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A Contextually Defined Approach to *Appalachian Spring*

Stanley V. Kleppinger

OVER TWENTY YEARS AGO, Joseph Straus, writing in the *Journal of Music Theory*, pointed out that twenty years before *that*, Arthur Berger had called for “a new branch of [music] theory.” This new branch would specifically treat the large body of twentieth-century music that is “organized in terms of tone centers but not tonally functional.” Whereas Felix Salzer, Roy Travis, and others had applied quasi-Schenkerian techniques to this repertoire,¹ Berger and Straus were interested in developing a method that would “start from what this music itself is, rather than dwelling upon its deviation from what music was previously.”² Straus has since provided compelling arguments detailing the shortcomings of Schenker-styled prolongational analysis to such repertoire, chief among which is the problem of distinguishing between structural and embellishing pitch events absent the axioms of functional tonality and counterpoint.³ What remains, therefore, is these authors’ sense (reflected by countless musicians and analysts since then) that this post-tonal pitch-centric repertoire exhibits its own brands of tonal cohesion that cannot be explicated by application of traditional prolongational theory.

This essay builds on this “new branch of theory” by presenting analyses of selected sections from Aaron Copland’s *Appalachian Spring*. Prefacing this investigation are analytic synopses of earlier works by two other composers—one a common-practice-era sonata by Beethoven, the other a movement by Stravinsky as analyzed by Straus. Both of these vignettes demonstrate that, whether a given work exhibits functional tonality or post-tonal pitch centrality, tracing the

¹Felix Salzer, *Structural Hearing* (New York: Dover, 1962) includes analyses of excerpts from three Copland works as well as passages by Bartók, Debussy, Hindemith, Martinů, Ravel, Stravinsky, and Vaughan Williams; Roy Travis, “Tonal Coherence in the First Movement of Bartók’s Fourth String Quartet,” *Music Forum* 2 (1970): 298–371; Allen Forte, *Contemporary Tone-Structures* (New York: Columbia University Teachers College, 1955) includes analysis of the third of Copland’s *Four Piano Blues*.

²Arthur Berger, “Problems of Pitch Organization in Stravinsky,” *Perspectives of New Music* 2, no. 1 (1963): 11, quoted in Joseph Straus, “Stravinsky’s Tonal Axis,” *Journal of Music Theory* 26, no. 2 (1982): 261.

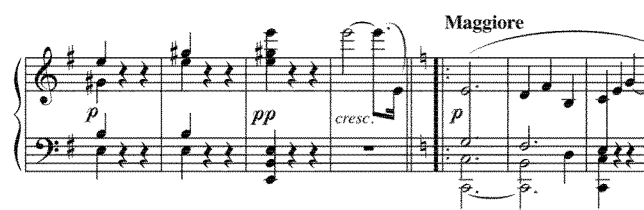
³Straus, “The Problem of Prolongation in Post-Tonal Music,” *Journal of Music Theory* 31, no. 1 (1987): 1–21; Straus, “Voice Leading in Atonal Music” in *Music Theory in Concept and Practice*, ed. James Baker, Jonathan Bernard, and David Beach (Rochester, NY: University of Rochester Press, 1997), 237–74.

correspondence of the work's pitch centers with other pitch elements of the music's surface can elucidate the work's tonal coherence. Even though Copland's music differs in specific ways from that of the Beethoven and Stravinsky analyses below, focusing on the parallels between pitch centers and other musical elements is hardly a new endeavor, and in fact has proven fruitful in a variety of repertoires—as these analyses illustrate.

Analytic Antecedents

Beethoven's Piano Sonata in E Major, op. 14, no. 1—and especially its second movement—demonstrates how pitch centers can reflect other dimensions of the music's surface. This interior movement is cast as a minuet and trio in E minor. As seen in example 1, the opening minuet ends with an E major chord, supplied by the typical Picardy-third inflection of a tonic minor triad. The trio that follows, however, is in the key of C major. The single common tone shared by the E major and C major triads, E, is emphasized by its isolation just as the minuet ends and the trio begins.

EXAMPLE 1. Beethoven, Sonata in E major, op. 14, no. 1, ii, mm. 59–65



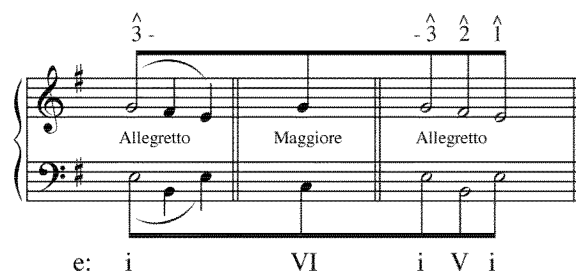
The juxtaposition of keys related by major third—here, E and C—is not unusual in Beethoven's output. What *is* interesting for our purposes is that Beethoven parallels this juxtaposition of E and C elsewhere in the movement and the sonata. This movement's first two harmonies are in fact E minor and C major, as shown in example 2. The melody hovers around E4 in these two measures, emphasizing this common tone just as E is stressed at the juncture between the minuet and trio. The first two bars of the movement thus constitute a microcosm of the movement's eventual tonal progress toward C. The minuet goes on to tonicize C in mm. 17–24, reaching a half cadence in C at the end of this phrase and thereby further forecasting the trio's C centricity. Finally, the first movement of this sonata, in E major, offers in its recapitulation a striking presentation of a theme in C major. Aside from E and its dominant, C is the only pitch center explored in this movement outside the development—and perhaps half of the development is itself focused on C major. The significance of C major in the context of a reigning E tonality is suggested long before the second movement's trio is reached.

EXAMPLE 2. Beethoven, op. 14, no. 1, ii, mm. 1–2



The multi-levelled parallelisms juxtaposing C with E form a fascinating subplot to this otherwise typical early nineteenth-century sonata. In this case, the conventions of harmony and voice leading, so well articulated by Schenker, govern the large-scale tonal organization of this piece. In this perspective, the three-part form of the second movement results from the large-scale contrapuntal progression $i-VI-i$ (E–C–E), but at deeper levels gives way to the essential harmonic/contrapuntal structure permeating this repertoire: $i-V-i$. This perspective is illustrated in the graph of example 3.⁴

EXAMPLE 3. Middleground sketch of Beethoven, op. 14, no. 1, ii



The minuet's opening harmonies, as well as the first movement's forecasting of C major's importance, neatly parallel the movement from i to VI . However, this parallel between the movement's pitch centers and such surface features is not *essential* to the logic of the movement's background tonal structure. At the deepest level, the movement's expression of a tonal archetype, $i-V-i$ supporting $\hat{3}-\hat{2}-\hat{1}$, ensures its coherence. With or without the interesting parallelisms explored above, the entire musical surface can be reconciled as an *Auskomponierung* of a tonic chord via specific harmonic and voice-leading conventions taken for granted by this approach. Suppose for a moment that m. 2

⁴Carl Schachter provides a more detailed Schenkerian perspective of this movement's first section (the Allegretto) in "Rhythm and Linear Analysis: Durational Reduction," in *Unfoldings: Essays in Schenkerian Theory and Analysis*, ed. Joseph N. Straus (New York: Oxford University Press, 1999), 65–70.

simply repeated the opening bar's E minor harmony rather than moving to C. The correspondence between this feature of the musical surface and the movement's middleground would dissolve, but the background i–V–i would continue to define the movement's deepest tonal structure. The movement's use of VI at multiple levels is ultimately nonessential to the music's tonal coherence at the largest level.⁵

In contrast, much of Copland's work displays similar parallels between pitch centers and surface-level musical phenomena *without* consistently attending to the other traditional principles of voice leading and harmonic functionality. As a result, a view of tonal structure that hinges upon reducing a musical surface to a consistent background via a set of commonly held harmonic and voice-leading conventions is unable to come to grips with this repertoire.⁶ Instead, a sense of internal consistency between pitch centers and pitch elements of the musical surface, modeled by the multi-leveled E/C relationship of Beethoven's minuet and trio, provides *contextual* coherence in Copland's works. I propose that these pitch centers themselves, their methods of presentation, and their relationships to the musical surface are aligned with one another in aesthetically satisfying ways. The difference from this Beethoven example is that, in Copland's case, this tonal coherence exists divorced from any pre-existing harmonic or contrapuntal conventions allowing for reduction to a background (such as I–V–I) that is consistent from work to work.

In "Stravinsky's Tonal Axis," Straus identifies a "significant body of works by Stravinsky" that could be viewed as being organized around a pair of overlapping major or minor triads that, considered together, take the appearance of a major or minor seventh chord. Straus designates this pair of triads the work's *tonal axis*, and as such it displays two other characteristics:

It must function in the piece as a referential sonority. It must occur prominently as a discrete harmony within the piece, particularly in

⁵Charles Burkhart demonstrates a similar parallelism between musical surface and large-scale tonal design in another common-practice-era work: Schubert's "Erlkönig." See his "Schenker's 'Motivic Parallelisms,'" *Journal of Music Theory* 22 (1978): 145–75. Also see Deborah Stein, "Schubert's 'Erlkönig': Motivic Parallelism and Motivic Transformation," *19th-Century Music* 13, no. 2 (1989): 145–58.

⁶As Straus and Fred Lerdahl have argued, the absence of such conventions in much post-tonal music seriously hinders the ability of a prolongational analytic approach to distinguish that which is structural from that which is ornamental. See Straus, "The Problem of Prolongation"; Straus, "Voice Leading in Atonal Music"; and Lerdahl, "Atonal Prolongational Structure," *Contemporary Music Review* 4 (1989): 65–87. Copland's music does sometimes evoke elements of common-practice-period harmonic and voice-leading practice, and as a result impacts tonal structure at local levels. Nevertheless, such evocation is not consistently present, and Straus's and Lerdahl's objections therefore also apply to this repertoire. Schenkerian prolongation depends upon harmonic and contrapuntal conventions that simply do not govern Copland's music.

cadential situations. It must be the essential harmonic generator of the piece; other harmonies derive from and relate to it.

It must embody a conflict or polarity between its two constituent triads. All axes have the appearance of seventh chords, but not all seventh chords function as tonal axes. Each of the overlapping triads which constitute the axis must be shown to have a palpable identity and centrality of its own.⁷

One of Straus's analyses employing this tonal axis theory examines the first movement of Stravinsky's *Symphony of Psalms*. Straus finds in this movement's famous opening chord a "musical tension" embodying "the central tonal polarity of the movement which governs all the principal motions."⁸ This chord, shown in example 4, is an E minor triad, but its idiosyncratic spacing and doublings place unusual prominence upon its third, G.

EXAMPLE 4. Stravinsky, *Symphony of Psalms*, opening chord



Straus goes so far as to suggest that "the particular disposition of this chord might be said to imply the pitch D as an overtone." This chord thus fulfills the requirement that the tonal axis be "present" at the music's surface in a prominent way—the E minor triad in this context also points to a potential overlapping G major triad. The chord of example 4 is in fact repeated as a simultaneity several times throughout the movement with the same spacing and orchestration, and Straus points out that, just before one of its restatements (in the measure before rehearsal number 9), the pitches of the chord are arpeggiated *with* the "missing" D. Thus, the opening chord of the movement points primarily to E, but implies that G has importance to the movement as well.

This E/G duality is manifested in the organization of the rest of the movement. The movement ends with a climactic arrival on a G major triad, reinforcing the G side of the tonal axis that was left implied at the movement's opening. Moreover, Straus also finds that the tension between E minor and G major is played out elsewhere in the music:

⁷Straus, "Stravinsky's Tonal Axis," 265.

⁸Ibid.

Throughout almost the entire movement, motion is directed toward the EGB part of the axis by means of the association of E and F. In numerous passages, beginning with the first choral entrance [shown below in example 5], the F functions as an upper neighbor to E. Throughout the movement, the appearance of F signals a return to E. Through the close association of these two pitches and through the embellishing role of the F, the tonal motion is confined around the E. At the final cadence, however, the firm relationship between E and F is disrupted: the F passes upward to G rather than moving back down to E....⁹

EXAMPLE 5. Stravinsky, *Symphony of Psalms*, i, rehearsal number 4

4 *mf cantabile*
altos, ob.
E - xau - di o - ra - ti -
ob., Eng. hn.
p
bsn.
o - nem me - am, Do - mi - ne,

Straus's example, reproduced here as example 6, shows the end of the movement superimposed on his analysis. The analysis illustrates that, in the melody, E is finally allowed to ascend to G through the F that previously served as a neighbor to E.¹⁰

The lower portion of his sketch shows how the bass moves from E to G as well, though in this case the motion is downward through a sixth. The tension between G and E suggested by the tonal axis, implicit in the work's opening chord and its repetitions, is here expressed by the climactic way in which G is finally attained via motion from E.

⁹Ibid., 268.

¹⁰Ibid., 270.

EXAMPLE 6. Straus's analysis of Stravinsky, *Symphony of Psalms*, conclusion of first movement

The musical score is arranged in a system with the following parts from top to bottom:

- Vocal Parts:** Soprano (S.), Alto (A.), Tenor (T.), and Bass (B.). Each part has the lyrics: "- am et ampli-us non e - - ro." The vocal lines are marked with a forte dynamic (*f*) and the instruction "senza dim." (without diminuendo).
- Piano I:** The first piano part, featuring a complex rhythmic pattern with many sixteenth and thirty-second notes.
- Piano II:** The second piano part, providing harmonic support with chords and moving lines.
- Violoncello (Vc.) and Contrabass (Cb.):** These parts are marked "div. a 2" (divided by two), indicating a slower, more sustained line compared to the vocal parts.
- Grand Staff:** At the bottom, there is a grand staff with two staves, likely for the piano accompaniment.

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The Copland analysis below will not specifically invoke Straus's tonal axis theory, though its approach to the post-tonal pitch-centric language of *Appalachian Spring* is similar. Straus's analysis, and the perspective of the Beethoven sonata above, illustrate that linking pitch centers to other musical elements can yield analytic insights into a large cross-section of repertoire cutting across stylistic and historical boundaries. Certainly pitch centrality is a crucial feature of *Appalachian Spring*; thus, my analytic approach, like Straus's, begins with such questions as: what pitch classes are most saliently emphasized in this music? how do these pitch classes relate to one another? and what other musical features reflect these pitch classes and their relationships? The answers to such questions will suggest ways that the work's pitch centers and other musical parameters are connected, creating a cohesive whole.

Overview of "Eden Valley"

The first Allegro of *Appalachian Spring* (mm. 51–154 of the suite) is especially appropriate for the analytic method described above. By examining the discrete tonal techniques that parse the Allegro into smaller subsections in relation to its most strongly asserted pitch centers, it becomes clear how this music creates a sense of tonal coherence that is unique to this composition.

This Allegro, which Copland called in his sketches "Eden Valley," actually makes use of functional harmonic progressions in two passages. However, functional harmony constitutes only one of several tonal techniques employed in this section.¹¹ The left side of example 7 shows four contrasting harmonic vocabularies juxtaposed in the Allegro (triadic T_{11} chains, quartal trichords, polychords, and functional progressions). The example also partitions the Allegro into twelve subsections. This division is based upon shifts between the tonal techniques labeled in the leftmost columns. Subsection boundaries are supported by other musical parameters such as orchestration,¹² dynamics, and silences or

¹¹At the risk of overusing a few terms, I will reserve the designation *section* for larger formal units of the entire suite (such as the whole Allegro)—since these units are not separated during performance, it seems inappropriate to label them "movements." The words *passage* and *subsection* are used (synonymously) to refer to the constituent parts of a section.

¹²For purposes of simplicity, this analysis will deal exclusively with the orchestral version of the suite from *Appalachian Spring*. The tonal structure is reinforced by the choices made by the composer in his orchestration of the original thirteen-instrument chamber version, but that tonal structure (which constitutes the main focus of this study) is not itself changed by the orchestration. Moreover, the orchestral suite is more widely performed and known than *Appalachian Spring*'s manifestation as a ballet for chamber

sustained chords separating the subsections. The discreteness of the tonal procedures outlined in example 7 is thus quite apparent (with the exception of a “pandiatonic exordium melody,” which is used in combination with each of the other techniques and thus constitutes a special case).¹³

The fundamental tonal structure of the Allegro can be described as a movement from pitch centrality on A to centrality on F. This movement is multifaceted. The different tonal techniques sometimes work in tandem, interacting by virtue of their blunt temporal juxtapositions with one another. In addition, the first three tonal procedures listed each create a unique, individual narrative of the procession toward F, though the individual narratives frequently interrupt each other. The different musical approaches behave like excited, breathless children trying to tell a single story but continually interrupting each other while doing so. The listener hears multiple tellings of the same story—in this case, the “story of movement to F”—told by three different speakers with unique perspectives. The structure of the whole story, once completed, is unsurprisingly more complex because of the way in which it is presented.

Example 7 arranges the four subsection-defining tonal procedures into a continuum from a non-diatonic approach lacking a clear tonal focus (“triadic T₁₁ chains”) to diatonic approaches suggesting a pitch center (“quartal trichords” and “polychords”) to diatonic progressions clearly rooted in classical-era harmony (“functional progressions”). Moving downward through these four rows brings one to a technique that more strongly asserts a pitch center. The significance of this organization will become apparent when the interaction of these tonal procedures is considered. First, each procedure listed in example 7 will be examined individually. The transitional passage shown in example 7 will also be briefly considered. Because the pandiatonic exordium melody is presented in combination with each of the other techniques, it will be described first. Example 8 presents the entire Allegro in a two-staff reduction.

ensemble. The transcription (and abbreviation) of the original version does not necessarily negate the potential for the resulting concert work to exhibit a logical and compelling tonal structure.

¹³The pitch centers indicated in example 7 refer only to the centers themselves. While Copland’s music makes frequent use of diatonic collections that are often perceived as major scales, it does not necessarily follow that a given pitch center is always supported by the major scale of which it is the tonic. Music focused on A, for example, is often but not infallibly based in a three-sharp diatonic collection. (Moreover, Copland’s music does not always adhere strictly to diatonic collections.)

EXAMPLE 7. The subsections of the first Allegro from Copland, *Appalachian Spring*

subsections defining tonal techniques	Pandiatonic exordium melody	mm. 51–65	66–73	74–79	80–97	98–102	103–111	112–18	119–31	132–35	136–46	147–51	152–54	155–
		Alternating with T_{11} cycle, from exordium.		Transition back to 3♯ collection using motive that embeds inverted triad and quartal trichord.	In counterpoint with chorale.	Juxtaposed with trichords.	Melody derived from exordium.	In counterpoint with chorale.						
	Triadic T_{11} chains	T_{10}/T_{11} chain: A♭–G–F–E.							Additive T_{10}/T_{11} chain: A♭–G–F–E–E♭, then C–B♭–A–A♭–G–F♯. (<i>Climax</i>)		T_{10} chain: A–A♭–G–F♯–F.			
	Quartal trichords					Quartal trichords: C–F–B♭, D–G–C.				Quartal trichords: C–F–B♭, G–C–F.				
	Polychords	Decorated polychord accompanies melody (C/F).				Polychord accompanies melody (F/B♭).					Polychord (F/B♭).			
Functional progressions					Harmonically “functional” chorale (four phrases).						Harmonically “functional” chorale (three phrases).			
Pitch centers	A	C (IV/I)	C→A		A (unclear)	F	F (IV/I)...	B♭ (I/V)♯	(unclear)	F	F	(summary of A→F)	F (IV/I)	B♭

EXAMPLE 8. "Eden Valley," reduction

mm. 51–65: Triadic T_{11} cycles
(alternating with exordium melody)
Allegro (♩=160)

51 *f* *Vigoroso*

58 *sf* *p* *mf* *f marc.*

mm. 66–73: Polychords

64 *sf* strings *p* vln. *mf*

mm. 74–79: Transition

70 *non legato* *f* *marc.*

mm. 80–97: Functional progression.

76 (8va) vln., pno. *ff* brass strings fl., bsn.

81

EXAMPLE 8. "Eden Valley," reduction (continued)

87

93

mm. 98–102: Triadic T_{11} cycles

100

sub. *f marc.*

mm. 103–11: Quartal trichords

107

sf

mm. 112–18: Polychords

fl.

cl., harp

p

114

p

f ob., muted tpt.

mm. 119–31: Triadic T_{11} cycles

119

f marc.

f

sf

Detailed description: This musical score is a piano reduction of a piece titled "Eden Valley." It consists of six systems of music, each with a grand staff (treble and bass clefs). The first system starts at measure 87. The second system starts at measure 93 and includes a bracketed annotation "mm. 98–102: Triadic T_{11} cycles" above the treble staff. The third system starts at measure 100 and includes a bracketed annotation "mm. 103–11: Quartal trichords" above the treble staff. The fourth system starts at measure 107 and includes a bracketed annotation "mm. 112–18: Polychords" above the treble staff. The fifth system starts at measure 114 and includes a bracketed annotation "mm. 119–31: Triadic T_{11} cycles" above the treble staff. The score includes various musical notations such as notes, rests, accidentals, and dynamic markings like *p*, *f*, *sf*, *f marc.*, and *non legato*. There are also performance instructions like "ob., muted tpt." and "cl., harp".

EXAMPLE 8. "Eden Valley," reduction continued

mm. 124-35: *sf* *f* *cresc.* *cresc.*

mm. 128-35: *ff*

mm. 132-35: Quartal trichords

mm. 136-46: Functional progressions

mm. 132-35: *ff* *mf* *strings espress.*

mm. 138-51: *mp* *p*

mm. 147-51: Triadic T_{11} cycles

mm. 145-51: *pp* *mp*

mm. 152-54: Polychords

Moderato

151 *p* *pp* *p*

The Pandiatonic Exordium Melody

The Allegro begins with a vigorous, diatonic melody that goes on to permeate the rest of the section. Given this theme's declamatory nature coupled with its placement at the opening of the section, example 7 identifies it as the "pandiatonic exordium melody."¹⁴ The first three manifestations of this melody are presented in example 9.

EXAMPLE 9. Three versions of the pandiatonic exordium melody



This melody projects a pitch center. In its first two versions, the pitch class A is emphasized by starting and ending there, and the other members of the major triad on A are also stressed via leaps in proximity to recurrences of A. The use of the three-sharp diatonic collection in these melodies also serves to reinforce this pitch center. The third version of the melody in example 9 is centered somewhat less emphatically on C, though its direct transposition of the first two measures from the previous version makes that pitch center clear. Of importance to this entire analysis is that this melody posits its tonic merely through salient emphasis on that pitch class; i.e., perception of its pitch center does *not* result from implied harmonic progressions in the same way that, say, an unaccompanied melody by Bach might imply a specific tonality. The use of functional progressions is

¹⁴Melodic rhetorical theory has a long tradition dating at least to the eighteenth century. See Leonard Ratner, *Classic Music: Expression, Form, and Style* (New York: Schirmer, 1980), 91–107. The description of this melody as an “exordium” simply reflects my effort to provide it a meaningful designation based on its first appearance as a “call to attention” for the rest of the section.

monopolized by two crucial passages to be discussed below, and although this melody appears in both of those passages, the melody itself does not imply a functional harmonic approach.

The role of this melody as a unifying feature of the Allegro should also be stressed. Example 7 shows that it appears in six of the section's twelve subsections, and is thus at least indirectly involved in 75 of the section's 103 measures. Because it is so frequently present in one shape or another, this melody never defines a subsection itself; rather, it always appears in juxtaposition or superimposition with another tonal technique. This is illustrated in example 7, which consistently shows the exordium in a column above another technique. In addition, similarities between this melody and the motives used in many of the other tonal procedures in "Eden Valley" tend to further unify this section internally. The details of those motivic similarities will be explored below.

Functional Progressions

As illustrated in example 7, there appear in the Allegro only two passages that suggest functional, common-practice era harmony. The first occurs in mm. 80–97 and focuses on the pitch center A. The second, which is located near the end of the section (in mm. 136–46), constitutes a nearly complete reprise of the first but is centered on F. Each passage consists of a chorale texture presented in counterpoint with different versions of the exordium melody. An analytic reduction of the first chorale, demonstrating its use of functional authentic cadence formulae, is given as example 10.¹⁵ The chorale is organized into four phrases, each of which culminates in a harmonic gesture resembling an authentic cadence in A major. Each phrase's identity is reinforced by the sustaining of its final A major triad for at least five beats. As shown in the reduction, functional analysis becomes possible as cadences approach in m. 82, m. 88, m. 92, and m. 96. Copland weakens the effect of the first three cadences by suppressing the expected melodic A at each cadence's culmination; the topmost voice instead leaps down a seventh to C# or down a fifth to E. Only as the subsection itself draws to a close does the melody finally come to rest on A in m. 96.

¹⁵Salzer also provides a brief sketch of one cadential gesture from the F major chorale illustrating the same functional "*Stufen*" as shown in example 10. Salzer, *Structural Hearing*, p. 134 and ex. 239.

EXAMPLE 10. Reduction of mm. 80–97

A: IV⁷ V I V I IV⁷ V I IV⁷ V I

Another cadential moment takes place in the second phrase—the melody hovers at B for three beats, supported by all the members of the dominant (E major) triad. The C# in the bass, however, negates the cadential potential of the melody, which then soars to its apex (A5) before finishing the phrase in m. 88.

The F major version of this passage (in mm. 136–46) exhibits harmonic content similar to that of mm. 80–97. Besides its different pitch center, the F major chorale omits the penultimate phrase of example 10; a reduction of the F major chorale would otherwise look very similar. The F major music does differ in other ways from the A major passage just discussed: the vigorous pandiatonic countermelody formerly sounded in octaves by upper strings and piano has been replaced by a less athletic version presented by solo flute. The string section takes up the chorale (now marked *piano*) that was earlier sounded *fortissimo* by brass, flutes, and bassoons in the A major version. As a result of these changes, the F major passage constitutes a softer, more intimate remembrance of the A major passage while retaining a nearly unchanged harmonic structure.

These two chorales obviously could not be mistaken as settings by a classical-era composer. Prior to a cadence, each phrase is based in nonfunctional (though usually triadic) pandiatonicism. The angular voice leading, particularly in the melody at the cadences prior to the end of each subsection, also betrays this music as evoking an earlier harmonic practice without actually embodying it. Nevertheless, these passages' invocation of cadential formulae with such significant historic—and thus perceptual—antecedents marks them as the most emphatic assertions of a pitch center in “Eden Valley.” Nowhere else are cadential formulae with such rich historical context used to establish pitch centers.

These two passages' assertions of unambiguous pitch centers via functional progressions, greater lengths, and placement near the beginning and end of the section all contribute to a view of them as the pillars defining the large-scale motion from A to F. These functional passages represent the tonal poles of the Allegro; the movement between them is explored and elaborated by the other passages surrounding them. The simplest representation of this structure is given as the (admittedly vague) diagram in example 11. Consideration of the other tonal

procedures in “Eden Valley” and their relationships to these tonal poles will allow us to describe its tonal structure with greater detail and with more elaborate versions of example 11.

EXAMPLE 11. Tonal structure of the Allegro in its most basic form

A

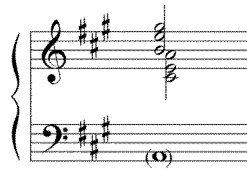
F

Polychords

The technique labeled “polychords” has a direct antecedent in the introductory section of *Appalachian Spring* immediately preceding this Allegro. Examining the original appearances of these polychords in the introduction will help to better contextualize their identity and usage in “Eden Valley.”

Following a slow unfolding of the A major triad, the introduction (in mm. 4–6) presents the simultaneity most famously associated with this composition: an E major triad in second inversion stacked atop an A major triad in first inversion. It appears in example 12 (with the A2 that appears below it in these measures). The same chord at the same pitch level reappears in mm. 21–23 and mm. 30–33 (without the underpinning A2).

EXAMPLE 12. The “Appalachian Spring Polychord”



There is no immediate reason that this chord should be considered a “polychord” when it is first presented—it might just as easily be regarded as an extended tertian sonority whose root is A (in effect, a major ninth chord). The two major triads that make up this chord, shown with separate stems in example 12, are separated registrally but are not especially distinct. The chord’s timbre is homogenous from top to bottom (it is set entirely in strings), and it is arpeggiated in a slow, perceptually ametrical fashion that does not distinguish its constituent triads. Nevertheless, by m. 11 Copland has begun to exploit this simultaneity’s potential to be parsed as two major triads by distinguishing those triads metrically and timbrally. Example 13 shows this music in full score.

EXAMPLE 13. Measures 8–21

8

② Moving forward

I.

Fl.

II.

Cl. I
(in A)

Fg.
I, II

Cor. (F)
I, II

Tr. (B♭)
I, II

Arpa

VI. I

VI. II

Vla.

Vc.

mf cant.

p

mf

con sord.

I. Solo

I. con sord.

Moving forward

Vln. 8va

Solo

div

p

EXAMPLE 13. Measures 8–21 (continued)

The musical score for measures 8–21 (continued) of *Appalachian Spring* is shown. The score includes parts for Fl. I, (in A) I, Cl., (in A) II, VI. I, VI. II, Vla., and Vc. Measure 15 has a '15' above the Fl. I staff. Measure 16 has a 'Solo' marking above the VI. I staff. Measure 17 has a 'rit.' marking above the VI. I staff. Measure 18 has a '3' above the VI. I staff. Measure 19 has a 'rit.' marking above the VI. I staff. Measure 20 has a '3' above the VI. I staff. Measure 21 has a '3' above the VI. I staff.

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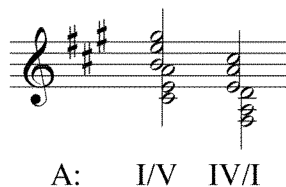
In mm. 11–12, the first horn arpeggiates a D major triad in first inversion, and is answered by a solo clarinet moving through an A major triad in second inversion with the same rhythm. These two chords, when stacked as a single simultaneity, form a transposition of the A major/E major polychord heard earlier. This polychord reappears in a linear fashion in mm. 25–29 and as a clear simultaneity in mm. 34–38, confirming its potential identity as a polychord. Example 14 shows both polychords side by side.

Given that A is the pitch center of this music (as established by the opening A major triad, reiterated As in the lowest register, and reliance on the three-sharp diatonic collection), it becomes possible to generate labels based upon the positioning of each polychord's constituent triads on specific scale degrees. The Roman numerals in each label are arranged to reflect the registral ordering of triads from bottom to top. Thus, these transpositionally equivalent polychords can be distinguished in relationship to the governing pitch center of the passage.

For much of the remainder of this introductory section, major triads rooted on A, E, and D are arpeggiated upward, overlapping to create a placid diatonic accompaniment to melodies in various solo instruments. Further, the pitches of these triads consistently reappear in the registers shown in example 14: D major in first inversion based on F#3, A major in first or second inversions based on C#4 or E4, and E major in second inversion based on B4. The stasis on these triads and registers continues to recall the two-triad polychords of example 14 that appeared earlier, though all three triads overlap in this seamless texture. Even so, each triad

maintains something of its identity by its organization into a short-short-long (quarter-quarter-half note) rhythmic motive.¹⁶ This is the duality prompting the label *polychord*. The constituent triads are registrally and (beginning at m. 11) rhythmically discrete, yet at the same time they blur into one another in imitation of their very first presentation as represented in example 12. Whereas in “Eden Valley” these chords are consistently presented in a horizontal, linearized fashion, their previous presentations in this introduction tend to encourage perceiving them as single, arpeggiated harmonies rather than as oscillations between inverted major triads.

EXAMPLE 14. Two transpositionally equivalent polychords



Example 7 shows that there are three passages in the Allegro hinging on polychords; specifically, each passage relies on other transpositional equivalents of the “Appalachian Spring Polychords” shown in example 14. Every polychord discussed in this analysis can be completely—if verbosely—described as “a pair of major triads with roots a perfect fifth apart, the lower of which appears in first inversion and the higher in second inversion.”

Looking first at the passage beginning in m. 112 (refer to example 8), we can see the polychord presented as an ostinato in clarinets and harp. Besides their replication of the registral arrangement of the introduction’s polychords, mm. 112–18 also recall the introduction’s polychords by imitating their upward arpeggiations in short-short-long rhythmic patterns. As in the introduction, this polychord with triadic roots a fifth apart can be labeled as either I/V (positing B♭ as a pitch center) or IV/I (pointing to F as a pitch center). Which is the better choice at m. 112?

Persuasive evidence from the other elements of the passage can be found to support *both* B♭ and F. Although the exordium melody played by flutes and these measures’ strict adherence to the one-flat diatonic collection point to F, the trumpets and oboes in m. 115 introduce a figure emphasizing B♭ in two registers along with the other members of its major triad. It is perhaps most accurate to describe these seven bars as subtly shifting tonal focus from F to B♭. In this way the passage exploits the potential for tonal ambiguity inherent to this polychord.

¹⁶Of course, each triad also has a historical identity *as* a triad, which in this ordered, arpeggiated presentation lends further weight to perception of the discrete triads in each polychord—rather than an inverted major ninth or merely a pentachord subset of the diatonic scale.

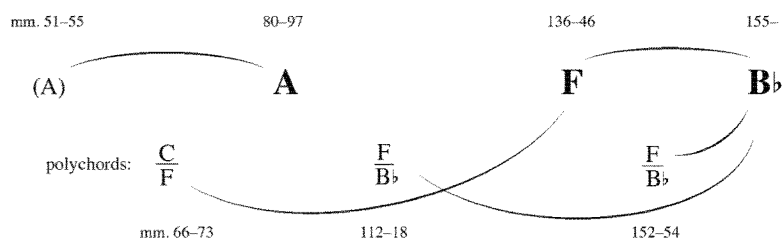
Measures 66–73, which constitute the first polychordal music of the Allegro, are less tonally ambiguous. After toying with a rhythm and contour that suggest the polychord, this subsection employs a decorated version of it to again accompany the exordium melody. Because this earlier passage does not employ anything like the trumpet/oboe figure of mm. 115–18, it is easier to conclude—from the exordium melody and the diatonic collection used—that it is centered on C. The underlying F/C polychord, arpeggiated by violins beginning in m. 69, can therefore be labeled IV/I in C.

If the pitch center of this passage is less ambiguous, the presentation of the polychord itself is somewhat hazy in this excerpt. The violins clearly arpeggiate it in its characteristic rhythm and contour, but additional pitch classes in the lower strings cloud its constituent triads. Although the polychord's registral placement above these incongruous pitches ensures that its unfolding from bottom to top is still clear, this addition to the polychord offers a contrasting perspective on its identity as a section-defining tonal technique. This perspective is reinforced by the playful but uncertain reference to it in mm. 66–68 before the exordium melody's entrance in m. 69.

The third (and only other) passage of the Allegro based on the polychord is a three-measure snippet that ends this section of *Appalachian Spring* (in mm. 152–54). By this point the large-scale shift to F major has been completed; this B \flat /F polychord would therefore be understood as IV/I in F. The sonority also glides neatly into the Moderato section that begins in m. 155 by outlining B \flat 's tonic and dominant triads. The tonal ambiguity of a polychord built from triads with roots separated by a perfect fifth makes it an ideal tool for “modulating” from one pitch center to another a perfect fifth away.

This last characteristic of the polychord has ramifications for the tonal design of the entire Allegro. Example 15 illustrates how the polychord passages, as a group, contribute to the large-scale shift to F and then to B \flat at the Moderato's opening.

EXAMPLE 15. Polychords describing large-scale tonal motion



F and B \flat (as unambiguous pitch centers) are each preceded by a polychord that contains their own tonic and dominant triads. The B \flat /F polychords of mm. 152–54 foreshadow the arrival on B \flat in m. 155. Similarly, the F/C polychord in mm. 66–73 presages the arrival on F in mm. 136–46. The two unequivocal

declamations of A—the opening exordium melody and the A-major functional passage—are shown to be separated by the F/C polychord. The large-scale shift to F is thus prophesied even before A has been established as the first pillar of the Allegro. The B \flat /F polychord at mm. 112–18 also participates in the movement toward the functional passage in F major (by containing an F major triad), but it additionally forecasts that B \flat will become the next strongly asserted pitch center. After this polychord's repetition in mm. 152–54, that forecast is confirmed in the Moderato's opening.

The tonally ambiguous nature of the Appalachian Spring Polychord allows the passages that make use of it to refer to specific pitch centers without asserting them with the certainty of the functional-progression passages. In this way, the polychord subsections form a path that leads first to F and then to B \flat . The potential for such a path is confirmed by the assertion of F as the second tonal pole of the Allegro and of B \flat as the opening pitch center of the Moderato. Neither the polychords nor any of the other tonal techniques yet to be explored establish a pitch center with the stability and emphasis of the two passages using functional progressions. In ways analogous to the polychord passages explored here, the remaining tonal procedures each support the shift from A to F by providing their own unique paths leading to F and by the specific arrangement of passages demonstrating each technique as the Allegro proceeds.

Quartal Trichords

There are only two passages in “Eden Valley” that hinge upon the tonal vocabulary designated “quartal trichords.” This label refers to pairs of trichords each stacked in perfect fourths. Example 16 shows the only two versions of this musical object used.

EXAMPLE 16. Quartal trichords



As with the Appalachian Spring Polychord, this sonority is always presented in this precise arrangement in pitch space—two pairs of stacked perfect fourths either separated by a major third (as in mm. 103–11, with an extension to F5 that will be described) or overlapping by a minor third (as in mm. 132–35). The trichords are always presented in arpeggiation from bottom to top, and often in the short-short-long rhythmic configuration (exemplified in m. 103) that typifies polychord passages as well. An additional constraint placed upon the quartal trichords is that they never appear in transposition during the Allegro (with the

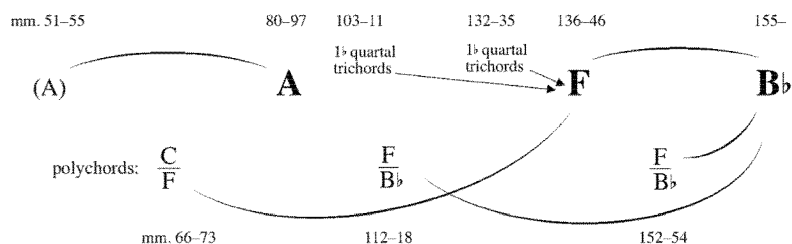
exception of octave transposition of the entire sonority): these are the only pitch classes on which this musical object is hung.

The first quartal-trichord passage begins in m. 103. Measure 104 rhythmically compresses the trichordal pair by turning B \flat 3 into an eighth note, and m. 105 subsequently extends the higher trichord upward an additional fourth to land at F5. This landing emphasizes F's potential as a pitch center, as does this section's use of the one-flat diatonic collection. Moreover, the extension to F5 allows this passage to embed a new quartal trichord (G–C–F) that will come to have its own identity as a discrete trichord in mm. 132–35. The last measure of the passage (m. 111) restates the melodic extension to F5; the intervening measures, mm. 107–10, contain another version of the exordium melody also emphasizing F.

The other quartal-trichord passage, mm. 132–35, is an abbreviated variation of the first organized to lend even more weight to F. This entire passage is identical to mm. 103–06 in terms of rhythm and contour. However, *every* bar in mm. 132–35 ends on an accented F. This subtle change creates an even sharper focus on F than was exhibited in mm. 103–06, and thus heralds the F-major functional passage that immediately follows at m. 136.

Unlike the passages based on the Appalachian Spring Polychord, these two quartal passages are nearly equivalent in terms of their pitch-class content. The second seems to emphasize F more strenuously; this fact is perhaps the only way to speak of the quartal trichords “leading” to the structural arrival on F major in mm. 136–46. As example 7 illustrates, the first quartal-trichord subsection represents the first time F can be posited as a pitch center in the section. Nevertheless, this passage cannot provide the same structural weight to F that the repeated authentic cadences of the later functional-harmony passage do. In fact, the second quartal-trichord passage more strongly asserts F's importance than the first; in this way it anticipates the F-major functional passage that immediately follows it. Although the contents of the two subsections using quartal trichords do not generate in themselves an especially dynamic path to F (owing to their relatively static treatment), their temporal *placement* among other passages using other tonal procedures is significant and helps to highlight the progress toward F as the second tonal pillar of the Allegro. Example 17, a more elaborated version of examples 11 and 15, shows the role these two passages play in supporting this progress via arrows pointing to the manifestation of F that they forecast.

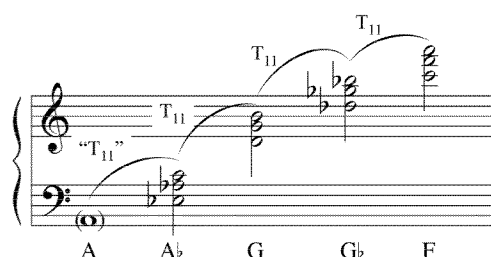
EXAMPLE 17. Large-scale tonal motion with quartal trichords considered



Triadic T_{11} Chains

The only tonal technique in the Allegro that is not based on a diatonic collection also provides the most intricate path from A to F. Perhaps the best way to discuss this path is to consider it in its entirety first, even though the only time it is made explicit in the music is after the large-scale movement to F has been completed. The presentation of the whole path takes place in mm. 147–51. As the strings continue to sustain the F major triad that was the culmination of the ultimate functional subsection, the flute reminisces on A major with the exordium melody for the last time. Following in mm. 149–50 is a series of second-inversion triads presented in the now-familiar short-short-long rhythmic pattern. Consider the abbreviated notation of example 18.

EXAMPLE 18. Completed T_{11} chain (from mm. 149–50)



If A (represented by the flute melody and its open-fifth accompaniment) is regarded as a starting point, the four inverted triads represent a complete chain of T_{11} transformations (i.e., transpositions of chordal roots in pitch space up eleven half steps) ending at F. Measures 147–50 thus constitute another manifestation of the Allegro's movement from A to F. Here at the end of the section, the T_{11} chain reconfirms the arrival on F; appropriately, whenever T_{11} chains are invoked *before* the structural F major arrival of mm. 136–46, they are unable to complete the march to F successfully. We will see that the chains' attempts to reach F become more and more dramatic as the section progresses, creating a tonal impetus for the section's climax in mm. 119–31.

The first subsection of "Eden Valley" consists of two statements of the pandiatonic exordium in A separated by similar triadic chains. Beginning in m. 55, woodwind instruments take turns arpeggiating second-inversion major triads in ascending registral order. As example 19 shows, however, these triads do not form a chain of strict T_{11} transformations. The G triad is followed by an F triad, creating a T_{10} transformation that skips the theoretical G-flat triad of this chain and lands at F "too early." The passage takes one more T_{11} step past F to E major, which leads neatly back to the starting point—A—by behaving perceptually like a dominant chord. This initial presentation of the tonal procedure thus actually reasserts A rather than leading to F. This makes sense given this passage's location at the Allegro's beginning.

EXAMPLE 19. First T_{11} -based chain (from mm. 55–58)

A A \flat G F E
A: V I

The next T_{11} -based subsection, mm. 98–102, appears just after the A-major functional passage and begins to provide evidence that F might be the chain's goal. It begins with a one-measure fragment of the exordium melody in much the same way that the concluding T_{11} passage begins. As illustrated in example 20, in both passages a solo flute presents part of the exordium melody at a new pitch-class level as the previous passage's last authentic cadence fades away.

EXAMPLE 20. Measure 98 compared with mm. 147–48

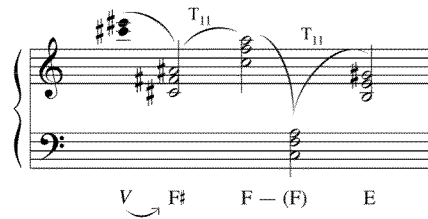
m. 98 mm. 147-48

In mm. 147–48, after the structural arrival on F has been attained, the flute makes use of the exordium melody to reminisce on A, which was the first structural pitch center of the Allegro. In contrast, at m. 98 the flute melody, which seems centered on C \sharp , can be reconciled as a dominant to the ensuing F \sharp triad that begins a new T_{11} chain. The symmetry between m. 98 and mm. 147–48 complements the polarity of the functional passages in A and F. Measure 98 constitutes a tonal preparation of the T_{11} chain that immediately follows—thus continuing the search for a “path to F”—whereas mm. 147–48 recall the section's beginnings in A.

Example 21 shows the rest of the second T_{11} passage in condensed form (following the flute solo of m. 98). The music moves from F \sharp (the triad missing from the previous T_{11} passage) to F, dawdles on F for a moment, and then continues through one more application of T_{11} to land again at E. Although E is not resolved as a dominant this time (the first quartal-trichord passage

immediately follows), its presence indicates that it is not yet time to settle on F. This passage's end suggests an uneasy balance between A, to which we cannot return, and F, which we are not yet ready to confirm.

EXAMPLE 21. T_{11} chain in mm. 98–102



The climactic passage in mm. 119–31 heightens the anticipation of F's structural arrival by presenting T_{11} -based chains that attempt again and again to reach F by starting from A^b (the first " T_{11} step" away from A). Example 22 illustrates this series of attempts. The dotted bar lines in this example correspond to the restarts of the T_{11} chains; measure numbers are provided to aid in relating this example to the score in example 8.

EXAMPLE 22. T_{11} chains in mm. 119–31

The chains beginning at m. 119 and m. 121 share the same "imperfection" found in the first T_{11} chain (from mm. 55–58, see example 19): in each case the T_{11} chain is interrupted by T_{10} after the G triad, and as a result these series

overshoot F to E (which has previously represented A as its dominant). Measures 121–22 are a repetition of mm. 119–20 in regards to pitch, but not rhythm. Each triad of the chain starting at m. 121 has been altered from the short-short-long rhythmic motive to “short-short-short,” causing the underlying (and notated) meter to change from simple to compound. Moreover, the truncation of this characteristic rhythmic pattern increases the music’s sense of urgency.

Beginning at m. 123 Copland creates a sense of excited anticipation by applying an additive process to the T_{11} chain. This T_{11} process starts over in m. 123 on A^b , gets only as far as G, then begins again in m. 124. This time the cycle reaches F via the same T_{10} intrusion after G, and actually makes a dying reference to A. The first sound of m. 125 is an open fifth on A, generated by the T_{11} chain’s hesitation on A (which it approaches through an F major triad) in concomitance with a melodic pause above on E.¹⁷ The T_{11} chains then begin anew at A^b twice more, skipping G^b both times to arrive first at E and then extending the cycle one step further to a piercing E^b in m. 128. Each of the last three “near”- T_{11} cycles, having reached F by means of their T_{10} blemishes, rockets past F and soars progressively further into tonal and registral space. This climactic passage becomes more and more frenetic as it tries madly to achieve an arrival on F from A through an unblemished T_{11} chain.

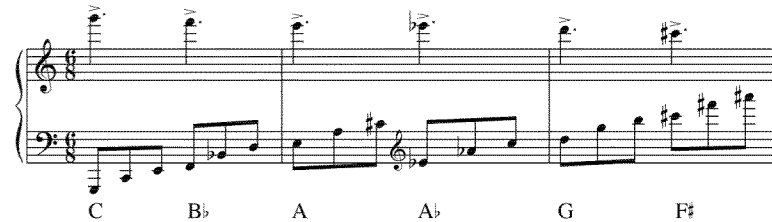
Finally, at m. 129 the music climaxes by demonstrating how A *can* be connected to F via a perfect T_{11} chain. In order to accomplish this with the greatest possible intensity, the T_{11} process actually gets a running start by starting with a C triad. As the root motion moves down, the series explicitly includes the A triad (for the first time in any T_{11} chain), and continues through it to F^\sharp —the last stop before arriving at F. This stop at F^\sharp is appropriate given its location in the Allegro: the structural arrival of F via functional progressions is just about to take place, heralded (in the measure immediately following this F^\sharp triad) by the emphatic quartal trichords already discussed.

The perception of F^\sharp in m. 131 *as* penultimate is prepared by a specific metrical context created by the T_{10} in the last triadic chain. Each of the triads in this chain spans three eighth-note durations. (Recall that in mm. 121–22 we saw how this truncation took place while preserving the metrical identity of each discrete triad.) If we take the perceptual step of grouping these triads into pairs to

¹⁷The stepwise melodic line, not shown in example 22, moves more or less in consonance with the underlying triads of the T_{11} chains. The details of its rhythmic interaction with the triads (while mostly tangential to the aims of this study) would form the basis of an interesting metrical analysis. For our purposes it is enough to note the brief emphasis it places on A by pausing on the perfect fifth above it in m. 125.

form $\frac{6}{8}$ “measures,” they then constitute a string of alternating strong and weak beats, as shown in example 23.

EXAMPLE 23. Rebarring of mm. 129–31



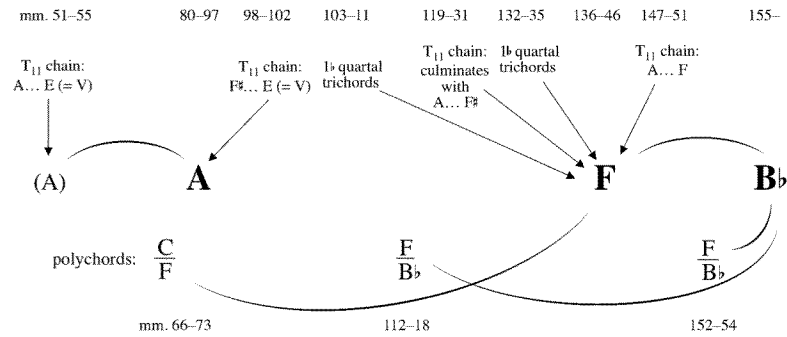
Because the C triad was followed by T_{10} (to $B\flat$) rather than T_{11} (to B), the unbroken T_{11} chain starting at A can place the $F\sharp$ triad in a metrically weak position.¹⁸ $F\sharp$'s function as the penultimate chord in this chain leading to F is reinforced by its metrical context as an upbeat—we now have metrical *and* tonal reasons to expect the F triad. This climactic moment is reinforced by the loudest, most thickly orchestrated passage in the entire Allegro. That Copland immediately follows this upbeat not with the expected F triad but with a quarter rest and then a quartal-trichord passage emphasizing F only heightens the excitement surrounding this moment.¹⁹

It seems appropriate that, after F is firmly established via the F-major functional passage, the entire unbroken T_{11} chain from A to F would be restated in mm. 147–51, for it was so difficult to achieve. Although the T_{11} chain does not itself project a pitch center, that lack of implicit tonal focus helps it to provide the most dynamic and intricate path between the section's tonal pillars. Example 24 summarizes how the four T_{11} passages point to the pitch centers of the other subsections in the Allegro.

¹⁸It is worth noting that C serves as a catalyst in two of the tonal procedures described. Not only does it give rise to the unbroken T_{11} chain from A to F, but it also constitutes the trailhead for the path to F implied by the passages of polychords. *Appalachian Spring* ends with an extended coda in C major, suggesting that this pitch center/triad might play an important role in an analysis of the entire work. This issue will be addressed in greater detail in the last section of this analysis.

¹⁹For a detailed metrical analysis of this passage see Peninah Kanvosky, “Metric Hierarchy in Music by Bartók, Copland and Stravinsky” (Ph.D. diss., City University of New York, 2002), 68–77.

EXAMPLE 24. Large-scale tonal motion with T_{11} cycles considered



Motivic Links and a Transitional Passage

Example 25 displays the motivic connections between the various tonal techniques, thus illustrating that these varied compositional devices have other commonalities in addition to their shared reflections of the larger-scale motion from A to F. The rows of example 25 are arranged to coordinate with the order in which the devices of the leftmost column appear in *Appalachian Spring*. Some of these connections have already been noted.

EXAMPLE 25. Motivic connections

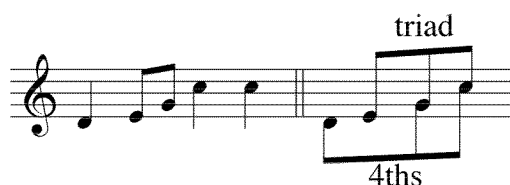
	Inverted Triad	Upward Arpeggiation		Ascending P4s
Polychord	X	X	X	
Exordium Melody			X	
T_{11} Chains	X	X	X	
Transition Motive	X	X	X	X
Functional Melody		X	X (augmented)	X
Quartal Trichord		X	X	X

The polychord is prior to all other devices because it appears in the section that precedes "Eden Valley." The exordium melody, the T_{11} -based passages, and the quartal-trichord passages all derive their short-short-long rhythmic gestures from the polychord's original rhythmic presentation. Additionally, the T_{11} and quartal subsections' upward arpeggiation of their characteristic harmonies is

inspired by that of the polychord, and the second-inversion triads used in the T_{11} chains themselves can be considered as derived from the upper triad of the polychord. The opening melodic gesture of each phrase in both functional-progression passages is in fact a quartal trichord. (This motivic parallelism was emphasized in example 10 with beams connecting the ascending E–A–D in each phrase.) Finally, example 25 shows a “transition motive” which is derived from a combination of the polychord and the quartal trichord. This motive is used to generate the only passage of “Eden Valley” not yet discussed: mm. 74–79.

This passage uses the motive of example 26 at five different pitch levels, the first of which is shown. The example also displays this motive’s kinship to other motivic material of the Allegro via its embedding of an inverted triad (from the polychord) and a quartal trichord.

EXAMPLE 26. Transition motive used in mm. 74–79



This transitional passage serves to return to A from the F/C polychord that precedes it. Its repetition of this motive at various pitch levels suggests a modulating sequence, though the intervallic distance between the repetitions is not consistent: the five statements of the motive begin on D, G, E, A, and E. The exact transpositions of the motive in this order, however, do create a smooth transition to the three-sharp diatonic collection, thus paving the way for the A-major functional passage that immediately follows.

“Eden Valley” and Its Connections with the Coda

Example 24 shows what might be construed as the “middleground” of this Allegro. It illustrates that the fundamental pitch centers of the section are A and F, represented by the two passages employing functional harmonic progressions that emphasize those major keys. Divergent tonal techniques are woven around those two pivotal subsections to create a complex web of tonal associations elaborating the shift from A to F. The placement of specific polychordal passages foreshadows the move to F (and, after the Allegro, to B♭). Meanwhile, the two quartal-trichord passages alert us to the increasing importance of F as the section progresses. Finally, the passages based on T_{11} chains comment on the large-scale tonal shift by first thwarting F in favor of E (the dominant of A) and then by creating the section’s climax in repeated attempts to progress to an F triad. The final T_{11} passage reflects on the shift from A to F by presenting the entire chain. Any one of these techniques can be seen to reflect the motion from A to F. As

suggested at the beginning of this analysis, the juxtaposition of these tonal processes makes that motion more elaborate and complex.

Can the pitch centers and procedures of the Allegro be related to other parts of the work? Following its oft-cited variations on the Shaker tune “’Tis the Gift to Be Simple,” *Appalachian Spring* closes with a quiet coda centered on C. In fact, the last three variations on the tune are in C, and the coda—beginning at m. 619 with the marking “like a prayer”—continues this emphasis on C for over sixty broad measures. The coda additionally recalls materials and techniques first exposed in the introduction and in “Eden Valley.” The work’s final melody is that of the functional-progression passages from “Eden Valley,” and the last sonority is a slow upward arpeggiation of the Appalachian Spring Polychord, this time manifested as I/V in C. If the Allegro itself can be construed as a movement from centrality on A to centrality on F, then it may also be possible to describe the large-scale tonal structure of the *entire* work as movement from A centrality to C centrality. The recapitulation of the functional-progression music, the Appalachian Spring Polychord, and the placement of this music at the very end of the work all suggest the possible relevance of linking the coda’s pitch center with those explored in the piece’s opening sections.

Example 27 shows approximately the first half of the coda with annotations highlighting the triads that serve as cadential goals of each phrase. The coda opens with a homophonic texture, implying a hymn or chorale in four phrases, before restating the functional-progression music from “Eden Valley” beginning in m. 654. Thanks to the climactic emphasis on C just before this passage begins, and the repeated melodic descents to $\hat{3}$ supported by C triads beginning at m. 619, centrality on C is unequivocal—the appearances of B \flat , E \flat , A \flat , and occasionally D \flat thus suggest a sort of modal mixture between C “major” and C “minor.”

The first and second phrases of the chorale, set forth by muted strings, are nearly identical save for their final chords. The first phrase ends with an F major triad in mm. 626–27; the second phrase culminates in a delicately rearticulated A major triad in mm. 635–36. The ultimate chords of each phrase are striking: they are each prepared by a “dominant” triad in C and thus serve as substitutes for an expected C triad. The third phrase contrasts with the first two in its orchestration—the strings are replaced by a woodwind choir—and in melodic/harmonic content, but the phrase also comes to a cadence on an F major triad. The fourth phrase, in which the strings and woodwinds join forces to generate a thicker texture, creates a sense of closure by allowing the “dominant” G triad to finally progress to C at m. 652. This last phrase is otherwise identical to the second, and thereby confirms the perception that the ultimate chords of the first two phrases were substitutes for C.²⁰

²⁰The design of the functional passages in the Allegro also foreshadows this four-phrase design of the coda’s chorale. Comparison of mm. 80–97 with mm. 619–53 shows that in both cases the potential for a strong arrival on a tonic chord is thwarted three times

EXAMPLE 27. Measures 619–55

Moderato ($\text{♩} = 96$)
Like a prayer

cadence on F
poco rit.

619 *ppp* muted strings

627 *poco rit.*

Più mosso ($\text{♩} = 104$)
w.w.

cadence on A
p dolce

635 *pp*

cadence on F a tempo
w.w.,
muted strings
mf
col 8vb

642

Andante (very calm)
 $\text{♩} = 69$
 $(\text{♩} = \text{♩})$ *p sost. molto*

cadence on C
rit.

649 *pp*

functional progressions
fl., muted strings

The musical score is written for two staves (treble and bass clef) in 3/4 time. It features several key moments: a 'cadence on F' at measure 619 with 'ppp' dynamics and 'muted strings'; a 'cadence on A' at measure 627 with 'p dolce' dynamics; a 'cadence on F a tempo' at measure 635 with 'mf' dynamics and 'col 8vb' marking; and a 'cadence on C' at measure 642 with 'pp' dynamics. The tempo changes from Moderato to Più mosso and then to Andante. The score also includes markings for 'w.w.' (whole notes) and 'fl., muted strings'.

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In light of the significance of A and F as pitch centers in the introduction and “Eden Valley,” it is remarkable that this closing chorale comes to rest on F triads twice and an A triad once even as it winds its way to a landing on C. When limiting the analytic scope to a single section of *Appalachian Spring* we saw that the Allegro’s second tonal pole, F, was anticipated well before its structural arrival. After that arrival, the first tonal pole, A, was recalled (see example 20). This

(via melodic motion away from $\hat{1}$ or cadencing on an unexpected harmony) before being fulfilled at the respective passages’ ends.

examination of the coda illustrates a parallel treatment of important pitch centers across the span of the entire work. As noted in the analysis of “Eden Valley,” C serves an important catalytic role in two of that section’s tonal procedures. First, it constitutes the trailhead for the path to F implied by the polychordal passages—the first such passage in mm. 66–73 is in fact centered on C and contains a IV/I polychord that eventually points the way to F, as discussed above. In addition, C serves as the “slingshot” that finally gives rise to the climactic, unbroken T_{11} chain from A to F (mm. 129–31, illustrated in example 22). In these two ways, the potential importance of C to the tonal progress of *Appalachian Spring* is forecasted in the tonal procedures of the opening Allegro. In the coda, the reverse holds: C centrality now reigns, but cadential moments subverting C in momentary favor of A and F triads stand as reminders of the two significant pitch centers that governed the opening sections of this work.

* * *

By considering these excerpts from *Appalachian Spring* on their own terms, investigating the tonal procedures specific to this piece, it becomes possible to highlight the ways in which this work organizes itself around specific pitch centers and elaborates the movement among them. In that respect, this analysis demonstrates an approach potentially appropriate to *any* pitch-centric music—the introductory vignettes treating music by Beethoven and Stravinsky testify to this method’s broad applicability. Moreover, such a contextually sensitive approach would seem to address Berger’s long-unanswered call for a method starting “from what this music itself is, rather than dwelling upon its deviation from what music was previously.” This approach to pitch centrality as a beachhead for inquiry into a work’s tonal organization actually tends to smooth over the rift, circa 1900, posited by our conventional perspective of music history that separates conventionally functional tonal composition from post-tonal pitch centrality. Composers such as Stravinsky and Copland did not inject many of the traditions of tonality into their own work, but neither did they abandon them altogether. This analysis shows how at least one piece by Copland takes up a relic of the tonal tradition—pitch centrality—and welds it into the architecture of its unique tonal structure.

Bibliography

- Berger, Arthur. “Problems of Pitch Organization in Stravinsky.” *Perspectives of New Music* 2, no. 1 (1963): 11–42.
- Burkhart, Charles. “Schenker’s ‘Motivic Parallelisms.’” *Journal of Music Theory* 22 (1978): 145–75.
- Forte, Allen. *Contemporary Tone-Structures*. New York: Columbia University Teachers College, 1955.

- Kanvosky, Peninah. "Metric Hierarchy in Music by Bartók, Copland and Stravinsky." Ph.D. diss., City University of New York, 2002.
- Lerdahl, Fred. "Atonal Prolongational Structure." *Contemporary Music Review* 4 (1989): 65–87.
- Ratner, Leonard. *Classic Music: Expression, Form, and Style*. New York: Schirmer, 1980.
- Salzer, Felix. *Structural Hearing*. New York: Dover, 1962.
- Schachter, Carl. "Rhythm and Linear Analysis: Durational Reduction." In *Unfoldings: Essays in Schenkerian Theory and Analysis*, edited by Joseph N. Straus, 54–78. New York: Oxford University Press, 1999.
- Stein, Deborah. "Schubert's 'Erlkönig': Motivic Parallelism and Motivic Transformation." *19th-Century Music* 13, no. 2 (1989): 145–58.
- Straus, Joseph. "The Problem of Prolongation in Post-Tonal Music." *Journal of Music Theory* 31, no. 1 (1987): 1–21.
- . "Stravinsky's Tonal Axis." *Journal of Music Theory* 26, no. 2 (1982): 261–90.
- . "Voice Leading in Atonal Music." In *Music Theory in Concept and Practice*, edited by James Baker, Jonathan Bernard, and David Beach, 237–74. Rochester, NY: University of Rochester Press, 1997.
- Travis, Roy. "Tonal Coherence in the First Movement of Bartók's Fourth String Quartet." *Music Forum* 2 (1970): 298–371.