2015

Discerning Harmonic Progressions in the First Movement of Zoltán Kodály's String Quartet No. 1, Op. 2 in C Minor (1910)

Martin Ross
University of Massachusetts Amherst

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DISCERNING HARMONIC PROGRESSIONS IN THE FIRST MOVEMENT OF
ZOLTÁN KODÁLY’S STRING QUARTET NO. 1, OP. 2 IN C MINOR (1910)

A Thesis Presented
by

MARTIN ROSS

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

MASTER OF MUSIC

September 2015

Music
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DEDICATION

To Johannah.
ACKNOWLEDGEMENTS

I would first like to extend my gratitude to my committee—Stefan Caris Love, Brent Auerbach, and Gary Karpinski—for your time, effort, and guidance throughout the thesis process. I especially want to thank my advisor, Stefan, for going the extra mile in helping me, encouraging me, and providing me with the resources that I needed for this project. I would also like to thank the other faculty at UMass—Jason Hooper, Johannah Murray, Louis Epstein, Erinn Knyt, and Michael Sussman—for helping me along the way. Whether it was being a Teaching Assistant for your class, taking a class from you, or having a lesson, you have made my experience at UMass a positive, worthwhile experience. To my past teachers—especially Diane Barger, Stan Kleppinger, Gretchen Foley, and Doug Johnson—thank you for giving me a reason to be passionate in what I do.

To my friends and family, I will say this: support would be an understatement in what you have provided me. Your words of encouragement and kindness made the finish line more realistic. I especially want to thank my parents and Johannah for being there for me when I needed it most.
Zoltán Kodály’s String Quartet No. 1 in C Minor is one of his earliest compositions. Kodály composed this as a tonal work, emulating the style used by nineteenth century composers. Kodály creates highly polyphonic textures and a complex harmonic language within the C minor tonality. Although this piece is considered tonal, Kodály deviates from the prototypical norms of tonal composition. As in most tonal music, harmonic progressions tend to support the overall tonal syntax. This includes chords, chord progressions, and key areas.

The goal of this thesis is to categorize harmonic progressions in the first movement of Kodály’s String Quartet. In order for harmonic progressions to take place at the level of the chord, harmonic function must be present. I will break down the function of each chord by using Daniel Harrison’s scale degree theory from his book *Harmonic Function in Chromatic Music*. Some harmonic progressions follow a prototypical model that was utilized in common practice music. There are also chords in harmonic progressions that have an altered function—yet are still considered harmonic—which I will call “quasi-harmonic.” Lastly, some progressions are purely linear, and therefore the function is discerned on the macro level.
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CHAPTER 1

HARMONIC PROGRESSIONS OF THE NINETEENTH CENTURY

Tonal music follows a number of overarching harmonic syntaxes. If the harmonies of a passage conform to syntax, then they more readily accommodate a system’s labels (e.g. chord quality, Roman numerals, etc.). Harmonic progressions occur when harmonic syntax is verified within a piece. Within tonal music, chords solidifying key areas make up harmonic progressions. Chords in harmonic progressions can be classified in two ways: their structure and their behavior. The chord’s structure is defined by how the members of the scale are assembled. The chord’s behavior is defined by how each member of the chord is approached and how it resolves. Together, structure and behavior give a chord its function.

Jean-Phillippe Rameau, near the end of the eighteenth century, first brought function to light. In his early works, Rameau classifies two “chord-types” on specific scale degrees. Joel Lester paraphrases Rameau’s findings as such:

“Perfect chords are tonic chords because they occur on the tonic. And seventh chords are dominant chords. A dominant (a seventh chord) with a major third and a minor seventh (what we call a dominant-seventh chord) is a dominant-tonic chord (dominant of the tonic).”¹

In the nineteenth century, according to Bryan Hyer, it was Hugo Riemann that coined the term function. Riemann was interested in the relationship between dominant and subdominant to tonic. Most importantly, Riemann focused on the harmonic identities of each chord rather than the chord progressions.² Moving into twentieth century

methodologies gives us a clearer understanding of what Riemann meant by a chord’s identity.

In his book *Harmonic Function in Chromatic Music*, Daniel Harrison perceives the chords’ structure as an assembly of members from a scale. This is due to the scale members attributed to each triad and the roles each member serves. Figure 1.1 shows the assembly of the three primary triads along with their functional roles according to Harrison’s scale degree function.

**Figure 1.1** Scale degrees and their functional descriptions.

<table>
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<th>Scale Degree</th>
<th>Functional Role</th>
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<tbody>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
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Subdominant Tonic Dominant

The functional *base* is the lowest sounding voice of a chord. If it is not the lowest sounding voice, then the functional agent must accompany it.⁵ A base is not to be confused with the root of a chord, since we must look at functional chords as a grouping of notes derived from their position in the scale (three for a triad, four for a seventh chord). Bases can be attached to multiple functions. For example, Harrison notes that the cadential ⁸ contains notes of the tonic chord, but serves as “the base of a Dominant-functioning entity.” Therefore, the base of the cadential ⁸ is scale degree ⁵.⁴

Harrison describes functional *agents* as “unequivocal communicators of their function.”⁵ Agents can define the modality of a chord. For example, if scale degree ³ is heard as E in the key of C, then we can deduce that it is in major mode. If it is heard as Eb in C, then it is in minor mode. Scale degree ¹ is capable of expressing tonic function but

---

³ Harrison 1994, 46.
⁴ Ibid., 47.
⁵ Ibid., 50.
unable to signify the mode in which that Tonic operates. Harrison describes this as “modally mute.”

Functional *associates* have very little power in defining function. They are dependent on the base and agent. Fifths can be omitted in a chord, for instance, due to how the chord is doubled. Incomplete triads can therefore be functionally complete without the associate.

**An Example of a Prototypical Progression**

In this thesis, the term “prototypical” will refer to types of normative progressions from the common practice of the 18th century. The first eight bars of a Joseph Haydn keyboard sonata (Figure 1.2) will show how harmonic progressions coincide with the overall harmonic syntax.

**Figure 1.2** Haydn, Keyboard Sonata in D Major, Hob. XVI: 37, mm. 1–8.

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5 Ibid., 50.
Two harmonic progressions occur within this passage. The first half of the excerpt, mm. 1–4, is the antecedent phrase ending in a half cadence (HC). The second half, mm. 5–8, is the consequent phrase ending in a perfect authentic cadence (PAC). Both the antecedent and the consequent make up a parallel period. The entire passage fits under the harmonic syntax of D major. This passage specifically contains primary triads of I, IV, and V, which correspond to their functions T, S, and D respectively. This prototypical example of 18th century music shows a common use of fifth-related harmonies.

**Third-Related Harmonies In the Nineteenth Century**

Music of the common practice underwent considerable change in the nineteenth century. In the eighteenth century, fifth-related motion governed chord-to-chord succession and modulation schemes within entire movements. By the end of the eighteenth century, according to Charles Rosen, the tonal hierarchy began to include third-related harmonies. Instead of the tonic-dominant opposition, composers wrote music with emphasis on the mediant or submediant. By the middle of the nineteenth century, it was common to see a tonic-mediant opposition governing a piece, including the chord-to-chord succession and modulation schemes.7

Howard Cinnamon explains that by this time, third-related harmonies either “partitioned the interval between two more structurally significant harmonies…or serve[d] as contrapuntal…chords that result[ed] from counterpoint and voice leading

---

within the prolongation of a more structural harmony.” The most common partition was between tonic (I) and dominant (V). Partitioning the fifth made the progression: I–III–V. Therefore, the progression is a pair of thirds instead of one fifth-progression.

Many music theorists have taken this partition of thirds and applied it as a transformational process within analyses of compositions. Moving to a key a third away from tonic meant having more options than shifting from tonic to dominant. David Kopp divides third relations into sixteen possible progressions: eight for a major triad and eight for a minor triad. Figure 1.3 provides a visual example of the progressions, where “harmonic relations may occur from either member of the tonic pair to either member of any other pair.”

Given the eight progressions of a major or minor triad, Kopp divides them into three groups of progressions based on their common-tone retention. Diatonic progressions retain two common tones. Chromatic progressions retain one common tone. Disjunct progressions retain no common tones. Figure 1.4 maps these out in third progressions.

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8 Cinnamon 1992, 2.
10 Kopp 2002, 8–9.
11 Uppercase letters signify major; lowercase letters signify minor.
Figure 1.3 Kopp’s scheme of mediant relations

Figure 1.4 Kopp’s groups of third-progressions.

Diatonic Progressions

Chromatic Progressions

Disjunct Progressions

C — e  c — A♭

C — E  C — A♭  c — e  e — a♭

C — a♭  c — E
The final, disjunct progression, c–E, is of greatest interest. In Kodály’s String Quartet, C minor is the key of the primary theme and E major is the key of the secondary theme. Matthew Bribitzer-Stull, while mapping out Kopp’s progressions, described disjunct progressions as rarely seen in nineteenth century music. Richard Cohn begins his article, “Uncanny Resemblances,” by summarizing how theorists and musicologists have described the progression:

Hugo Riemann characterized this harmonic pairing as among “the weirdest cases that arise.” Ernst Kurth finds it “supernaturally strange,” Susan Youens “magical.” For Dahlhaus, the pairing “depicts a paradox”; for Adorno, it “occludes daylight”; for Lendvai, it induces “tonal death.”

The progression goes by names such as “disjunct,” “complementary,” and, in Cohn’s case, “uncanny.”

The two triads in a disjunct progression occupy hexatonic poles. The combination of six notes creates a distinct hexachord: set class 6-20 (014589). There are four distinct hexatonic pitch-class sets. The hexatonic system of C minor to E major—set class [3, 4, 7, 8, e, 0]—makes up the Northern system. Figure 1.5 shows the four hexatonic systems.

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12 Bribitzer-Stull 2006, 169.
15 Cohn 1996, 18.
Figure 1.5 Richard Cohn’s four hexatonic systems
The following examples from the nineteenth century use hexatonic poles, a harmonic progression Kodály uses in his String Quartet. The Liszt passage in Figure 1.6

**Figure 1.6** Liszt, Polonaise I, *Die Legende der heilige Stanislaus*, mm. 98–110.
uses chords from the Northern and Southern Hexatonic system. The harmonies in mm. 98–106 express the hexatonic pole relation. From m. 107 onward, the chords change on beat one and four, and continues to use a pattern of hexatonic poles until beat 2 of m. 109. A perfect authentic cadence is reached in m. 110.

The next example is a passage from Wagner’s Parsifal (Figure 1.7). The progression of Eb–b–G–eb uses descending thirds and hexatonic poles to divide the octave into equal parts. Using progressions such as this, which Cohn describes as having “idiosyncratic behavior,” were a common technique of nineteenth-century composers.

**Figure 1.7** Wagner, Parsifal, Act 3, Scene 2.

![Musical notation](image)

The final example is from the song, “Öregek,” by Kodály (Figure 1.8). Similar to the Liszt example, this shows one chord progressing to its complement in the hexatonic pole. This excerpt is unique as we see the Bb minor chord is spelled with a raised 2 instead of a lowered 3. The enharmonic spelling leads into the D major chord parsimoniously, meaning as smooth and efficient as possible. Kodály uses same technique in the beginning of String Quartet No. 1, which I will discuss in Chapter 3.

---

16 Cohn 1996, 29, Ex. 7.
17 Rothfarb 1991, 124, Ex. 4.19.
18 Lendvai 1983, 379, Ex 41.
The next three chapters identify types of harmonic progressions found in Kodály’s string quartet. We will see how Kodály extends nineteenth-century harmonic syntax in the first movement.

Zoltán Kodály (1882–1967) was born in Kecskemét, Hungary. Growing up, he learned to play the piano, violin, and cello. In 1900 Kodály enrolled into the Academy of Music to study composition. He studied composition under professor Hans von Koessler (1853–1926). Percy Young describes Koessler as an “ardent Brahmsian.” Young also points out that Koessler was so impressed by Kodály’s musical intellect that he allowed him to skip first-year studies. However, Kodály refused. He believed that he needed a foundation in fundamentals in order for his music abilities to advance.

Kodály’s traditional, fundamental background is apparent in his early compositions, especially in the String Quartet.

The layout of the String Quartet is quite traditional. The first movement is in sonata form. The second and third movements are in ternary form. The final movement is a theme and variations dedicated to his wife at the time, Emma Kodály. Although the first

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19 It is known today as the Franz Liszt Academy of Music.
20 Young 1964, 28.
movement is in sonata form, it contains some unusual features compared to a typical model. James Hepokoski and Warren Darcy would call these "deformations." Rather than i-to-lowered-III key scheme in a minor key exposition, the first movement of the string quartet follows a i-to-raised-III key scheme. The introduction is tonally ambiguous; C minor tonic does not arrive until the Allegro at m. 19. Lastly, the progressions of the exposition are reversed in the recap.

Following Hepokoski and Darcy’s model of sonata form in the eighteenth century, I consider the first movement a Type 3 sonata with an Exposition, Development, and Recap. See Figure 1.9 for an outline of the first movement’s form. Notice how some areas are displaced compared to a traditional sonata form, especially in the Recap. The recap begins with a full rotation of the secondary theme, a bridge connecting to the primary theme, and an abridged primary theme that leads into the climactic point: the introduction. With the rotations ordered from the traditional “end” to “beginning,” the progressions spanning the entire movement are palindromic. Kodály follows the traditional formal scheme of sonata form, but is quick to deviate from its norms.

21 Hepokoski and Darcy 2006, 614.
22 Ibid., 16.
Figure 1.9 Kodály, String Quartet No. 1, Op. 2, I, Form.
CHAPTER 2

FUNCTIONAL HARMONIC PROGRESSIONS

This movement presents three types of harmonic progressions: prototypical, quasi-harmonic, and linear progressions. This chapter will cover the first of the three.

Prototypical harmonic progressions fit what was mostly used in the common practice. Harmonic progressions at this time usually followed a phrase model seen in Figure 2.1.\(^\text{23}\)

**Figure 2.1** Prototypical harmonic progression.

\[
\begin{array}{c}
S \\
T \rightarrow D \rightarrow T
\end{array}
\]

Consider the passage preceding the transition material (TR) in Figure 2.2. The progression from mm. 55–56 is vii\(^\text{0}^\frac{3}{4}\) – i. Beat 4 functions as the pivotal dominant function moving to the focal tonic. The cadence ending P-material is traditionally a strong authentic cadence, with both dominant function and tonic function chords in root position. The dominant functioning chord is usually V. Here we have the leading tone diminished seventh, a weaker functioning chord, in second inversion.

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With this in mind, what makes this D–T cadence sound so strong? First, it has to do with the roles of each part. Although I have bracketed the non-chord tones in the Cello to fit the harmony, the remaining tones convey harmonic function. It is repeating the melodic material that the Violin II and Viola had a measure prior. I have labeled this in red. This material is derived from the Cello motive at the beginning.\footnote{See m. 1 in Figure 3.3.} Since the Cello mimics the Violin II/Viola motive, it is able to arrive on m. 56 in root position. Therefore, the Cello’s echo sets up the D–T harmonic motion. In addition, the Cello’s motive creates an S–T “gesture,” moving from F to C in the bass. However, the F (4) is clarified by the upper voices as part of the vii\(^{0}\)\(\frac{3}{4}\) chord. Therefore, the Cello’s line in m. 55 going into 56 has a “hybrid,” D/S–T function.

Violin II and Viola begin this passage with an implied vi–i progression. Following this, the two parts in m. 55 make the vii\(^{0}\)\(\frac{3}{4}\) a harmonic role, which is labeled in
blue. However, the resolution in Violin II and Viola is not parsimonious. I believe Kodály is setting up the following melodic material in Violin II and accompanying material in Viola. Due to how Kodály voices the seventh chord and how it leads into the TR, this cadence supplements a typical authentic cadence.

The next prototypical harmonic progression involves evaded cadences. Evading cadences allows for composers to repeat material or move onto something different. The passage in Figure 2.3, occurring in the middle of the secondary theme, shows both compositional techniques.

**Figure 2.3** Kodály, String Quartet, mm. 87–96.
In m. 91, the Viola (being the lowest voice), shows a $V_\#^7$–$V^7$ octave leap. Bass motion like this is prototypical in moving towards a cadence. Instead the resolution is an abrupt, deceptive motion that continues the harmonic material. Deceptive motion is a prototypical device used to evade a cadence. Measure 93 into beat one of 95 echoes the previous material (mm. 89–91) in $g^\#$ minor. There are two important things to consider why Kodály possibly chose $g^\#$ minor to continue the harmonic progression. First, E major and $g^\#$ minor are diatonic third-related keys. Kodály has used third-related keys as the harmonic scheme in this movement. Second, the D$^\#$ is an important note in the dominant chord of both keys. In $g^\#$ minor, it acts as the base of the dominant. In E major, it acts as the agent. To keep the melodic progression moving forward, Violin I’s D$^\#$ in m. 95 introduces a higher voice that ascends up to G$^\#$ in 104, marking a fourth progression. The ascension in m. 104 is seen in Figure 2.5.

The next prototypical progression occurs at the Essential Expositional Closure (EEC) in the Secondary theme. Hepokoski and Darcy define the EEC within the exposition as “usually the first satisfactory [Perfect Authentic Cadence] that occurs within [the Secondary theme] and that proceeds onward to differing material.” Looking at the formal layout in Figure 1.9, we see that the EEC is located at m. 114. Figure 2.4 shows the material leading up to the EEC. Within this harmonic progression, there is both functional and non-functional harmony. I will discuss the non-functional harmony of this passage in Chapter 4. The functional chords in this passage behave prototypically. Measures 102 to the downbeat of m. 104 are functional due to how the iv$^\#$ in m. 103 resolves. The chord contains multiple agents due to the modal mixture and enharmonic

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spelling (F⁸ to G♯; C♯ to B). As we will see, mm. 104–107 is a linear progression.

Therefore, mm. 102–103 is Subdominant going to Dominant.

Figure 2.4 Kodály, String Quartet, mm. 102–114.
The arrival of the Ger+6 in m. 109 resolves to the cadential Ⅽ. From mm. 110–112, the cadential Ⅽ is prolonged in order to prepare the V7 in m. 113. Melodically, from mm. 110–112, every part ascends. The emphatic cadential Ⅽ in m. 112 is followed by a descending arpeggiation by Violin I to the V7. The V7 conventionally resolves to tonic in m. 114, creating a PAC in E major. In sum, the EEC is a prototypical harmonic progression of Ger+6–V7–V7–I.

Kodály uses the same melodic and harmonic material in the Recap.26 Consider Figure 2.5. As mentioned in Chapter 1, the strong relation to form helps explain why the EEC and ESC are prototypical. Although the secondary theme is in an unexpected place in the recap, mm. 265–277 uses the same melodic material in the expected key of C minor. Chapter 3 will show progressions that deviate from the prototypical model.

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26 Instead of the EEC in the recap, we have the Essential Structural Closure (ESC). See Hepokoski and Darcy, xxvi.
Figure 2.5 Kodály, String Quartet, mm. 265–277.
CHAPTER 3
QUASI-HARMONIC PROGRESSIONS

The first movement is mostly made up of progressions that I will call “quasi-harmonic.” Relative to prototypical harmonic progressions, quasi-harmonic progressions occur when 1) the structure of the chord is altered, but not the behavior, 2) the behavior of the chord is altered, but not the structure, or 3) both structure and behavior are altered. We will see how Harrison’s scale degree function deviates from the norms to create such atypical behavior. Quasi-harmonic progressions had been used by composers of the late 19th century, including Brahms and Wagner. Although writing in the 20th century, Kodály’s composing of quasi-harmonic progressions emulates the style of the late Romantic composers.

Late Romantic Examples

Consider the first eight measures in the Finale of Brahms’ fourth symphony, and my interpretation of the harmonic progression (Figure 3.1).

Figure 3.1 Brahms, Symphony No. 4, IV, mm. 1–8, piano reduction.

27 Knapp 1989 goes into an in-depth analysis of the movement. My harmonic analysis applies chords more commonly seen in nineteenth century music, with the consideration of Brahms’ choice of genre.
The structure and behavior in m. 5 and 7 are atypical to what we would have seen in earlier common practice music. On the surface, they are secondary chords. The expectation in m. 5, V\(^7\)/V, is to resolve to V. However, the resolution goes to a i\(^6\). The i\(^6\) in m. 6 acts as an inverted cadential \(^6\), leading to m. 7 (making it quasi-dominant in function, rather than tonic). This harmonic progression is altered by the structural abnormality of i\(^6\) as a substitute for a cadential \(^6\). According to Gabriel Fankhauser, “…the cadential six-four provides opportunity for manipulation of expectation.”\(^{28}\) The inverted cadential \(^6\) is a means of structural alteration, as seen in m. 6. Although the structure changes, the cadential \(^6\)’s behavior remains the same: preparing the dominant.

Measure 7 is an instance of an atypical chord structure. Although it is spelled as a Fr\(^6\) chord (in A), my interpretation of its structure is a V\(_\text{ii}\)/\(_3\) in second inversion. If we were to identify this as the augmented sixth chord, then the arrival to E major would be seen as a peculiar, S–T plagal motion. The V\(_\text{ii}\)/\(_3\) acts as a replacement to the diatonic V\(^7\) in order to follow a D–T authentic motion. The resolution to m. 8 is strong enough to be considered cadential due to the semitonal motion in the bass.

The second late Romantic example of quasi-functional chords is the famous “Tristan” chord shown in Figure 3.2.1. This passage shows how both structure and behavior are altered. Of the many analyses of this progression, I will choose Harrison’s.\(^{29}\) Harrison labels this as a “dual” German augmented sixth, which is described as an augmented sixth “in terms of its internal intervallic adjacencies.”\(^{30}\)

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\(^{28}\) Fankhauser 2012, 8.
\(^{29}\) See Rothgeb 1995; Smith 1996 for other analyses of the Tristan chord.
\(^{30}\) Harrison 1995, 183.
Ger\textsuperscript{+6} (stacked F–C, A–D\#) is now transformed by switching the quality of the paired intervals yet retaining the outer augmented sixth. Figure 3.2.2 expresses this.\textsuperscript{31}

**Figure 3.2.1** Wagner, Prelude to *Tristan und Isolde*, mm. 1–3, reduction.

![Figure 3.2.1](image)

**Figure 3.2.2** “Dual” Ger\textsuperscript{+6}

![Figure 3.2.2](image)

If we are to accept the Tristan chord as a dual Ger\textsuperscript{+6}, then the augmented sixth resolves to V\textsuperscript{7} in m. 2. Its function as a Subdominant is questionable, given the passing A (♯) on top and the inner, “frustrated” ♯ going to ♯. Scale degree 6 does go to 5 in the bass, and there is a voice exchange between G♯ and B. This leads to the Dominant functioning V\textsuperscript{7}.\textsuperscript{32}

We have seen two quasi-harmonic examples from late Romantic composers where structure and behavior have been altered. We will now look at several quasi-harmonic progressions found in Kodály’s string quartet that will do the same.

\textsuperscript{31} Ibid., 184, Ex. 10.

\textsuperscript{32} It is Dominant functioning due to its spelling. Its behavior seems to be a point of arrival.
Plagal Motion and Enharmonicism

There are a few compositional techniques in the string quartet that alter the structure and behavior. Plagal motion, exhibiting S–T function, serves as the dual of D–T function, which was used in the eighteenth century. Theorist Margaret Notley states that plagal motion “can suggest qualities or states not easily conveyed in tonal music through harmonic means: otherworldliness, distance, timelessness, [and] possibly even alienation.”\(^{33}\) The behavior of plagal motion is similar to uncanny progressions seen in Chapter 1. The functional progression of S–T presents the listener with something unfamiliar.

The beginning of the string quartet shows two iterations of an S–T progression, shown in Figure 3.3. What makes this passage quasi-harmonic is the fact that the half-diminished seventh chords exhibit plagal motion, with the bass moving down a fourth as indicated. Measures 1 and 3 contain seventh chords, and mm. 2 and 4 contain triads. Behaviorally, both agents in the seventh chords resolve by a semitone.

\(^{33}\) Notley 2005, 95.
Kodály makes the prototypical resolutions possible by enharmonically respelling the fifth—F as E♯ and C as B♭—in order to create parsimonious voice leading. Starting the quartet with harmonic ambiguity foreshadows more quasi-harmonic progressions to come. As mentioned in the previous chapter, the beginning Cello gesture creates a motive that Kodály uses in later parts of the movement, which suggests S–T motion.

Another example of plagal motion arrives before the transition section in Figure 3.4. In m. 39, the lower three parts use planing to parsimoniously change the dominant seventh from G to G♭. The S–T motion occurs in m. 39–40, from G♭§ to D♭. The arrival of D♭ major, mentioned before by Notley, is distant. The dominant seventh preceding it (which would be IV7 in D♭), is enharmonically spelled to look like an I♭+6.
Figure 3.4 Kodály, String Quartet, mm. 39–46.

Enharmonicism, as shown in the two previous examples, is one way to alter the structure of the chord, which subsequently affects the behavior. Enharmonicism, used for voice leading techniques, creates chromatic harmonies that make it difficult to label progressions with Roman numerals in certain cases (Figure 3.4 being one of them). Although this makes it difficult to support the syntax, these chromatic harmonies still
exhibit local, functional progressions from chord to chord. Therefore, they are seen as quasi-harmonic progressions.

Violin II in m. 39 moves to an E♯, making an augmented sixth between Violin II and Cello. However, the augmented sixth fails to resolve to octave F’s due to the S–T motion in the bass. Therefore, labeling this as a IV⁷–I progression seems more plausible. Next, Violin II presents new material in m. 46. The harmony on the downbeat is a d⁷. Looking backwards, mm. 40–41 outline D♭ major. With the move to D♭ in the Cello, the chord becomes d⁰ in mm. 42–43. The Cello’s line, highlighted in red, shows melodic material that is then augmented from beat three of m. 44 to the downbeat of m. 46. Violin II adds the seventh, C, to make d⁷ in m. 46.

The next passage uses enharmonicism within the syntax of E major. Figure 3.5.1 shows the beginning of the S theme. From mm. 79–80, a Ger⁶ is formed. It is common to see a Ger⁶ as an enharmonically spelled dominant seventh chord, especially as a pivot chord in modulations. In this case, the Ger⁶ would be an F⁷. If we are to look at the harmony from mm. 79–80 as a dominant seventh, then the voice leading to the G♯⁷ in m. 83 is very parsimonious. Figure 3.5.2 shows a voice leading scheme to move from F⁷ to G♯⁷. The red arrows show motion by semitone, and the blue lines show common tones maintained. The material from mm. 84–87 shows prototypical chords diatonic to E major.
Figure 3.5.1 Kodály, String Quartet, mm. 78–87.

Poco sostenuto

E: (  
\[ \text{Tempo. (} \text{ } \downarrow = 76) \]
\[ \text{F}^7 \]

G\#7

V/7 vi vii\#5 ( ) ii\# V

Figure 3.5.2 Voice leading from F\#–G\#7.

\[ \text{F}^7 \rightarrow \text{G}^\# \]

Eb F\# C (D\#) A B\# F G\#
The Inverted Augmented Sixth

These next three quasi-harmonic progressions share two common attributes: they contain a structurally similar Ger⁴⁶ chord, and they occur in the three largest areas of the form (Exposition, Development, and Recap). The Kodály “disguises” the augmented sixth as an A♭ major chord with the F♯ in the bass in all three instances. Charles Smith elaborates on what to look for in how an augmented sixth is presented:

Many of these chords appear to be, in their original decorative roles, traditional triads or seventh chords in specific inversions… The diatonic origins of the more complex chromatic chords are often camouflaged by respellings, especially enharmonic spellings.⁴⁴

All three chords will have F♯ in the bass. This scale degree might act as a non-harmonized chord tone, or as a dual agent/bass of an F♯–A♭–C–E♭ “seventh chord.”

The first quasi-harmonic progression containing an inverted augmented sixth chord occurs in at the final bar of the introduction going into the Allegro section.

Figure 3.6 Kodály, String Quartet, mm. 16–19.
Of the three inverted augmented sixth chords, m. 18 contains the least typical augmented sixth chord. We see the Ab in the top voice and the F# in the lower voice.\textsuperscript{35} The problem is the E♭ in Violin II. Considering this, I give two readings on how to interpret this chord. First, although subtle, the E♭ might foreshadow the secondary key a major third away. The chord’s structure demonstrates what Matthew Bribitzer-Stull calls the “Ab–C–E complex,” which “naturally demonstrates the emergence of major-third collections’ expressive and structural functions…”\textsuperscript{36} My second structural reading is as such: every note within m. 18 (including the B♭ in Violin I) belongs to the whole tone series of pitch class set (02468t). The E♭ makes it so this chord is a type of modally altered augmented sixth chord.

The next instance of the inverted Ger\textsuperscript{+6} is in the development (Figure 3.7). Working backwards, the final measure of this passage is the beginning of the nine-bar retransition. Violin II stands on the dominant, G. Throughout the preceding passage the pedal point is F#. The rest of the tones that make up the Ger\textsuperscript{+6} are scattered throughout the top three parts from mm. 225–228. The fight between harmonic and melodic function is apparent. Harmonically, an augmented sixth before the standing dominant is very typical. However, 13 measures of music prolonging an inverted Ger\textsuperscript{+6} is atypical.

\textsuperscript{35} The B♭ in Violin I is an IN.
\textsuperscript{36} Bribitzer-Stull 2006, 167.
Figure 3.7 Kodály, String Quartet, mm. 219–233
The final section of the movement, seen in Figure 3.8, is a quasi-harmonic passage that ends on the minor tonic. Following a dramatic halt, the Viola and Cello begin this section at m. 335 marked Piu Lento. Everything that is enclosed in blue contains the chord tones of the Ger\textsuperscript{+6}. As with the other two augmented sixth chords, this Ger\textsuperscript{+6} is kept in the position with F\# on bottom. When we arrive at m. 344, the Ger\textsuperscript{+6} changes its position with the A\flat on bottom. The buildup to m. 344 is similar to the buildup at the EEC (Figure 3.4). The harmony is the same, yet the register and position of the chord changes.

This progression is quasi-harmonic due to the linear behavior. Kodály treats the E\flat melodically in mm. 337–339 in order to bring back material from the primary theme. This is accompanied by the Cello line, alternating by the C–F\# tritone. In m. 344, the A\flat agent in the Cello discharges up a fifth instead of down a semitone. The Ger\textsuperscript{+6} resolves to i\textsuperscript{6}, which means the functional progression is quasi-Dominant to Tonic.

Chapter 2 presented harmonic progressions containing chords with a clear function. This chapter has shown how the chords can still be considered functional, yet the functional attributes, structure and behavior, are altered. The structure of the progression is altered when it is in an atypical position, e.g. inverted augmented sixth. A chord can also be enharmonically spelled, which usually does not fit the key the passage is in, to set up parsimonious voice leading. The behavior of a progression is altered when a chord resolves to an unexpected chord. Plagal motion, for example, exhibits altered behavior. The next chapter will discuss linear progressions that rely on the voice leading rather than the chord-to-chord succession.
Figure 3.8 Kodály, String Quartet, mm. 335–346
CHAPTER 4
LINEAR PROGRESSIONS

Rather than an immediate chord-to-chord progression, linear progressions take a broader view on harmonies across a bigger span of time. The voice leading takes precedence, and the harmony is the by-product. Therefore, these progressions will prolong any sort of functional harmony on the macro scale. In Harrison’s methodology, triads and seventh chords in functional harmony are defined as an assembly of members of the scale representing the harmonic syntax. If the voice leading outweighs the harmony, then the chords themselves lack function. Therefore, progressions must be looked on a broader scale in order to identify any harmonic activity.

Figure 4.1 shows the heavy polyphonic texture in the introduction. We saw the first four measures of the intro exhibit quasi-functional harmonies as well as the last three measures going into the Allegro section. Inside the “borders” of the introduction we see heterogeneous interactions between parts. In this particular case, mm. 5–13 is polyphonic and has very few harmonies that are functionally discernible.

Most of the melodic material, labeled in red, derives from the opening motive in the Cello. For instance, the Cello contains this motive in m. 5. In the previous chapters, the motive implied an S–T harmonic function. On the surface, going from F♯–C♯, it seems to convey the same function. However, it does not convey any harmonic implication due to the activity in the other three parts. This activity is purely linear, and therefore does nothing to support any harmonic function in the Cello’s motive.
Figure 4.1 Kodály, String Quartet, mm. 5–13.
The top three parts show independent interaction from each other throughout this passage. In m. 7, for example, Violin I and Violin II move on beat four in contrary motion; Violin I and Viola move on beat six in parallel motion, and Violin II moves on the second half of beat six. Considering the independence of this contrapuntal motion, it is difficult to label chords.

The harmonies that do line up are non-functional clusters. For example, m. 5 shows an A#–E#–F# cluster in the top three voices. This trichord (including the doubled F# in the Cello) is pitch class set of (015). Considering that there is an interval class of a semitone, this trichord cannot be considered a functional “triad” by any means. The same also applies to E–B#–F#–G# cluster in m. 11, which makes a tetrachord that is pitch class set (0248). This tetrachord cannot be considered a functional “seventh chord.”

The next example occurs at the EEC back in Figure 2.4. The harmony changes from being functional to non-functional starting at m. 104. In E major, the progression is $V_7^4/V–iv^6–cad.$ The harmony becomes non-functional following the cadential $\frac{7}{4}.$ The bottom three voices move chromatically down, creating a planing motion of dominant seventh chords. This planing serves as a bridge to get the Ger$\#^6$ chord in m. 108-9.

Harmonic instability is a common trait in development sections. Figure 4.2 shows a continuous buildup to a key change. Given the melodic material in m. 191, derived from the secondary theme, it is understood that this passage starts in C# minor and moves to F minor. This is a progression by a third if we enharmonically spell C# as D♭.

Specifically (according to Kopp’s labeling) we have a chromatic progression, with G#/A♭ as the common tone.
Figure 4.2 Kodály, String Quartet, mm. 191–199

Although this passage is labeled as a linear progression, the beginning is functionally stable in C# minor. The distinguishable chords are ones that appear when the Cello rearticulates its part. For example, mm. 191–192 contain a iv\(\frac{3}{2}\)–VII\(\frac{5}{4}\)–V\(\frac{6}{4}\)–i\(\frac{6}{4}\) progression in C# minor, which follows an S–D–T functional progression. After the iv\(\frac{3}{2}\) in m. 193, the music becomes functionally unstable. By then, the parts work chromatically and lose any functional discernment. The distinguishing factor in this is the Cello, as it moves in parallel thirds with the Viola in m. 193. Function is regained at the key change
in m. 199. The music from mm. 194–198 is heavily saturated with chromatic inflections, where the progression is purely linear.

Lastly, Figure 4.3 shows the bridge located in the Recap.

**Figure 4.3** Kodály, String Quartet, mm. 291–295.

The bridge connects the closing material and moves into P-material. Although this passage is five measures long, it was not seen in the Exposition, making it a new addition to the Recap. Looking at each beat as a verticality will take away from the linear motion the passage is creating. The underlying function is a “Subdominant” D♭7 chord going into a cadential dominant in m. 295. The D♭ could possibly serve as the Neapolitan of C minor, but it seems to be a color chord since it contains the seventh.

The purpose of this passage is to regain energy, which is achieved through the activity in each part. Each part in mm. 291–293 respectively follows a pattern of intervals (thirds, tone, semitone, octave). Viola and Cello in m. 294 share a common pattern of a descending chromatic motion. In the following measure, the top three parts share the
pattern of an arpeggiated C minor chord. In the same measure, the Cello provides the functional base, G (with an F# lower neighbor), supporting the i§ harmony.
CHAPTER 5
CONCLUSION AND FURTHER RESEARCH

Figure 5.1 shows how the piece presents the relationship between types of progression and form. Prototypical progressions are labeled in blue, quasi-harmonic progressions in purple, and linear progressions are labeled in red.

Figure 5.1 Progression Timeline

Prototypical progressions diminish as the movement moves forward. The Recap, m. 242, begins as prototypical, but the remaining prototypical progressions only account for 32 measures in total. In sum, most prototypical progressions occur in areas that need stability in order to project the form. This includes the beginning of the Allegro section and Recap, the EEC and ESC, and the Closing material in the Exposition. Quasi-
harmonic progressions occur in places leading in or beginning transitioning sections. Lastly, linear progressions are located in places of developing or sequencing melodic material.

Kodály’s String Quartet No. 1 exemplifies the various types of harmonic progressions that can occur within tonal music. What makes this analysis unique is the methodology behind it. Breaking down the function of chords as having structure and behavior is important. For example, there were times that either structure or behavior, or both, changed in a chord enough to call itself “quasi.” Many pieces of the 18th century, on the other hand, would not require such work on a molecular level given the common norms and rules that were established.\textsuperscript{37}

My analysis mainly focused on the movement from one attached moment to the next. For a different understanding of some progressions, I would further the research by looking into detached moments in the form of transformational theory. Adrian Childs’ work in neo-Riemannian theory can help explain the progressions of the seventh chords in Kodály’s Quartet. Typical neo-Riemannian theory involves the transformations of major and minor triads. Childs applies his theory to “minimally perturbed” seventh chords.\textsuperscript{38} Minimally perturbed seventh chords focus on seventh chords that do not move straight to a resolution. Considering that the quartet is filled with the three kinds of (0258) tetrachord, I believe a transformational approach can help explain some of the parsimony in Kodály’s voice leading of the seventh chords used. Most of the transformational progressions in this movement work between detached progressions (rather than one progression to the next).

\textsuperscript{37} This not to say all pieces at this time followed the norms.
\textsuperscript{38} Childs 1991, 184.
In typical neo-Riemannian theory, chords are transformed parsimoniously by moving one voice by a tone or semitone. The operations that can be used to track the voice leading include the parallel (P), relative (R), and the leading-tone exchange (L). Childs’ theory works by moving two voices by a tone or semitone. Instead of the P, R, and L operations Childs labels his transformations S and C. The operations account for the voice leading. If the two voices move in similar motion they are labeled S. If they move in contrary motion they are labeled C. Childs explains how this parsimony works:

With such minimally perturbed chords, it is possible to construct networks which involve only half-step voice leading. Such networks can be described with the $P_n$-relation (two chords are considered to be $P_n$-related if they differ by a half step in $n$ voices while the other voices remain constant).[^39]

A seventh chord transformation will involve a $P_2$-relation. Figure 5.2 shows the relation between the Ger$^{+6}$ chord in m. 80 and the following D♯ half diminished seventh chord in m. 84.[^40] Although three voices move, we still have two common-tones: the D♯, C♯ and the A. Using Childs’ transformational theory, this would be considered a “$C_3(2)$” transformation. The first subscript indicates the interval class of the common-tones. The parenthetical subscript indicates the interval class of the two pitches moving. F♯ moves up to F♯ and D♯ moves down to C♯. The half step motion in the opposite direction means the contrary operation is being used.

Since the seventh chords do not follow a chord-to-chord pattern, the transformations would have to be looked at as chordal reductions. Looking at Figure 3.5.1, mm. 82–84 and mm. 85–87 are the first two iterations of the basic idea nested within the secondary theme. Each basic idea is tied over from a seventh chord in the

[^40]: Childs only has two labels: “+” for the dominant seventh and “−” for half-diminished seventh. Since I want to cover all three of the (0258) seventh chords the German augmented-sixth chord will be labeled “/”
previous measure. Omitting the basic ideas leaves us with the $C_{3(2)}$ transformation.

Reducing it to the seventh chords shows us the parsimony of the two, minimally perturbed seventh chords in Figure 5.2.

Figure 5.2 Kodály, String Quartet, mm. 80 and 84 (reduction).

Even if late tonal music stretches the boundaries of the common practice, harmonic progressions can always be identified. Harmonic progressions exist in a single chord, a progression of multiple chords, or in the key areas of a piece of music. Kodály’s compositional style in his String Quartet No. 1 combines traditional approaches with clever deformations. The end result is a piece that is both adventurous as well as working under one, overarching harmonic syntax of C minor.
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