Russian music. Accordingly, the use of maximally

invariant transposition in the music of these three prominent Russian composers suggests that these relationships can be found in other Russian and Soviet works. In addition, this study shows that the study of maximally invariant transposition can be used to reveal the meaning lying behind the music. In Scriabin's music, his desire to create unity was correlated with his use of maximally invariant special collections, which expresses unity through shared pitch-class content. Likewise, the use of special collections by Russian composers has long been associated with the representation of magic figures since Glinka.²⁰ Famous examples include Glinka's use of the whole-tone scale to depict the magical dwarf Chernomor, Rimsky-Korsakov's use of the whole-tone scale to depict the evil sorcerer Kaschei, and Stravinsky's use of the octatonic collection to depict the magical firebird. While these associations give a general understanding of the meaning behind the use of special collections, the study of the maximally invariant transpositions within these special collections may reveal a more precise interaction between the musical structure and the underlying plot of these twentieth-century Russian works.

This search for meaning in Scriabin's late music has proven to reveal an intimate relationship between Scriabin the logical composer and Scriabin the eccentric philosopher. Scriabin has long been cited as a composer who rigorously analyzed his new harmonic collections.²¹ This study suggests that part of this study comprised of an intense focus on pitch-class invariance that extends a Russian tradition of invariance relationships from Rimsky-Korsakov, which stems from an even longer exploration of special collections going back to Glinka. The connection of Scriabin's unifying desire to the use of maximally invariant transposition through the theory of transpositional will conveys the passionate intent within

²⁰ Marina Frolova-Walker, *Russian Music and Nationalism: From Glinka to Stalin* (New Haven: Yale University Press, 2007), 104-133; Taruskin, "Stravinsky's 'Angle,'" 93-121; Mary Woodside, "Leitmotiv in Russia: Glinka's Use of the Whole-Tone Scale," *19th-Century Music* 14, no. 1 (Summer, 1990): 67-74.

²¹ Sabaneev, *Vospominaniya*, 49; Schloezer, *Scriabin: Artist as Mystic*, 58-62.

Scriabin's philosophy and his late works. Finally, this study reveals a greater understanding of Scriabin as an artist. Like many great composers before and since, Scriabin's music pushed the limits of harmony with the desire of expressing Scriabin's inner most beliefs; his desire to express—as deeply as possible—the previously inexpressible.

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