Yuri Kholopov and Twelve-Toneness

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Abstract

Twelve-tone composition and theory experienced a belated start in the Soviet Union. Composers and theorists of the 1960s–80s, suddenly able to engage with twelve-tone technique, found themselves constructing a notion of a practice that had been initiated long in the past. Yuri Kholopov, the theorist who first wrote of “twelve-toneness,” a particular broad conception of twelve-tone and related techniques of the early twentieth century, was faced with both placing the Second Viennese School in its historical context and with restoring the Russian contributions that had been effaced from this history. The various demands imposed on a late-Soviet history of twelve-tone technique created the conditions for an understanding of twelve-tone practice that is more expansive than the equivalent concept in Anglo-American scholarship. Kholopov’s array of twelve-tone techniques decenters Schoenberg and accommodates several Russian composers who, a generation earlier, would not have figured in the twelve-tone historical narrative.

Twelve-tone technique is a fluid construct, negotiated by different authors with different aims. Social, cultural, and political factors influence what qualifies as twelve-tone, thus determining how the history of twelve-tone composition is written.¹ The Soviet encounter with twelve-tone music offers a case in point. As Peter Schmelz has documented, twelve-tone technique made a belated entry into Soviet composition when the “unofficial” young composers of the 1960s began experimenting with a practice that was already several decades old in Western Europe.² Like twelve-tone composition, twelve-tone theory also got a late start in the Soviet Union. Soviet theorists of the 1960s–80s constructed a historical concept of twelve-tone technique without the scaffolding of an established discourse. Although authors such as Yuri Kholopov, the Soviet theorist who wrote most extensively on twelve-tone practice, quickly became versed in the relevant Western European and Anglo-American scholarship, their notion of twelve-tone technique departed from the tradition that consecrated the Second Viennese School. Kholopov’s concept of “twelve-toneness” (*dvenadtsatitonovost’*) encompassed a wider range of techniques than the equivalent idea in Anglo-American theory.

Prior studies have shown that the concept of twelve-toneness accommodates practices in late twentieth-century Soviet composition that diverge from classical twelve-tone orthodoxy.³ The present essay shows how the concept also accommodates a repertoire of early twentieth-century Russian works reappraised as twelve-tone under an expanded formulation. Twelve-toneness is a political and historiographical construct that reclaims a Russian prehistory of twelve-tone technique and places the

¹ The present essay builds on an idea first articulated in Christopher Segall, “Prokofiev’s Symphony No. 2, Yuri Kholopov, and the Theory of Twelve-Tone Chords,” *Music Theory Online* 24, no. 2 (2018), <https://doi.org/10.30535/mto.24.2.8>.

² For the full context and history of early twelve-tone music in the 1950s and 1960s in the Soviet Union, see Peter J. Schmelz, *Such Freedom, If Only Musical: Unofficial Soviet Music during the Thaw* (New York: Oxford University Press, 2009).

³ See Peter J. Schmelz, “Shostakovich’s ‘Twelve-Tone’ Compositions and the Politics and Practice of Soviet Serialism,” in *Shostakovich and His World*, ed. Laurel E. Fay (Princeton, NJ: Princeton University Press, 2004), 303–54; Schmelz, *Such Freedom, If Only Musical*; and Zachary A. Cairns, “Svetlana Kurbatskaya on Serial Music: Twelve Categories of ‘Twelve-Toneness,’” *Gamut* 5 (2012): 99–131, <https://doi.org/10.1093/acprof:oso/9780195341935.001.0001>.

practices and discourse of the Second Viennese School in a broad historical context. The following points emerge from my narrative. First, whereas scholars have long acknowledged the variety of twelve-tone approaches employed from the 1920s on, Kholopov argues that certain kinds of twelve-tone technique were in use as early as the first decade of the twentieth century in works written by composers who had neither direct influence on nor direct knowledge of Schoenberg. On this basis, Kholopov argues that the method developed by Schoenberg was not the foundation of twelve-tone technique but simply a technically sophisticated instantiation of a trend that had begun twenty years before. He historicizes the achievements of Schoenberg to emphasize his participation in a wide-ranging network of contemporaneous compositional ideas. Second, because many of the early twelve-tone composers discussed by Kholopov were from Russia or from future Soviet republics, his work implicitly advocates for the study of twelve-tone composition in the Soviet Union. It does so at the opportune moment when twelve-tone composition and theory were becoming acceptable subjects of study in Soviet institutions. Aptly, Kholopov's theoretical construct recovers a progressive narrative of compositional innovation in Russia that had been suppressed under Stalinism. Third, the numerous techniques subsumed under twelve-toneness—all of which employ the twelve notes of the chromatic scale in creative and patterned ways although they do not necessarily use tone rows and their transformations—invite a variety of analytical approaches, which Kholopov explores in his writings. His expansionist understanding of twelve-toneness further erodes the dominant historiographic position of the Second Viennese School in the narrative of atonality conveyed in Western theory pedagogy through an emphasis on tone-row analysis. Finally, the Soviet notion of twelve-tone technique allows us to critically examine its Anglo-American counterpart and in particular to reconsider the central roles played by the ideas of intellectual individualism and the musical canon in the English-language historiography of twelve-tone theory.

Kholopov and Soviet Music Theory

Yuri Kholopov (1932–2003) was a prolific late-Soviet music theorist who published dozens of books—monographs, textbooks, treatises—and hundreds of articles on a wide range of interests including functional harmony, early Russian church music, twelve-tone technique, and the history of music theory.⁴ His term “twelve-toneness” refers in the broadest possible way to the circulation of the twelve pitch classes of the chromatic scale (as implied by “twelve-tone”) or to the generation of pitch material through

⁴ Translations into English of Kholopov's writings include: Yuriy Kholopov, “Form in Shostakovich's Instrumental Works,” trans. John Cornish and David Fanning, in *Shostakovich Studies*, ed. David Fanning (New York: Cambridge University Press, 1995), 57–75, <https://doi.org/10.1017/CBO9780511551406.003>; several contributions to Valeria Tsenova (ed.), *Underground Music from the Former USSR*, trans. Romela Kohanovskaya (Amsterdam: Harwood Academic, 1997); and Philip A. Ewell, “‘On the System of Stravinsky's Harmony’ by Yuri Kholopov: Translation and Commentary,” *Music Theory Online* 19, no. 2 (2013), <https://doi.org/10.30535/mtol.19.2.1>. English-language sources that discuss Kholopov's theoretical writings include: Philip A. Ewell, “Rethinking Octatonicism: Views from Stravinsky's Homeland,” *Music Theory Online* 18, no. 4 (2012), <https://doi.org/10.30535/mtol.18.4.2>; Philip A. Ewell, “Russian Pitch-Class Set Analysis and the Music of Webern,” *Gamut* 6, no. 1 (2013): 219–76; Zachary A. Cairns, “A Glimpse at Iurii Kholopov's *Garmonicheskii analiz*,” *Music Theory Online* 20, no. 3 (2014), <https://doi.org/10.30535/mtol.20.3.7>; Ellen Bakulina, “Tonality and Mutability in Rachmaninoff's *All-Night Vigil*, Movement 12,” *Journal of Music Theory* 59, no. 1 (2015): 63–97, <https://doi.org/10.1215/00222909-2863391>; and Segall, “Prokofiev's Symphony No. 2, Yuri Kholopov, and the Theory of Twelve-Tone Chords.”

transformations of a single source set (the principle of serialism).⁵ “Twelve-toneness” encapsulates the early twentieth-century concern of composers who were increasingly searching for musically compelling reasons to use the twelve pitch classes. In Kholopov’s formulation, there can even be music that sounds “twelve-tonish” but does not actually use all twelve pitch classes. This essay discusses the various twelve-tone techniques that make up this broad conception of twelve-toneness.⁶

There is a terminological distinction worth clarifying at the outset. Kholopov distinguishes dodecaphony from twelve-tone technique and twelve-toneness.⁷ These terms are synonymous in English-language discourse, but in Russian scholarship they are distinct. Dodecaphony is the term for the strict, orthodox approach to twelve-tone row composition, whereby a single tone row, transformed through transposition, inversion, and retrogression, serves as the sole source of pitch material for an entire composition. This approach is associated with Schoenberg (especially from op. 26 on) and Webern (from op. 17 on). Twelve-tone technique, or twelve-toneness, is the broader phenomenon of composing with the twelve pitch classes or an ordered series that is not necessarily the exclusive basis of an entire composition. It encompasses a variety of approaches, including microserialism (rows shorter than twelve pitch classes), twelve-tone chords, and twelve-tone fields (unordered distribution of the twelve pitch classes), as well as classical dodecaphony. Twelve-toneness is the large-scale concept that covers many individual types, of which dodecaphony is one.

For several decades, the Soviet state exercised tight control over what kind of music was acceptable in the official discourse. It upheld its program of socialist realism through punitive measures enacted against transgressors: censure, loss of employment, imprisonment, or execution. Particularly from the mid-1930s through the mid-1950s, the repressive Stalinist regime afforded no opportunity for engagement with atonality or twelve-tone technique. Composers had no official avenues to access Western atonal scores, and they self-censored to avoid running afoul of the authorities. The loosening of restrictions by the 1960s incited a generation of so-called “young composers”—Volkonsky, Denisov, Schnittke, Gubaidulina, Pärt, and others—to write twelve-tone music partly as a political expression of the newfound freedom they enjoyed. As their access to materials from the West was still limited, these composers’ twelve-tone styles seem unorthodox when measured against the mature practice of the Second Viennese School. They imagined their initial works to be strictly dodecaphonic, but without knowing how comprehensively Schoenberg and others sometimes adhered to a single tone row.⁸

⁵ On the history of the term “twelve-toneness,” see Schmelz, “Shostakovich’s ‘Twelve-Tone’ Compositions,” 324–6; and Cairns, “Svetlana Kurbatskaya on Serial Music.” The German term *Zwölftönigkeit*, from Herbert Eimert’s *Atonale Musiklehre* (1924), one of the earliest sources to theoretically describe twelve-tone music, has recently been translated as “twelve-toneness” in: Jennifer L. Weaver, “Theorizing Atonality: Herbert Eimert’s and Jefim Golyscheff’s Contributions to Composing with Twelve Tones” (PhD diss., University of North Texas, 2014), 31.

⁶ As will be clarified in due course, Kholopov’s understanding of “twelve-toneness” is broader than other expanded conceptions of twelve-tone practice, for instance John Covach’s “twelve-tone idea,” or “the systematic circulation of all the twelve pitch classes (pcs) in which no pc is repeated before all twelve have been sounded.” John Covach, “Twelve-Tone Theory,” in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (New York: Cambridge University Press, 2002), 604, <https://doi.org/10.1017/CHOL9780521623711.021>; an earlier formulation appears in: John Covach, “The Quest of the Absolute: Schoenberg, Hauer, and the Twelve-Tone Idea,” *Black Sacred Music* 8, no. 1 (1994): 160, <https://doi.org/10.1215/10439455-8.1.157>.

⁷ See discussion in Schmelz, “Shostakovich’s ‘Twelve-Tone’ Compositions,” 324–6; and Schmelz, *Such Freedom, If Only Musical*, 134–7.

⁸ Peter J. Schmelz, “Andrey Volkonsky and the Beginnings of Unofficial Music in the Soviet Union,” *Journal of the American Musicological Society* 58, no. 1 (2005): 139–208, <https://doi.org/10.1525/jams.2005.58.1.139>; Schmelz, *Such Freedom, If Only Musical*, 26–66.

These same composers clamored for Soviet theorists to investigate twentieth-century music in order to consolidate an understanding of a repertoire that had been off limits during the previous era.⁹ Yuri Kholopov, a “young theorist” of the same generation, answered the call in his systematic study of extended harmonic function in the tonal music of Prokofiev.¹⁰ By 1980, he turned his attention to a critical history and theory of twelve-tone technique. Kholopov’s article “Kto izobryol 12-tonovuyu tekhniku?” [Who invented twelve-tone technique?] (1983) provides an ideal lens through which to consider the Russian conception of twelve-toneness.¹¹ Although a straightforward study of twelve-tone music could have followed Western precedent and begun in the 1920s with Schoenbergian dodecaphony, exploring its rigorous technical features and tracing its direct influence on subsequent generations of composers, this approach would have excluded compositional contributions from Russia and the Soviet Union. Due to the strictures of Stalinist musical activity and the resulting absence of early Soviet twelve-tone works, the twelve-tone narrative would necessarily have focused on composers from the West, their importance reinforced through invocation of the Schoenberg-centered Western scholarship with which Kholopov was becoming familiar. No sooner would Soviet scholars have been granted the freedom to research twelve-tone technique than they would have had to cede control to the established paradigms of the West.

Kholopov pursues the radical agenda of looking backward in time to identify precursors to Schoenberg’s techniques, finding a variety of approaches to systematically composing with the twelve tones in the first two decades of the twentieth century, before Schoenberg’s dodecaphony had been formulated. The time frame does not treat Schoenberg as the instigator of twelve-tone technique; the non-teleological chronology that Kholopov offers does not treat less rigorous or less comprehensive approaches to twelve-tone composition as transitional or underdeveloped. Rather, the exploration of multiple twelve-tone *techniques* accommodates a number of Russian and other composers, most working independently of one another, who found creative, musically stimulating ways of using all twelve tones or transformations of ordered series in their compositions. Many of these techniques, too, would be considered unorthodox by Schoenbergian standards. By highlighting these works and treating them as twelve-tone, Kholopov implicitly validates the unorthodox twelve-tone compositions of the Soviet 1960s. Kholopov’s broad definition of “twelve-toneness” wrests power away from the defenders of the Second Viennese School and positions twelve-tone technique as having been a Russian phenomenon all along. An idea as seemingly stable as twelve-tone technique is revealed to be subject to political mediation.

⁹ Peter J. Schmelz, “After Prokofiev,” in *Sergey Prokofiev and His World*, ed. Simon Morrison (Princeton, NJ: Princeton University Press, 2008), 509–11, <https://doi.org/10.1515/9780691190426-012>.

¹⁰ Yuriy Kholopov, *Sovremennīye chertī garmonii Prokof’eva* [Contemporary aspects of Prokofiev’s harmony] (Moscow: Muzika, 1967).

¹¹ Yuriy Kholopov, “Kto izobryol 12-tonovuyu tekhniku?,” in *Problemy istorii avstro-nemetskoy muziki: Pervaya tret’ XX veka* (Moscow: Gosudarstvenniy muzikal’no-pedagogicheskiy institut imeni Gnesinikh, 1983), 34–58. The titular question is recalled by that of Bryan R. Simms, “Who First Composed Twelve-Tone Music, Schoenberg or Hauer?,” *Journal of the Arnold Schoenberg Institute* 10, no. 2 (1987): 109–33. Simms’s response is similar to that found in Kholopov: “The answer depends, of course, upon one’s definition of twelve-tone music” (109).

Types of Twelve-Toneness

Several types of twelve-toneness can be extracted from Kholopov's survey.¹² The following summary details the most significant of these categories, as drawn directly from Kholopov's original article. Several have been addressed from independent perspectives within recent Anglo-American theory.

Synthetic chords (*sintetakkordi*): The techniques of Alexander Scriabin and Nikolai Roslavets are identified as precursors to twelve-tone technique. Roslavets composed with so-called "synthetic" chords, mildly dissonant chord types with six to eight notes. Each work used a single synthetic chord type, transposed to all twelve pitch levels, as the exclusive source of harmonic material. Described from the standpoint of modern pitch-class set theory, this can be understood as the transposition of an unordered pitch-class set. Roslavets's works draw melodic material from the harmonies; the same pitch classes are used for both.¹³

"Tì ne ushla" [You have not gone], from Roslavets's *Trois Compositions* (1913), illustrates the technique (Example 1; all musical examples and analyses in this article are reproduced directly from Kholopov). A six-note synthetic chord, equivalent to the union of E-flat major and E major triads, is replicated at different pitch levels. Within each span, all notes in the texture derive from the indicated synthetic chord.

Moderato

Tì ne u - shla.

collections:

[= Eb + E]

Example 1: Nikolai Roslavets, *Trois Compositions* (1913), no. 2, "Tì ne ushla." Kholopov, "Kto izobryol 12-tonovuyu tekhniku?," 49.

The technique of synthetic chords presages twelve-tone technique in several ways. First, all twelve tones circulate. Successive harmonies are not determined through functional progression but rather through the free transposition of the synthetic chord through the chromatic scale. Second, all pitch events are drawn from transformations of a single source set. Third, both horizontal and vertical elements derive from the

¹² A succinct presentation can be found in Svetlana Kurbatskaya's *Seriynaya muzika* [Serial music] where twelve-toneness is grouped into—amusingly enough—*twelve* categories. See Svetlana Kurbatskaya, *Seriynaya muzika: Voprosi istorii, teorii, estetiki* [Serial music: Questions of history, theory, aesthetics] (Moscow: Sfera, 1996), 32–43. Cairns argues that the twelve categories so contrived here contain overlaps and redundancies; Cairns, "Svetlana Kurbatskaya on Serial Music," 114–24.

¹³ Roslavets's synthetic chords have also been discussed in: Inessa Bazayev, "Triple Sharps, Q_n Relations, and Symmetries: Orthography in the Music of Nicolai Roslavets," *Music Theory Spectrum* 35, no. 1 (2013): 111–31, <https://doi.org/10.1525/mts.2013.35.1.111>.

same source.¹⁴ This last point highlights Roslavets's use of synthetic chords as a development of Scriabin's use of the so-called "mystic chord," likewise used at different pitch levels as the source for both harmonic and melodic material.¹⁵ There are also conspicuous differences with later twelve-tone technique. Although the twelve pitch classes circulate in Roslavets's excerpt, they do not do so systematically. From the perspective of the compositional procedure employed, the use of the twelve tones seems incidental, not the primary or intentional guiding force behind the technique.

Microserialism (*mikroseriynost'*): Microserialism refers to the use of an ordered pitch-class series that is shorter than twelve tones. The series otherwise submits to the same operations of mature dodecaphony: transposition, inversion, and retrogression. Kholopov provides two early musical passages in which transformations of a single "microseries" account for the majority of pitch material. The introduction to Anton Webern's String Quartet, op. posth. (1905), is based on a three-note ordered cell, C-sharp–C–E (Example 2). Kholopov's analysis tracks all the forms that can be heard in the passage, some of which overlap with one another in the texture. As a work not published until several decades after Webern's death, the String Quartet would not have been widely known in the early twentieth century. It nonetheless attests to the burgeoning compositional interest in what would become known as serialism.

The image displays a musical score for Anton Webern's String Quartet, op. posth. (1905). The score is written for four staves (Violin I, Violin II, Viola, and Cello/Double Bass) in 3/4 time. The tempo is marked 'schneller' and the mood is 'Düster und schwer'. The key signature has one sharp (F#). The score includes dynamic markings such as 'ppp' (pianissimo) and 'con sord.' (con sordina), and articulation markings like 'pizz.' (pizzicato). A separate staff at the bottom shows the microseries C#-C-E, with the label 'microseries C#-C-E'.

Example 2: Anton Webern, String Quartet, op. posth. (1905). Kholopov, "Kto izobryol 12-tonovuyu tekhniku?," 44.

¹⁴ The equation of the horizontal and vertical is also a central theme in Jonathan Bernard's history of set theory; Bernard, "Chord, Collection, and Set in Twentieth-Century Theory," in *Music Theory in Concept and Practice*, ed. James M. Baker, David W. Beach, and Jonathan W. Bernard (Rochester, NY: University of Rochester Press, 1997), 11–51.

¹⁵ On this feature of Scriabin's harmonic practice, see: Roy J. Guenther, "Varvara Dernova's System of Analysis of the Music of Skryabin," in *Russian Theoretical Thought in Music*, ed. Gordon D. McQuere (Ann Arbor: UMI Research Press, 1983), 165–216; Richard Taruskin, *Defining Russia Musically: Historical and Hermeneutical Essays* (Princeton, NJ: Princeton University Press, 1997), 308–59; and Vasilis Kallis, "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period: The Piano Miniatures," *Music Theory Online* 14, no. 3 (2008), <https://doi.org/10.30535/mto.14.3.2>.

A second example of microserialism comes from Stravinsky's *Firebird* (1909–10), in which a four-note ordered cell, G–A-flat–A–D-flat, is analyzed as constituting the entire pitch basis of a passage from the *Firebird*'s Capture Scene. As also discussed in commentaries by Richard Taruskin and Philip Ewell, this leitmotif appears in transposed, inverted, retrograded, and retrograde-inverted forms in the analysis.¹⁶

Twelve-tone fields (*dvenadtsitonoviye polya*): A twelve-tone field is an unordered presentation of the aggregate of twelve pitch classes. The twelve tones are distributed horizontally and vertically within a limited musical span. The earliest cited example comes from the piano introduction to Webern's "Gleich und gleich," op. 12, no. 4 (1917), in which each pitch class is sounded exactly once, appearing either in the melody or in the accompanying chord.¹⁷ Composed the following year, Nikolai Obukhov's "Le Sang!" (1918) features twelve-tone fields in its accompaniment (Example 3; each box represents a twelve-tone field). Kholopov writes that Obukhov's twelve-tone fields, which Obukhov himself described with the term "absolute harmony," represent a sort of non-serial dodecaphony, in that the twelve pitch classes are not internally ordered (hence non-serial), but they are deliberately deployed as a succession of complete aggregates.¹⁸

Example 3: Nikolai Obukhov, *Poèmes liturgiques* (1918), "Le Sang!" Kholopov, "Kto izobryol 12-tonovuyu tekhniku?," 52.

Twelve-tone chords (*dodekakkordi*): The twelve pitch classes sound at once, forming a twelve-note chord. Numerous examples from the literature conspicuously lack doublings—each pitch class appears

¹⁶ Richard Taruskin, *Stravinsky and the Russian Traditions: A Biography of the Works through "Mavra"* (Berkeley: University of California Press, 1996), 595–8; and Ewell, "On the System of Stravinsky's Harmony" by Yuri Kholopov," [2.51–56] (translation of Kholopov), [3.15] (Ewell's commentary).

¹⁷ Kathryn Bailey also refers to unordered chromatic aggregates in Webern's music as "twelve-tone fields." See Kathryn Bailey, *The Twelve-Note Music of Anton Webern: Old Forms in a New Language* (New York: Cambridge University Press, 1991), 33, <https://doi.org/10.1017/CBO9780511552458>.

¹⁸ Gottfried Eberle, "Absolute Harmonie' und 'Ultrachromatik': Nikolaj Obuchov und Ivan Wyschnegradsky—Zwei radikale Fälle von Skrjabin-Nachfolge," in *Alexander Skrjabin*, ed. Otto Kolleritsch (Graz: Universal, 1980), 95–111, cited in Kholopov, "Kto izobryol 12-tonovuyu tekhniku?," 52.

exactly once in the texture, pointing to a self-conscious arrangement of the chromatic aggregate.¹⁹ Kholopov's chronology includes twelve-tone chords in Webern's *Six Pieces for Orchestra*, op. 6 (1909), Berg's *Altenberg Lieder*, op. 4 (1912), Alfredo Casella's *L'Adieu à la vie* (1915), Ivan Vishnegradsky's *La Journée de l'existence* (1916–17), and Fritz Heinrich Klein's *Die Maschine* (1921). Sergey Prokofiev, a composer not typically associated with twelve-tone technique, is also included, as his *Symphony No. 2* (1924) features a swirling mass of twelve-tone chords in the second movement. As orchestrated across twelve-part divisi strings, the chord is constructed from three three-note quartal segments of stacked perfect fourths and one augmented triad of stacked major thirds (Example 4).

Example 4: Sergey Prokofiev, *Symphony No. 2*, II (1924). Kholopov, *Garmonicheskiy analiz*, vol. 3, 14.

Twelve-tone rows (*dvenadtsatitonoviye ryadi*): Works that are not rigorously dodecaphonic in the sense of Kholopov's definition may yet still contain twelve-tone rows. A non-dodecaphonic twelve-tone row is a single linear statement of the full aggregate that may or may not be reused later in the composition, is not necessarily serially transformed, and interacts with other, non-twelve-tone material. A single non-dodecaphonic work may contain multiple twelve-tone rows that are not related to one another.

This description of twelve-tone rows characterizes certain works by Alban Berg, as well as the late music of Dmitri Shostakovich.²⁰ Kholopov's earliest example comes from Berg's *Altenberg Lied* no. 5 (1912), in which a full twelve-tone row serves as a countermelody above a non-twelve-tone passacaglia theme (Example 5). As the row is coterminous with the melodic line, the aggregate cannot be said to have arisen incidentally.

¹⁹ Segall, "Prokofiev's *Symphony No. 2*, Yuri Kholopov, and the Theory of Twelve-Tone Chords." On twelve-tone chords, see also: Martina Homma, "The Twelve-Tone Chord: Towards a New Definition of Twelve-Tone Music? Considering Early 12-Tone-Chords (since 1911) and Discussing Theoretical Implications of 12-Tone-Chord-Music by Darius Milhaud, Nicolaj Obuchov and Witold Lutosławski," in *Witold Lutosławski: Człowiek i dzieło w perspektywie kultury muzycznej XX wieku*, ed. Jan Astriab, Maciej Jabłoński, and Jan Stęszewski (Poznań: Wydawnictwo Poznańskiego Towarzystwa Przyjaciół Nauk, 1999), 109–27; and Clifton Callender, "Continuous Harmonic Spaces," *Journal of Music Theory* 51, no. 2 (2007): 317–21, <https://doi.org/10.1215/00222909-2009-004>.

²⁰ Arved Ashby, "Of *Modell-Typen* and *Reihenformen*: Berg, Schoenberg, F. H. Klein, and the Concept of Row Derivation," *Journal of the American Musicological Society* 48, no. 1 (1995): 67–105, <https://doi.org/10.1525/jams.1995.48.1.04x0070r>; Stephen C. Brown, "Twelve-Tone Rows and Aggregate Melodies in the Music of Shostakovich," *Journal of Music Theory* 59, no. 2 (2015): 191–234, <https://doi.org/10.1215/00222909-3136000>.

Ziemlich langsam (Passacaglia)

Ein wenig breiter

Example 5: Alban Berg, *Altenberg Lied no. 5* (1912). Kholopov, “Kto izobryol 12-tonovuyu tekhniku?,” 46.

Serialism (*seriynost'*): Kholopov associates serialism with the extension of ordered series to domains other than pitch. He credits Yefim Golishev, otherwise known primarily for his influence on Herbert Eimert's treatise *Atonale Musiklehre* (1924), with the earliest application of serial technique. Golishev's only surviving composition, the String Trio (1914) subtitled “Zwölftondauer-Musik,” uses twelve-tone and twelve-duration series, as its subtitle implies (Example 6).²¹ The work was not published until 1925, although in 1920, excerpts of Golishev's twelve-tone orchestral work *Das eisige Lied* (1919, now lost) were performed in Berlin.²²

Largo

duration row:

Example 6: Yefim Golishev, *String Trio* (1914). Kholopov, “Kto izobryol 12-tonovuyu tekhniku?,” 50–1.

²¹ An analysis of Golishev's *String Trio* can be found in: Weaver, “Theorizing Atonality,” 151–75.

²² Kholopov, “Kto izobryol 12-tonovuyu tekhniku?,” 53.

Dodecaphony (*dodekafoniya*): Kholopov does not dispute Schoenberg as the “inventor” (as per his article’s title) of dodecaphony, as he was the first to develop and codify its principles in theory and in compositional practice. His method brought together a number of ideas that had been circulating for several years in various forms. There is one precedent, one work that uses a single twelve-tone row to generate its entire pitch material: Webern’s *Orchestral Piece No. 1*, op. posth., composed in 1913, but not published until 1973. Its first twelve pitch classes establish a referential row from which the remainder of the composition is derived (Example 7).

Bewegt (♩)

P(B-D) P(B-D)

12

[12]

1 4 5 2 6 7 12

[no serial ordering]

8 6 7 4 3

Example 7: Anton Webern, *Orchestral Piece No. 1*, op. posth. (1913). Kholopov, “Kto izobryol 12-tonovuyu tekhniku?,” 47–8.

In his analysis, Kholopov identifies the row as P(B–D), the prime form beginning with pitch class B and ending with D. Notes beamed together establish four statements of the row. Notably, Kholopov reads the composition as a small ternary structure, with the most tight-knit presentations of the row at the beginning and end and a looser row presentation in the contrasting middle. Formal function determines the relative stability of row ordering, just as in common-practice composition, formal function determines the relative stability of harmonic and tonal structure.²³

The second statement involves some minor reordering through swapped pairs of pitch classes. The twelfth pitch class, D, is absent from the end of the statement; this is the meaning of the bracketed [12] in the middle of the example. The analysis suggests that the first statement's final D could be heard to join the second statement at its beginning, as shown with dotted lines in the fifth measure.

In the third statement, serial ordering is violated, producing “serial instability.” The fourth statement restores the ordering, but showing the effects of the unstable middle section, it has been divided into a sort of compound melody, with its first eight pitch classes (stems down) overlapped by three of its last four (stems up, with G-sharp absent).

Kholopov's analysis highlights the way in which this composition can be conceived as a personalized approach to dodecaphony. Rather than adhering to an orthodox model, it admits the kinds of deviations and loosening devices that are characteristic of formal instability in tonal music. Although Webern is known particularly for the dodecaphonic rigor of his later works, the *Orchestral Piece No. 1* displays tendencies kindred to the compositions of Alban Berg, whose personalized approach to dodecaphony has long been acknowledged.²⁴

Twelve-Tone Scholarship in the West

The above categories and examples summarize Kholopov's chronology of musical developments before the 1920s, the decade during which the twelve-tone discourse becomes established. For compositions after 1920, Kholopov's chronology resembles what can be found in English-language scholarship.²⁵ To rehearse some key details, Hauer begins writing twelve-tone music in 1919, publishes *Vom Wesen des Musikalischen* in 1920, and formulates the principle of tropes in 1924.²⁶ Klein's *Die Maschine: Eine extonale Selbstsatire* (1921) combines its ingredients—all-interval twelve-tone chords, twelve-tone themes, twelve-duration rhythms—into a compositional soup of technical devices (an artless and unsophisticated composition, in the reliable opinion of Dave Headlam).²⁷ Schoenberg's method was developed compositionally in 1921–24, shared with

²³ René Leibowitz, in both theory and compositional practice, applied Schoenberg's form-functional distinction between tight-knit and loose structure to twelve-tone row deployment; see Christoph Neidhöfer and Peter Schubert, “Form and Serial Function in Leibowitz's *Trois poèmes de Pierre Reverdy*,” in *Formal Functions in Perspective: Essays on Musical Form from Haydn to Adorno*, ed. Steven Vande Moortele, Julie Pedneault-Deslauriers, and Nathan John Martin (Rochester, NY: University of Rochester Press, 2015), 373–410.

²⁴ On the changing reception of Berg's twelve-tone approach see: Douglas Jarman, “‘Man hat auch nur Fleisch und Blut’: Towards a Berg Biography,” in *Alban Berg: Historical and Analytical Perspectives*, ed. David Gable and Robert P. Morgan (New York: Oxford University Press, 1991), 11–23; and Ashby, “Of *Modell-Typen* and *Reihenformen*.”

²⁵ See especially Covach, “Twelve-Tone Theory.”

²⁶ Simms, “Who First Composed Twelve-Tone Music”; John Covach, “The Music and Theories of Josef Matthias Hauer.”

²⁷ Dave Headlam, “Fritz Heinrich Klein's ‘Die Grenze der Halbtonwelt’ and *Die Maschine*,” *Theoria* 6 (1992): 55–96. See also Ashby, “Of *Modell-Typen* and *Reihenformen*.”

students around 1921–23, and described in print by Erwin Stein in 1924.²⁸ This method did not come into its most refined existence all at once. Schoenberg's earliest twelve-tone work, the Prelude from the Suite, op. 25, is based on a complex of three tetrachords, loosely disposed, resembling a twelve-tone field more than a twelve-tone row. Recent scholars have analyzed this work in a number of creative and insightful ways that go beyond merely identifying row forms.²⁹

It is instructive to further contrast Kholopov with other scholars who have investigated the earliest formulations of twelve-tone technique. Recent Anglophone and Western European scholarship, postdating Kholopov, has explored the gradual development of twelve-tone technique in Schoenberg's earliest works. Ethan Haimo has shown how, over the course of the 1920s, Schoenberg refined his conception with each new composition and gradually led himself to the mature transformational system for which he is known.³⁰ As a result of this process, many of Schoenberg's earliest twelve-tone compositions do not adhere to the orthodoxy so frequently attributed to his music.³¹ Further studies of twelve-tone technique in the early 1920s show how others in Schoenberg's extended circle, most notably Josef Matthias Hauer and Fritz Heinrich Klein, both wrote twelve-tone music and described twelve-tone ideas in published writings before Schoenberg's methods were fully articulated or widely known.³² As these were the earliest composers to write or lecture about twelve-tone technique, the written theoretical record appears to have begun with them. By contrast, Kholopov's narrative begins earlier, showing nascent twelve-toneness in compositions that precede the earliest theoretical formulations.³³ Kholopov reaches backward to find precursors deploying the twelve tones in the earliest decades of the century. The argument is that the twelve-tone technique of Schoenberg, Hauer, and Klein did not emerge from a vacuum, but rather grew out of ongoing concerns that were "in the air" and shared widely among different composers. Kholopov clarifies that the chronology is meant to illustrate the pervasiveness of twelve-toneness among composers working independently, not to establish influence.³⁴

Kholopov further anticipates recent scholarship in advocating not for twelve-tone technique, singular, but for many twelve-tone techniques, plural.³⁵ He ends his essay by repudiating the original question ("Who

²⁸ Recent research suggests that Schoenberg shared his method around New Year's 1922, slightly earlier than previously thought. See Fusako Hamao, "Redating Schoenberg's Announcement of the Twelve-Tone Method: A Study of Recollections," *Gamut* 4 (2011): 231–98.

²⁹ See especially Áine Heneghan, "An Affinity with Bach: Form and Function in Schönberg's 'New Polyphony,'" *Journal of the Arnold Schönberg Center* 7 (2005): 99–123; and Jack Boss, *Schoenberg's Twelve-Tone Music: Symmetry and the Musical Idea* (New York: Cambridge University Press, 2014), 35–64, <https://doi.org/10.1017/CBO9781107110786>.

³⁰ Ethan Haimo, *Schoenberg's Serial Odyssey: The Evolution of His Twelve-Tone Method, 1914–1928* (New York: Oxford University Press, 1990).

³¹ Several critical studies make this point through analysis of Schoenberg's early twelve-tone works, including: Martina Sichardt, *Die Entstehung der Zwölftonmethode Arnold Schönberrgs* (Mainz: Schott, 1990); Haimo, *Schoenberg's Serial Odyssey*; Heneghan, "An Affinity with Bach"; and Boss, *Schoenberg's Twelve-Tone Music*.

³² Simms, "Who First Composed Twelve-Tone Music"; John Covach, "The Music and Theories of Josef Matthias Hauer" (PhD diss., University of Michigan, 1990); Dave Headlam, "Fritz Heinrich Klein's 'Die Grenze der Halbtonwelt' and *Die Maschine*"; Ashby, "Of *Modell-Typen* and *Reihenformen*"; Covach, "Twelve-Tone Theory."

³³ "Nascent twelve-toneness" is here distinguished from the "nascent twelve-tone practice" of motivic development on which Schoenberg lectured in the early 1920s. See Heneghan, "An Affinity with Bach."

³⁴ In his study of precedents to pitch-class set theory, Jonathan Bernard traces a history of anticipatory ideas that emerged intermittently in published theoretical writings, but which waited several decades to be systematically realized. In many ways, Kholopov's essay does for twelve-tone technique what Bernard's does for set theory. See Bernard, "Chord, Collection, and Set."

³⁵ Ashby ("Of *Modell-Typen* and *Reihenformen*," 103) finds multiple variants of twelve-tone technique among the classic practitioners of Second Viennese School dodecaphony. Joseph Straus argues that a wide variety of twelve-tone techniques were in use throughout the twentieth century; see Joseph N. Straus, *Twelve-Tone Music in America* (New York: Cambridge University Press, 2009).

invented twelve-tone technique?”) on the grounds that there is no single twelve-tone technique, and thus a single individual cannot be said to have invented it. Recent scholars appear to agree that the variety of individualized approaches to twelve-tone composition can only render an overarching conception of “twelve-tone technique” a heuristic oversimplification.³⁶ But, at the same time, these scholars are dealing primarily with music after Schoenberg, whereas Kholopov deals with music before Schoenberg. For him, it is not the variety of approaches that emerges after 1920 that undermines a monolithic interpretation of twelve-tone practice, but rather the variety of approaches that precedes its earliest theoretical formulations. Kholopov’s investigations of 1905–20 provide a broader historical and theoretical picture of twelve-tone practice, embedding the traditional central figures of twelve-tone technique, the practitioners of the Second Viennese School, within a deeply established context. This approach decenters Schoenberg and enables the consideration of Russian composers marginalized by Western twelve-tone discourses. By adopting a broad definition of twelve-toneness, Kholopov is able to situate as forward-looking a Russian repertoire long dismissed by Western scholarship as stunted and retrogressive.

Twelve-Tone Analysis

The variety of twelve-tone compositional practices invites a similar variety of twelve-tone analytical techniques. Having laid the groundwork for scholarly twelve-tone study in his 1983 essay, Kholopov subsequently established approaches to the analysis of twelve-toneness through his theoretical writings.³⁷ The third volume of his analysis manual *Garmonicheskiy analiz* [Harmonic analysis], published posthumously in 2009, serves as a theoretical guide to understanding each type of twelve-tone technique on its own terms.³⁸

A representative example comes from the chapter on non-dodecaphonic twelve-tone rows. Shostakovich’s late music includes, among other material and within a tonal framework, isolated twelve-tone rows that are not transformed or reused. These rows are generally presented in the form of complete melodic statements; the term “aggregate melody” has recently been proposed.³⁹ Assigning a dodecaphonic row label (P, R, I, RI) to such melodies would signify little beyond affirming the presence of the twelve pitch classes.

Kholopov promotes a functional harmonic analysis that seeks to understand the rows in the tonal context in which they are heard. Shostakovich’s String Quartet No. 13 opens with a solo viola melody, notated with the key signature of B-flat minor, and beginning and ending—with its thirteenth pitch, after stating a complete aggregate—on B-flat. Kholopov analyzes the harmonies with function symbols; I have added the corresponding Roman numerals below (Example 8).⁴⁰ The analysis shows how the twelve pitch

³⁶ In addition to those just cited, Covach (“Twelve-Tone Theory,” 611) also recognizes the “wide variety of approaches” to twelve-tone technique in the early 1920s.

³⁷ See especially: Yuriy Kholopov, *Zadaniya po garmonii* [Lessons in harmony] (Moscow: Muzika, 1983); and Yuriy Kholopov, *Garmoniya: Prakticheskiy kurs* [Harmony: A practical course], vol. 2, 2nd ed. (Moscow: Kompozitor, 2005).

³⁸ Yuriy Kholopov, *Garmonicheskiy analiz*, vol. 3 (Moscow: Moskovskaya konservatoriya, 2009). See also the commentary in Cairns, “A Glimpse at Iurii Kholopov’s *Garmonicheskiy analiz*.”

³⁹ Brown, “Twelve-Tone Rows and Aggregate Melodies.”

⁴⁰ The upside-down lowercase “m” refers to the minor submediant (*malaya submedianta*), the harmony a minor third below tonic. See Yuriy Kholopov, *Garmoniya: Teoreticheskiy kurs*, 2nd ed. (St. Petersburg: Lan’, 2003), 375; and, for further commentary, Christopher Segall, “Expanding Harmonic Function: Yuri Kholopov’s Twelve-Step System,” *Theoria* (forthcoming).

classes can be arranged to project triadic harmony within a functional progression, in this way accounting for both the tonal and twelve-tone elements in the Shostakovich excerpt.⁴¹

Adagio

Bb: T D T

G: D T T

bb: I V V of #VI

Example 8: Dmitri Shostakovich, String Quartet No. 13 (1970). Kholopov, *Garmonicheskiy analiz*, vol. 3, 6.

Politics and Historiography of Twelve-Toneness

Kholopov reifies his own construction of twelve-toneness through the proliferation of individual analytical techniques tailored to each category. By instituting a pedagogical program of training in each technique, he ensures that the repertoire studied is largely Russian and that Schoenberg appears only within this expanded frame. He further hypothesizes that Russian music may have played an even larger role in the history of twelve-tone composition than is already known and suggests that this be made a fundamental line of inquiry.⁴² He repositions twelve-tone technique as an integral practice of Russian composition, leaving behind the idea that twelve-tone music was a formalist pastime of the decadent West. One might interpret this as opportunistic historiography, promoting the contributions of Russian composers for the sake of appeasing insufficiently thawed Soviet authorities. The benefits of alluding to an increased Russian presence in the development of twelve-tone technique are those of shifting the frame of reference away from the West and bespeaking the viability of the project within Russian scholarship. At the same time, Kholopov was steeped in the Russian repertoire; he knew the music of the early twentieth-century Russian avant-garde deeply and to an extent not possible for his Western European and North American counterparts. He was determined to rehabilitate the music of composers suppressed during the years of Stalinist terror. Because he reassessed this repertoire as beholding twelve-tone principles different from Schoenberg's, Kholopov constructed a view of twelve-toneness that emphasized the similar compositional aims of a wide number of contemporaneous practitioners, and he refrained from measuring these against a pre-established dodecaphonic ideal.

Fascinatingly, this political revisionism also engendered a new historiography of twelve-tone technique that contextualized the Second Viennese School in broader compositional and historical contexts. Considered in light of Kholopov's construct, dodecaphony no longer appears to be the pinnacle of a historical-theoretical enterprise. In contrast to the expansive Soviet understanding of twelve-toneness, Anglo-American scholarship's long-standing focus on serial dodecaphony and its discourses positioned Schoenberg as the founding genius of the twelve-tone movement. This is commensurate with a value system

⁴¹ Other recent studies of late Shostakovich that account for both tonal and twelve-tone elements include: Schmelz, "Shostakovich's 'Twelve-Tone' Compositions," 306–21; Patrick McCreless, "Dmitri Shostakovich: The String Quartets," in *Intimate Voices: The Twentieth-Century String Quartet*, vol. 2, ed. Evan Jones (Rochester, NY: University of Rochester Press, 2009), 3–40; and Brown, "Twelve-Tone Rows and Aggregate Melodies."

⁴² Kholopov, "Kto izobryol 12-tonovuyu tekhniku?," 57.

that ascribes new ideas to individuals, seeks out the most refined developments of those ideas, and deems worthy of study only the works seen to represent these values. Kholopov's conception of twelve-toneness undermines this value system and the view that dodecaphony is the normative technique in twelve-tone music. The Russian conception of twelve-toneness, because it is so broadly defined, helps contextualize serial dodecaphony within a larger constellation of compositional concerns. Instead of highlighting the originality of Schoenberg's method, Kholopov focuses on what it shares with other early twentieth-century compositional procedures.

To summarize, around 1980 Kholopov coined the concept of twelve-toneness, constructed to describe the general principle of composing with the twelve tones or with an ordered series. In doing so, he reframed the early development of twelve-tone technique. Whereas dodecaphony, or strict tone-row composition, was first employed and theorized in the 1920s, Kholopov argued that earlier, less strict, and more varied twelve-tone techniques of the 1900s and 1910s could also be included under the umbrella of twelve-toneness. He viewed these early works not as transitional, as they would be viewed if one were to take dodecaphony as the gold standard of composing with twelve tones, but rather as distinctive, independent approaches to twelve-toneness. This early twelve-tone repertoire included Russian and Soviet works suppressed during the 1920s–50s, works that Kholopov was actively engaged in rediscovering. By adopting an expanded conception of twelve-toneness that accommodates these works and their techniques, Kholopov claimed a role for Russian music in the narrative of modernist composition. Ultimately, the difference between Kholopov's understanding of twelve-toneness and the Schoenberg-centered approach dominant in Western scholarship suggests that the very notion of "twelve-tone technique" is fluid in the first place, subject to political and historiographic negotiation. As Kholopov constructs it, twelve-toneness was not restricted to a single practice and its offshoots but rather was a broad compositional principle that pervaded the entire twentieth century.

Bibliography

- Ashby, Arved. "Of *Modell-Typen* and *Reihenformen*: Berg, Schoenberg, F. H. Klein, and the Concept of Row Derivation." *Journal of the American Musicological Society* 48, no. 1 (1995): 67–105. <https://doi.org/10.1525/jams.1995.48.1.04x0070r>.
- Bailey, Kathryn. *The Twelve-Note Music of Anton Webern: Old Forms in a New Language*. New York: Cambridge University Press, 1991. <https://doi.org/10.1017/CBO9780511552458>.
- Bakulina, Ellen. "Tonality and Mutability in Rachmaninoff's *All-Night Vigil*, Movement 12." *Journal of Music Theory* 59, no. 1 (2015): 63–97. <https://doi.org/10.1215/00222909-2863391>.
- Bazayev, Inessa. "Triple Sharps, Q_{nt} Relations, and Symmetries: Orthography in the Music of Nicolai Roslavets." *Music Theory Spectrum* 35, no. 1 (2013): 111–31. <https://doi.org/10.1525/mts.2013.35.1.111>.
- Bernard, Jonathan W. "Chord, Collection, and Set in Twentieth-Century Theory." In *Music Theory in Concept and Practice*, edited by James M. Baker, David W. Beach, and Jonathan W. Bernard, 11–51. Rochester, NY: University of Rochester Press, 1997.
- Boss, Jack. *Schoenberg's Twelve-Tone Music: Symmetry and the Musical Idea*. New York: Cambridge University Press, 2014. <https://doi.org/10.1017/CBO9781107110786>.
- Brown, Stephen C. "Twelve-Tone Rows and Aggregate Melodies in the Music of Shostakovich." *Journal of Music Theory* 59, no. 2 (2015): 191–234. <https://doi.org/10.1215/00222909-3136000>.

- Cairns, Zachary A. "A Glimpse at Iuriĭ Kholopov's *Garmonicheskĭ analiz*." *Music Theory Online* 20, no. 3 (2014). <https://doi.org/10.30535/mto.20.3.7>.
- . "Svetlana Kurbatskaya on Serial Music: Twelve Categories of "Twelve-Toneness." *Gamut* 5 (2012): 99–131.
- Callender, Clifton. "Continuous Harmonic Spaces." *Journal of Music Theory* 51, no. 2 (2007): 277–332. <https://doi.org/10.1215/00222909-2009-004>.
- Covach, John. "The Music and Theories of Josef Matthias Hauer." PhD diss., University of Michigan, 1990.
- . "The Quest of the Absolute: Schoenberg, Hauer, and the Twelve-Tone Idea." *Black Sacred Music* 8, no. 1 (1994): 157–77. <https://doi.org/10.1215/10439455-8.1.157>.
- . "Twelve-Tone Theory." In *The Cambridge History of Western Music Theory*, edited by Thomas Christensen, 603–27. New York: Cambridge University Press, 2002. <https://doi.org/10.1017/CHOL9780521623711.021>.
- Eberle, Gottfried. "'Absolute Harmonie' und 'Ultrachromatik': Nikolaj Obuchov und Ivan Wyschnegradsky—Zwei radikale Fälle von Skrjabin-Nachfolge." In *Alexander Skrjabin*, edited by Otto Kolleritsch, 95–111. Graz: Universal, 1980.
- Ewell, Philip A. "'On the System of Stravinsky's Harmony' by Yuri Kholopov: Translation and Commentary." *Music Theory Online* 19, no. 2 (2013). <https://doi.org/10.30535/mto.19.2.1>.
- . "Rethinking Octatonicism: Views from Stravinsky's Homeland." *Music Theory Online* 18, no. 4 (2012). <https://doi.org/10.30535/mto.18.4.2>.
- . "Russian Pitch-Class Set Analysis and the Music of Webern." *Gamut* 6, no. 1 (2013): 219–76.
- Guenther, Roy J. "Varvara Dernova's System of Analysis of the Music of Skryabin." In *Russian Theoretical Thought in Music*, edited by Gordon D. McQuere, 165–216. Ann Arbor: UMI Research Press, 1983.
- Haimo, Ethan. *Schoenberg's Serial Odyssey: The Evolution of His Twelve-Tone Method, 1914–1928*. New York: Oxford University Press, 1990.
- Hamao, Fusako. "Redating Schoenberg's Announcement of the Twelve-Tone Method: A Study of Recollections." *Gamut* 4 (2011): 231–98.
- Headlam, Dave. "Fritz Heinrich Klein's 'Die Grenze der Halbtonwelt' and *Die Maschine*." *Theoria* 6 (1992): 55–96.
- Heneghan, Áine. "An Affinity with Bach: Form and Function in Schönberg's 'New Polyphony.'" *Journal of the Arnold Schönberg Center* 7 (2005): 99–123.
- Homma, Martina. "The Twelve-Tone Chord: Towards a New Definition of Twelve-Tone Music? Considering Early 12-Tone-Chords (since 1911) and Discussing Theoretical Implications of 12-Tone-Chord-Music by Darius Milhaud, Nicolaj Obuchov and Witold Lutosławski." In *Witold Lutosławski: Człowiek i dzieło w perspektywie kultury muzycznej XX wieku*, edited by Jan Astriab, Maciej Jabłoński, and Jan Stęszewski, 109–27. Poznań: Wydawnictwo Poznańskiego Towarzystwa Przyjaciół Nauk, 1999.
- Jarman, Douglas. "'Man hat auch nur Fleisch und Blut': Towards a Berg Biography." In *Alban Berg: Historical and Analytical Perspectives*, edited by David Gable and Robert P. Morgan, 11–23. New York: Oxford University Press, 1991.
- Kallis, Vasilis. "Principles of Pitch Organization in Scriabin's Early Post-Tonal Period: The Piano Miniatures." *Music Theory Online* 14, no. 3 (2008). <https://doi.org/10.30535/mto.14.3.2>.

- Kholopov, Yuriy. "Form in Shostakovich's Instrumental Works." Trans. John Cornish and David Fanning. In *Shostakovich Studies*, edited by David Fanning, 57–75. New York: Cambridge University Press, 1995. <https://doi.org/10.1017/CBO9780511551406.003>.
- . *Garmonicheskii analiz*, vol. 3. Moscow: Moskovskaya konservatoriya, 2009.
- . *Garmoniia: Prakticheskii kurs*, vol. 2. 2nd ed. Moscow: Kompozitor, 2005.
- . *Garmoniia: Teoreticheskii kurs*. 2nd ed. St. Petersburg: Lan', 2003.
- . "Kto izobryol 12-tonovuyu tekhniku?" In *Problemy istorii avstro-nemetskoy muziki: Pervaya tret' XX veka*, 34–58. Moscow: Gosudarstvennyi muzikal'no-pedagogicheskii institut imeni Gnesinikh, 1983.
- . *Sovremenniiye cherty garmonii Prokof'eva*. Moscow: Muzika, 1967.
- . *Zadaniya po garmonii*. Moscow: Muzika, 1983.
- Kurbatskaya, Svetlana. *Seriynaya muzika: Voprosy istorii, teorii, estetiki*. Moscow: Sfera, 1996.
- McCreless, Patrick. "Dmitri Shostakovich: The String Quartets." In *Intimate Voices: The Twentieth-Century String Quartet*, vol. 2, edited by Evan Jones, 3–40. Rochester, NY: University of Rochester Press, 2009.
- Neidhöfer, Christoph, and Peter Schubert. "Form and Serial Function in Leibowitz's *Trois poèmes de Pierre Reverdy*." In *Formal Functions in Perspective: Essays on Musical Form from Haydn to Adorno*, edited by Steven Vande Moortele, Julie Pedneault-Deslauriers, and Nathan John Martin, 373–410. Rochester, NY: University of Rochester Press.
- Schmelz, Peter J. "After Prokofiev." In *Sergey Prokofiev and His World*, edited by Simon Morrison, 493–529. Princeton, NJ: Princeton University Press, 2008. <https://doi.org/10.1515/9780691190426-012>.
- . "Andrey Volkonsky and the Beginnings of Unofficial Music in the Soviet Union." *Journal of the American Musicological Society* 58, no. 1 (2005): 139–208. <https://doi.org/10.1525/jams.2005.58.1.139>.
- . "Shostakovich's 'Twelve-Tone' Compositions and the Politics and Practice of Soviet Serialism." In *Shostakovich and His World*, edited by Laurel E. Fay, 303–54. Princeton, NJ: Princeton University Press, 2004.
- . *Such Freedom, If Only Musical: Unofficial Soviet Music during the Thaw*. New York: Oxford University Press, 2009. <https://doi.org/10.1093/acprof:oso/9780195341935.001.0001>.
- Segall, Christopher. "Expanding Harmonic Function: Yuri Kholopov's Twelve-Step System." *Theoria*, forthcoming.
- . "Prokofiev's Symphony No. 2, Yuri Kholopov, and the Theory of Twelve-Tone Chords." *Music Theory Online* 24, no. 2 (2018). <https://doi.org/10.30535/mto.24.2.8>.
- Sichardt, Martina. *Die Entstehung der Zwölftonmethode Arnold Schönbergs*. Mainz: Schott, 1990.
- Simms, Bryan R. "Who First Composed Twelve-Tone Music, Schoenberg or Hauer?" *Journal of the Arnold Schoenberg Institute* 10, no. 2 (1987): 109–33.
- Straus, Joseph N. *Twelve-Tone Music in America*. New York: Cambridge University Press, 2009.
- Taruskin, Richard. *Defining Russia Musically: Historical and Hermeneutical Essays*. Princeton, NJ: Princeton University Press, 1997.
- . *Stravinsky and the Russian Traditions: A Biography of the Works through "Mavra"*. Berkeley: University of California Press, 1996.

Tsenova, Valeria, ed. *Underground Music from the Former USSR*. Translated by Romela Kohanovskaya. Amsterdam: Harwood Academic, 1997.

Weaver, Jennifer L. "Theorizing Atonality: Herbert Eimert's and Jefim Golyscheff's Contributions to Composing with Twelve Tones." PhD diss., University of North Texas, 2014.