A STUDY OF TONALITY IN SELECTED WORKS OF AARON COPLAND

by

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Abstract

A Study of Tonality in Selected Works of Aaron Copland

The analytical literature posits a dichotomy between Copland's "popular" and "serious" music. Despite different motivic and harmonic structures on the surface, however, these styles are consistent in their underlying use of tonality. Tonics in both styles are defined by the same set of tonicizing techniques; and tonics in both styles serve the same function – to define the changing scale-degree function of pcs that are emphasized in various ways as common to the collections of successive tonics. The most important of these changes in scale-degree function are summarized in pitch-class continuity graphs that show the relation of the changes to thematic and harmonic form. Detailed analyses, which cover two "popular" and two "serious" works by Copland, demonstrate the consistency between the two styles. Besides demonstrating an underlying stylistic consistency these graphs provide useful information about structure in Copland's music because they confirm striking features of Copland's thematic and tonal designs.
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Abbreviations

R  Rehearsal number in text
5  Rehearsal number 5 in example
5  Measure number 5 in example
add6  Added sixth
F/G  Jazz chord combining pcs of triads built on F and G
G3(4)  Pitch/register(s) stated
G:\hat{2}  Key: scale-degree function
{}  Unordered set
<>  Ordered set
[]  T_n-T_{n+1} pitch-class set-type
A.S.  Appalachian Spring
B.K.  Billy the Kid
P.C.  Piano Concerto
P.S.  Piano Sonata
P.V.  Piano Variations
Q.C.  Quiet City
R.  Rodeo
S.S.  Short Symphony

Special symbols on the pitch-class continuity graphs are explained in Chapter 2.
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Introduction

There is a marked trend in the analytical literature to describe a dichotomy in Aaron Copland's music between "popular" and "serious" works. In making such a division, authors such as Julia Smith and Arthur Berger are acknowledging immediately recognizable distinctions in the types of themes and in the complexity of the tonal language that characterize the two different styles of music.¹ Copland's "popular" music is said to have folk-like melodies and a much simpler harmonic language; while Copland's "serious" music is said to have more disjunct melodies and to use complex harmonic structures. Indeed, Copland himself has indirectly acknowledged a dichotomous interpretation of his work. He refers to the Short Symphony, the Piano Variations, and the Piano Sonata as linked by a "serious" style,² and admits that his "popular" works grew out of his search in the early 1930's for a "simpler" style, a style that could communicate more directly to an audience.³

However, Copland's crucial statement "I wanted to see if I couldn't say what I had to say in the simplest possible terms"⁴ does not eliminate the possibility that his "popular" and "serious" works explore similar structural issues. Indeed, it makes such a similarity more plausible by suggesting an underlying unity of expression. This underlying unity is acknowledged by most authors when they admit that Copland's works have a characteristic and unmistakable sound.⁵ Some authors, such as William Schuman, proclaim the artistic

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⁵For example, Andre Previn states: "A fascinating aspect of Copland's compositions is that his particular voice, his handwriting, is discernible even in his most dissonant works...Copland belongs to that handful of twenty-first-century composers who have managed to be instantly identifiable." Neil Butterworth, The Music of Aaron Copland (Gloucester: Toccata Press, 1985), p.6.
value of Copland's "popular" music on the basis of the sophisticated transformations that Copland applies to his folk song materials:

The Copland sound transforms traditional American folk material into the most sophisticated art by discerning potentialities in simple music that could only be conceived by an artist of extraordinary perception...To the uninitiated it could almost seem as though there were two separate composers at work. Not so, for the same Copland sound that informs the popular music is, in its unique way, heard in the masterworks he has created in every medium.6

In his book about Copland, Arthur Berger also indirectly recognizes an underlying unity. He comments that the "workmanship and substance" of Copland's "workaday" music "do not fall appreciably below the level of his more 'serious' or more 'abstract' works," and he claims that in several cases this level is equal.7 Berger later argues that Copland "has not abandoned his more serious thinking for folk potpourris" even where "popular" pieces such as Rodeo and Billy the Kid are concerned.8 Mellers suggests a stronger link in the following statement:

The commonly expressed view that Copland's "popular" works of the thirties are in some way a denial, even a betrayal, of his earlier integrity would thus seem to be illusory. The simpler style of the ballets and film music does not belie the techniques of Copland's previous "abstract" pieces, though the music's deliberate lack of progression or development may be less disturbing when allied to recognizable, folk-like tunes and to physical action or visual drama...The difference between the ballets and the abstract works consists, that is, rather in the nature of the material than in the treatment of it.9

Copland himself explicitly downplays a dichotomy in his work. For example, he wrote a letter to Arthur Berger (dated April 10, 1943) suggesting that the latter's article

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6Copland and Perlis, op. cit., p.354. A small part of Copland's genius for transformation in this regard can be seen by looking at the variation formulas in Appendix I (pp.254-260) of Copland's What to Listen For in Music (New York: McGraw-Hill Book Company, Inc., 1939). These are variations for piano on the folk song "Ach! du lieber Augustin." The characteristic Copland "sound" is particularly evident in the related variations 1a and 3a on pp.255 and 259, which are labeled as harmonic and rhythmic variants respectively. What is interesting about these examples is the de-emphasis of the underlying conventional harmonic progression that results from sustaining the tonic pc in the bass and the use of parallel five-three chords in the right hand. In addition there are certain sonorities as, for example, the trichord {G, A, D} in the penultimate measure of variation 1a, which commonly appear in Copland's music. Copland's idiomatic rooted sonorities will be discussed below on pp.19-22.

7Berger, Aaron Copland, pp.37-38. Berger does not list specific works by Copland to illustrate this assertion.

8Ibid., p.73.

9Mellers, op. cit., p.87.
about the Piano Sonata "overdoes the dichotomy" between Copland's "severe" and "simple" styles, giving the impression that only the former was intended as serious.10 Copland's distress about this kind of general critical reaction to his earlier comment about "simplicity" in his original autobiographical sketch (from 1939) lead him to qualify it when it was reprinted in Copland: 1900 through 1942:

The mention of an "imposed simplicity" was taken to mean that I had renounced my more complex and "difficult" music, turned my back on the cultivated audience that understands a sophisticated musical language, and henceforth would write solely for the "masses."...these remarks of mine emphasized a point of view which, although apposite at the time of writing — the end of the '30's — seem to me to constitute an oversimplification of my aims and intentions, especially when applied to a consideration of my subsequent work and of my work as a whole...11

In The New Music 1900-1960 Copland also directly refutes a dichotomous interpretation of his work when he discusses how the critical reaction to his latest piece (Connotations) "brought to the fore once again a continuing discussion concerning the apparent dichotomy between my 'serious' and my 'popular' works." He states

I can only say that those commentators who would like to split me down the middle into two opposing personalities will get no encouragement from me. I prefer to think that I write my music from a single vision: when the results differ it is because I take into account with each new piece the purpose for which it is intended and the nature of the musical materials with which I begin to work. Musical ideas engender pieces, and the ideas by their character dictate the nature of the composition to be written.12

A unity of purpose among Copland's "popular" and "serious" works is revealed by a detailed study of tonality in representative pieces from the 1930's-1950's. This dissertation presents such a study. The pieces were chosen to represent the period when Copland was most influential on the development of American music. This period was

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10 An Anthology of Letters of Composers (New York: Alfred A. Knopf, 1946), pp.403-404. In the same letter (p.403) Copland attempts to quantify what his "simpler works" represented artistically: "What I was trying for in the simpler works was only partly a larger audience; they also gave a chance to try for a home-spun musical idiom, similar to what I was trying for in a more hectic fashion in the earlier jazz works. In other words, it was not only musical functionalism that was in question, but also musical language. I like to think that in Billy and Our Town...I have touched off for myself and others a kind of musical naturalness that we have badly needed — along with 'great' works."
11 Copland and Perlis, op. cit., p.317.
12 Copland, op. cit., p.168.
also when the dichotomy between Copland's "popular" and "serious" music was apparently the strongest. Despite seemingly substantial stylistic differences Copland's "popular" and "serious" musics in this period are very closely related.

This study will prove that there is a close relationship between the apparently distinct styles. It will show that Copland's "popular" and "serious" works share a common set of tonicizing techniques, which are used to establish tonics and to modulate from tonic to tonic. These techniques focus on the connections between the pc collections associated with successive tonics by emphasizing pitch-classes that are common. Detailed analyses of four representative works will illustrate these techniques.
Chapter 1

Tonality in Copland's Works

1.1 Relevance of Tonality to Copland's Works

Tonality, although it can involve quite sophisticated notions of hierarchy and counterpoint, minimally entails two basic principles. The first is that a tonal passage of music "has a tonic" in the sense that there is a pitch-class about which we hear the other pcs in the passage to be organized. Secondly, tonality involves the idea that a tonic functions to create musical form. For example, distinct sections may be distinguished by different tonics. Or the change from one tonic to another may signal a musical process such as development, or variation, or closure.

Some notion of tonality is useful in analyzing Copland's music because its themes and sections -- like those in earlier tonal music -- have tonics. Moreover, most large-scale formal divisions in Copland's music are supported by a change of tonic. Only very rarely is there a major sectional articulation in a piece by Copland that is not delineated by a change in tonic. Copland's habit of reinforcing thematic and textural contrasts by shifts in tonics even suggests that tonality plays a much more important role in his works than has been commonly acknowledged.

Most analyses of Copland's music, including those presented by Julia Smith, Arthur Berger, Neil Butterworth, and Quincy Hilliard, make only passing references to tonal centers and to the function of tonal changes. This trend towards overly brief summarization is particularly noticeable in Julia Smith's monograph which, despite its pioneering status in the analysis of Copland's music, severely limits observations on tonality in favor of descriptions of Copland's thematic structures. Her discussion of the first movement of the Piano Sonata -- indeed a very interesting example of Copland's use of tonality -- confines analysis of tonality to comments about the keys of the first and second
themes in the Exposition.¹ Neil Butterworth's comments on tonality in this movement, which are fairly representative of all the analyses in his book, add nothing substantial to Smith's except that he asserts (without demonstration) that the whole movement can be characterized by a single tonic, which is the same as the first tonic.² Berger's comments on tonality, while very perceptive, invariably treat only short segments of different pieces. Since his comments on tonality are intended simply to show general stylistic traits in Copland's music they do not account for the tonal structure of entire pieces.³ Hilliard's analyses of Copland's music presents more detailed information on the tonal structures of pieces. However, he often omits many of the tonal connections on the surface of a movement. In at least one case – the first movement of the Short Symphony – this results in an incorrect assertion of a global tonic.⁴ Hilliard seems so intent upon relating the tonal structures in Copland's music to traditional practice – he thinks, for example, that the presence of tonics must necessarily mean the presence of a global tonic – that he ignores many of the special characteristics of those structures.

1.2 Definition of Tonality

It is unlikely, given Copland's training and milieu, that traditional tonality (where events are organized around a global tonic) would be manifest in his music. In fact, just the opposite is true. Copland's use of tonality is no more traditional than that of his American and European contemporaries. We can not assume that "tonality" in Copland's music will be organized around a global tonic. Therefore, we will adopt definitions of tonality and tonal function that seem best suited for Copland's music as it is.

To say Copland's music is "tonal" means that in a given passage there is a pitch class which is perceived as the "tonic," and that this pc belongs to a diatonic collection (i.e., the pc set-type \([0,1,3,5,6,8,10]\) or a selected subset or superset thereof) that is treated as referential. We understand the pitch classes in the referential collection as diatonic scale-degrees of the tonic. Copland uses six of the seven available orderings of a diatonic scale as referential. The only ordering that he avoids altogether is \(<0,1,3,5,6,8,10>\) — the Locrian collection (e.g., the referential collection \(\{B, C, D, E, F, G, A\}\) when B is a tonic). He tends to prefer the orderings that form the major mode and the Dorian, Mixolydian and Aeolian collections. Hexachords are most commonly used as subsets. Three of the most common hexachordal subsets in Copland's music are \(\{0,2,4,5,7,11\}\) (the lower pentachord of a major scale plus the seventh scale-degree), \(\{0,2,3,7,8,10\}\) (the Aeolian collection with no fourth scale-degree) and \(\{0,2,4,5,7,9\}\) (the lower hexachord of a major scale). Only infrequently in his "serious" pieces, as, for example, in the first movement of the Short Symphony, is a subset of only four or five pcs used as a referential collection. In all of these passages, however, the collection itself has minimal impact on an analysis because the tonic is very strongly established by motivic preconditioning.

Because tonal areas in Copland's music often contain more than seven pcs we must discuss ways in which we distinguish between collectional and non-collectional pcs. It is very difficult to specify these ways precisely because our perception of collectional and non-collectional pcs is so dependent upon the musical context in which they appear. However, there are some general rules of thumb that help. We generally hear a pc as collectional if it is stated many times in a given passage and is not constrained to a melodic context. Other hexachordal subsets of the diatonic scale that occur as referential collections in Copland's music include \(\{0,2,4,7,9,11\}\) (the major scale with no fourth scale-degree), and \(\{0,2,3,7,9,10\}\) (the Dorian collection with no fourth scale-degree). Occasionally Copland will expand one of these hexachordal subsets by a pc that duplicates the scale-degree function of one of its members. For example, the first subset listed above — the set \(\{0,2,4,5,7,11\}\) — is sometimes expanded by an additional lowered third scale-degree. That is, in an F tonal area pc Ab would be added to the diatonic collection \(\{E, F, G, A, Bb, C\}\). This results in a seven-note collection that, while not diatonic in itself, is a subset of another collection, called the "diatonic octad," that will be discussed presently.
formulasuchasaneighbor-tonemotion. Conversely, we generally hear a pc as non-collectional if it is only stated once in a given passage and is constrained to a melodic formula such as a neighbor-tone motion. Copland's music also makes a distinction between collectional and non-collectional tones based on octave representation: generally non-collectional tones are present in fewer registers than collectional tones. Because we can not exactly specify rules such analytical decisions will be explicitly justified in future examples.

The definition of tonic above raises the question of how tonics are established in Copland's music. The three most basic ways are accenting the tonic pc, accenting the third or fifth scale-degrees, and emphasizing the tonic pc as the root of a repeated sonority. The first two techniques are particularly evident in monophonic contexts, for example the first theme of the second part of Appalachian Spring (at R7 to R7+3). Here A becomes the referential pc of the collection \{A, B, C#, D, E, F#, G#\} because of the metrical and agogic accents on pc A in a melody that ends with the A-major triad (i.e., \(<C#5, E4, A3>\)). Examples 1.1-1.3 below provide examples where tonics are generated in homophonic textures by accenting the first, third and fifth scale-degrees; Example 1.4 quotes a homophonic passage where all three techniques define the tonic pc.

Example 1.1 shows a characteristic passage from the third movement of the Short Symphony where an Ab tonic is generated by agogic and contour accents on pcs Eb and C/Cb in the rhythmically animated lines and by sustaining pc Ab in the bass.\(^6\) All of the pitch classes in the referential collection of this passage \{Ab, Bb, Cb, C, Db, Eb, F, Gb\} are understood as diatonic scale-degrees in relation to Ab, that is, pc Bb is Ab:2, pc Db is Ab:4, pc Eb is Ab:5 etc. Since there are only seven diatonic scale-degrees we must understand certain pairs of pcs in this passage as major and minor versions of the same scale-degree; here pc Cb is Ab:b3, and pc C is Ab:3. The eight-note referential collection in

\(^6\)This passage is only the beginning of a larger Ab tonal area, throughout which pc Ab is sustained.
Example 1.1, which is one of a family of collections described generically as the "diatonic octad" in the literature, is common to both Copland's "popular" and "serious" works.

Example 1.1 Tonic as the Referential Pc of a Diatonic Collection

Example 1.2 shows the fifth variation from the Piano Variations. In this passage accents (agogic, metrical and dynamic) on E define that pc as the tonic of the referential collection \{D#, E, F#, G, A, B\}. The third and fifth scale-degrees of this collection are also weakly accented: pc B receives a contour accent because B6 (R6+5 and R6+7) is the highest pitch of this variation; pc G receives a metrical and dynamic accent in R6+4 and R7-2.

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In the literature on Stravinsky these collections are referred to as representatives of the "eight-note diatonic collection" or "diatonic octad." Paul Johnson, "Cross-Collectional Techniques of Structure in Stravinsky's Centric Music," in Stravinsky Retrospectives (Lincoln: University of Nebraska Press, 1987), pp.55-56; and Joseph Straus, An Introduction to Post-Tonal Theory (Englewood Cliffs: Prentice Hall, 1990), p.96. However, this term is meant to apply to a collection that is generated from the juxtaposition of two separate diatonic collections. The presence of two diatonic scales in a single octad allows Stravinsky to assert different tonal centers with the same collection. My use of this term in the present context does not imply that such conditions necessarily pertain to all instances of this collection in Copland's music.

For example, see the second theme (mm.58ff.) of the first movement of the Piano Sonata where G is the referential pc of the collection \{G, A, Bb, B, C, D, Eb, F\} and R8ff. of the orchestral suite of Billy the Kid where F is the referential pc of the collection \{F, G, Ab, A, Bb, C, [D], E\}.
Example 1.3 excerpts a passage from the second movement of the *Piano Sonata* where the texture of falling sixths, the metrical accent on the sixth \( \{A_4, F_5\} \) (m.195), and the accent on pcs A and C (mm.194, 196, 197, 199, and 201) makes us hear F as the referential pc of the collection \( \{F, G, A, B_b, C, D, E_b\} \). The tendency of pc B in m.200 retrospectively to assert A over F as the tonic of the passage (and to change the referential collection) is negated in m.201 when it becomes clear that B functions as a chromatic upper neighbor tone to pc A. Because this melodic function allows us to hear pc B as a non-collectional tone it confirms our more traditional hearing of F as the tonic of this passage.
Example 1.3 Tonic Pc Established by Emphasis on the Third and Fifth Scale-degrees

Example 1.4 shows a passage from the first movement of the Short Symphony where the emphatic repetition of the A-rooted sonority \{C#2(#), A3, D4, A4, E5\} (and the absence of another emphasized root) makes us perceive A as the tonic of the eight-note referential collection \{A, B, C#, D, E, F#, G, G#\}. Pc A# in R3-3 is considered to be a non-collectional tone because the only time it occurs it functions as a chromatic upper neighbor tone to pc A.\(^9\) The third and fifth scale-degrees are also emphasized as repeated tones in the lowest and highest voices respectively.

\(^9\)Pc A# does not fit our third general rule of thumb (pp.7-8) about non-collectional tones – it occurs in the same number of registers (4) as the collectional pc B.
Examples 1.1-1.4 are all characteristic of Copland's music in general. They share one important feature – all three passages have roots and emphasize tonic-triadic scale-degrees but lack functional root progressions. On this basis one might draw a general distinction between Copland's music, which is clearly grounded on traditional techniques, and traditional tonal music: Copland's music does not usually employ all of the characteristic techniques of traditional tonal music at the same time.

The fairly straightforward passages shown in Examples 1.1-1.4 might be taken to suggest that Copland's music relies upon traditional perceptions of diatonic collections, that is, on the listener importing a sense of tonic which the music then confirms. However, simply hearing the referential collection in itself is not a sufficient condition to establish the tonic of a passage because Copland does not use only the two most familiar (traditional) orderings (i.e., the major and minor scales). He frequently uses the other (modal) orderings, particularly the Mixolydian (as in Examples 1.1 and 1.3) and Dorian modes, as referential. Thus, we need confirmation from the context – an emphasis on the tonic-triadic scale-degrees – to make a tonal interpretation of a given referential collection.

1.3 Chord Roots and Root Successions in Copland's Music

While many passages of Copland's music lack root progressions, some of his homophonic textures do have roots, and occasionally a succession of these roots helps to define the tonic. For such passages we need to define what constitutes a chord, and how we derive a root for that chord. Chords are tones that either sound together or are grouped together by convention (i.e., an Alberti style accompanimental pattern where a bass tone is grouped together with the chord that follows it). Some verticalities are generated from melodic phenomena (i.e., the confluence of passing and neighbor tones) and do not represent rooted chords. For example, the sonority \{Ab3, Cb4, Ab4, Db5, Gb5\} in m.3 of the first movement of the Piano Sonata is generated by the confluence of two passing tones (pcs Gb and Db) and two neighbor tones (pcs Ab and Cb). The reason why we hear
roots for some chords and not for others is due to the context. Obviously, if a given chord is a complete representation of a traditional chord (a triad, seventh or ninth chord) we can use its literal intervallic structure for root determination. However, treating all of Copland's more unusual sonorities as incomplete representations of traditional chords larger than the triad is not beneficial in analysis except where the resulting roots are reinforced (by a functional progression, or by the phrase structure) within the context. That is, the context must provide us with a compelling reason to hear a given verticality as an incomplete representation of a more familiar chord. As a result, root assignments in future examples will be discussed if they include any "incomplete" chords.

Chord roots help generate a tonic only when they occur in a succession that is tonic- or dominant-directed. The most effective root successions for the generation of a tonic pc are those which mimic the cadential progressions <V, I> and <IV, I> of a more traditional context (for example, the root successions <F, C> and <G, C> in a C tonal area). Quite often the latter (tonic) function coincides with a metrical accent. Other chord root successions, such as <D, G> in a C tonal area, define tonics in Copland's music at times (i.e., as C:<II, V>) but these are weaker because other independent factors are often required to corroborate the tonic. In contrast, however, a stepwise root succession such as <G, F, E> does not necessarily define a C tonic because the corresponding progression, <V, IV, III>, is not directed toward the dominant.\(^{10}\) Thus, chord roots, if present, only define tonics when we can hear them function in a tonic- or dominant-directed progression.

\(^{10}\)Quite often a succession of any triads (within a diatonic collection) helps us to narrow the possibilities for the tonic down to a few candidates. However, such successions, unlike <V, I> and <IV, I> progressions, do not necessarily point to the actual tonic of a passage. Thus, they do not establish a tonic but confirm it in a more general way.
1.3.1 Adequacy of Existing Theories of Root Determination for Copland's Music

It would be useful in understanding Copland's music to have a theory of tonality that is adequate and sufficient, a theory that consistently produces meaningful results and does not, for example, identify the root succession <V, IV, III> as central to the generation of a particular tonic. But it is very difficult to formulate such a theory for Copland's music for several reasons.

Part of the problem lies in deriving plausible roots for his chords. Let us consider the adequacy for Copland's music of two theories for determining roots: traditional tonal theory and Hindemith's theory of best intervals. The former, proceeding from the definition of a rooted triad, allows incomplete representations of seventh, ninth, eleventh and thirteenth chords — chords very common in Copland's music — to have roots when root succession obeys tonal syntax. Thus, we can hear the second chord in R20+1 of *Billy the Kid* as a dominant-eleventh chord because it occurs in the middle of a tonally syntactic progression — <I, IV, V11, I> — in Bb (at R20ff.).

Traditional theory cannot identify — or misidentifies — the roots of some melodically generated chords in Copland's music when tonal syntax is not operative. Example 1.5 shows the opening Bb tonal area of the second movement of the *Short Symphony*.\(^1\) (Bb is the tonic of this passage because pcs Bb, D and F are emphasized in the highest voice — Bb begins each (three-note) melodic cell, and pcs D and F receive agogic accents in R18+5 and R19-4 and R18+1 respectively — and the first melodic cell, which begins on Bb and ends on F, has an F-rooted sonority as its goal). At least five chords in this passage, those marked by the symbol "?", can not be identified as incomplete representations of other rooted chords, and therefore can not participate in a succession of roots, because they can not be construed as part of a dominant- or tonic-directed tonal progression in Bb. It seems

\(^1\)The Bb tonic is, however, challenged to a degree by references to F as tonic.
fruitless to persist with such analysis when presumed "altered" chords are not governed by, or subordinate to, an inferable tonal syntax.

Hindemith attempted to generalize traditional tonal root theory. He ranks intervals by their harmonic strength and asserts that every chord has a single root. Hindemith's theory of root determination often identifies roots in Copland's music that are not the best analytic interpretations of his chords. Examples 1.6a-d show four cases where certain characteristics of the context (i.e., neighbor-tone motion, placement of the chord within a phrase or section, or the surrounding harmonies) suggests a better analytic interpretation of the root of a chord. In Example 1.6a Hindemith's theory suggests that pc A# (Bb) is the

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root of the chord marked by the symbol "?". However, this chord is better explained as a non-rooted neighbor chord that is generated from the confluence of three neighbor-tone motions – <E, F, E>, <A, A#, A> and <A, G#, A>. In Example 1.6b Hindemith's theory suggests that pc A is the root of the chord marked by the symbol "?". However, pc Bb is a better choice for the root because of the descending-fifth pitch motion <F2, Bb1> in the bass and because this chord marks the climax of a Bb tonal area. Example 1.6c shows a different kind of problem, the presence of multiple roots. Hindemith's theory, which allows for only one root in a sonority, suggests that pc F# is the root of the chord marked by the symbol "?". However, this chord is registrated to bring out two distinct harmonic components – a Bb-major chord in the highest three voices and an F# major-minor six-five chord in the lowest four voices – and thus suggests that we hear Bb and F# simultaneously as roots. The double-root analysis is more attractive than the Hindemithian analysis because it is more consistent with the nature of the harmony in the passage: the three highest pcs of the chord at R29-1 are the same as those in the preceding Bb-rooted chord (R29-2); and the simultaneous reference to two major triads a major third apart recalls the opening melodic gesture of this section which generates the first chord in Example 1.6c (R28). Example 1.6d shows a passage where T₁₀-related seven-four chords (marked by boxes connected with an arrow) do not generate T₁₀-related roots – E and D – as Hindemith’s theory suggests. The root of the first of these chords sounds like B because of the simultaneous emphasis on pc B in the soprano and because the following (A-rooted) sonority at R₃₊₃ is similarly based on a seven-four chord in root-position. However,

13Pc Bb is clearly the root which is suggested by the rule of the best interval. However, in this particular chord this rule is superseded by the last of the four corollaries that Neumeyer lists ("the appearance of a familiar sonority in the lower voices"). Neumeyer, op. cit., p.57.
14The second corollary that Neumeyer lists under Craft III suggests that B might be a possible root for the first chord because it is the root of three different intervals (i.e., B₂-D₄, B₂-A₃ and D₄-B₄). Neumeyer, op. cit., p.56. However, an E root is also suggested using this same corollary because E is similarly the root of three different intervals in the chord (i.e., B₂ E₄, D₄ E₄ and E₄ B₄). Because most of these E-rooted intervals have higher values than the intervals which have a B root and E is also suggested as a root by the best interval we chose E as the root of this chord.
15The first corollary that Neumeyer lists for Craft III asserts that pitch "doubling can have an influence on chord-root calculation insofar as it enhances the potency of one note: if this note is the root, the chord may
we hear D as the root of the second of these $T_{10}$-related chords for two reasons: the trumpet melody at $R_{5} + 1$ resolves pc G to pc F# like a dissonant seventh above a sustained D four-three chord; and the melodic references to a G-major or -minor triad around this sonority (i.e., $R_{5} - 2$, $R_{5} - 1$ and $R_{5} + 2$) allow us to integrate a D root into an implied dominant-tonic progression in G. More traditional considerations of voice-leading and harmony were invoked in Example 1.6d to determine the proper chord roots. Examples 1.6a-d show that Hindemith's theory is not responsive enough to contextual influences and is, therefore, inadequate for root determination in Copland's music.¹⁶

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A practical solution to the problems encountered in attempting to apply these two theories lies in admitting that many factors affect the way one perceives the root of the chord. Root perception is not simply a matter of what intervals of pc collections are formed by the pitches that sound together. Part of root perception results from our previous experience as tonal listeners. For example, we tend to perceive particular pitch registrations—such as the voicing 1-3-7 (e.g., the chord \{G_3, Bb_3, F_4\}), or an interval of a seventh, or a sustained interval of an octave—as rooted because they sound similar to more traditional rooted chords (i.e., seventh chords or simple triads). However, another part of root perception in Copland's music, as demonstrated above, is contextual. The importance of context makes it impossible to derive comprehensive formal rules for root determination in Copland's music. In the interests of simplicity, then, this thesis will assume a traditional method of root determination is viable because, comparatively speaking, it generates meaningful roots more consistently than Hindemith's theory for Copland's music. Explicit
references will be made to ambiguous chord roots when it is relevant to the discussion of
tonality.

1.3.2 Idiomatic Rooted Sonorities in Copland’s Music

Idiomatic rooted sonorities in Copland's music include not only familiar chords such as major and minor triads\(^\text{17}\) and complete chords larger than the triad – particularly seventh, ninth and thirteenth chords\(^\text{18}\) – but also special "added-note" chords (chords based on a triad) and recurrent types of "incomplete" chords. Examples of "added-note" chords are shown in Example 1.7a-e. These include the added-sixth chord (Example 1.7a), the major triad with an added ninth (Example 1.7b), chords with both the major and minor third (Example 1.7c), the major triad with an added raised fifth (Example 1.7d) and several other less traditional combinations as, for example, a major six-three chord with a minor ninth above the bass (Example 1.7e).

Example 1.7 "Added-note" Chords in Copland's Music
a) S.S., III b) B.K. c) P.V. d) B.K. e) S.S., I

"Incomplete" chords are far more numerous than "added note" chords in Copland's music. Some authors, like Berger, view Copland's "ingenious omission of 'essential'

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\(^{17}\)Diminished and augmented triads occur only rarely in Copland's music.

\(^{18}\)The complete thirteenth chord is considerably more rare in Copland's music than either complete seventh or ninth chords. One example of a complete thirteenth chord is the sonority \{C2, G3, Eb4, A4, F5, Bb5, D6, F6\} that is sustained in mm.59-60 of the first movement of the Clarinet Concerto.
chord tones" as one of the prime reasons why Copland's music of this time was successful.\textsuperscript{19} Berger believes that Copland's sonorities became "fresher and more imaginative" as his textures became more and more diatonic.\textsuperscript{20} Most often these chords are incomplete seventh and ninth chords in root position (see Examples 1.8a-b; and 1.8c-d respectively). Copland often adds another dissonant tone to incomplete seventh chords as, for example, in the characteristic seven-four chord that occurs in both his "serious" and "popular" pieces (see Example 1.8e). Infrequently Copland will use an incomplete root position thirteenth chord (see Example 1.8f).\textsuperscript{21}

\begin{example}
Example 1.8 "Incomplete" Chords in Copland's Music
\begin{enumerate}
\item P.S., I
\item S.S., III
\item S.S., I
\item S.S., II
\item Q.C.
\item S.S., II
\end{enumerate}
\end{example}

\begin{figure}[h]
\centering
\includegraphics[width=0.7\textwidth]{example-chords.png}
\caption{Example 1.8 "Incomplete" Chords in Copland's Music}
\end{figure}

\textsuperscript{19} Machlis states that "the careful spacing" of Copland's chords is a "delight to those who examine his scores" and helps Copland achieve the clean, transparent sound that is one of the hallmarks of his style." Joseph Machlis, \textit{Introduction to Contemporary Music} (New York: W.W. Norton, 1979), p.390. Berger argues that the "matter of chord spacing may possibly turn out to be one of the great contributions of the last few decades and Copland stands close to Stravinsky among those who are responsible for it." Berger, op. cit., pp.70-71.

\textsuperscript{20} Berger, op. cit., p.70. Copland suggests a different origin for these "new" harmonies - his exposure to the twelve-tone technique as early as 1928. He comments: "For me as a composer the twelve-tone method was a way of thinking about music from a different perspective...It was an aid in freshening the way I wrote at a time when I felt the need of change...It forced me into a different, more fragmentized kind of melodic writing that in turn resulted in chords I had rarely used before. Thus my harmonic writing was affected in the Piano Variations and in the works which followed - the Short Symphony and Statements for Orchestra." Aaron Copland and Vivian Perlis, \textit{Copland: 1900 through 1942} (New York: St. Martin's/Marek, 1984), p.182.

\textsuperscript{21} Context plays a large role in hearing a Bb root for this chord. The sonority in Example 1.8f is the goal of a cadence ending a Bb tonal area.
1.3.3 Multiple-Rooted Sonorities

One of our criticisms of Hindemith's theory in the analysis of Copland's music was that it did not allow multiple roots for the same chord even when these are clearly emphasized by context. In Copland's music multiple roots can be heard simultaneously for a chord if one of three conditions obtains: the pitch registration emphasizes polytriadic construction; the texture is divided into two separate tonal strands; or the chord combines striking intervallic characteristics of chords that appeared earlier and had different roots. Example 1.9a shows a chord whose pitch registration emphasizes F- and C#-major triads in the lowest and highest registers respectively and, thus, suggests that we hear both F and C# simultaneously as roots. Example 1.9b shows a chord that results from a division of the texture into two tonal strands. The superposition of a melody that accents pcs G, Bb and D above a re-articulated F#-rooted chord suggests that we hear two simultaneous roots – G and F#. Example 1.9c shows a chord which combines striking intervallic characteristics from two previous chords with different roots. The chord at R15+1 combines the bass minor ninth and fifth of the G-rooted chord at R5-2 with the outer voice structure of the D-rooted sonority at R3-1. This suggests that we hear both D and G simultaneously as chord roots. Examples 1.9a-c are all drawn from an orchestral work, in which timbral differences help to stratify the texture.
1.4 Chord Progressions in Copland's Music

In classical tonal music most roots function in a progression. Indeed it makes no sense to attribute a root to a chord unless that root functions syntactically. The problem with rooted sonorities in Copland's music is that the roots rarely connect into recognizable progressions, that is, into progressions directed towards dominants and tonics. Thus they do not function to create tonics in traditional ways.

There are some untraditional ways that chord roots do function to define tonics in Copland's music outside of progressions. For example, Copland has several methods of generating a tonic pc by emphasizing the root of a chord through changes in texture and/or by other accents (recall Example 1.4). These techniques will be discussed more fully later. Further, the first and last roots in a piece by Copland sound like tonics unless there are very strong syntactical factors – a root succession or tonal preconditioning – that contradict that hearing. Thus, our predisposition to hear the C root that begins of the first movement of the Clarinet Concerto as the tonic is subsequently confirmed when C is generated as a tonic by neighbor-tone motion around the \{C, E\} dyad using pcs from the C-major collection.
Similarly, our predisposition to hear the final E-rooted sonority of *Billy the Kid*, {E, G#, B, C}, as a tonic chord is confirmed because that sonority concludes material that we are preconditioned to hear in E. However, the final C root of *Quiet City* does not fit this mould. C does not sound like a tonic here but, instead, like a dominant, because we are preconditioned to hear the material it concludes as having F, and not C, as its tonic. The beginnings and endings of pieces are rather special situations whose effects result from our general listening experience of tonal music and not specifically from our experience of Copland's music. There is one important aspect of Copland's music, however, that does predispose us toward certain channels of hearing: whenever there is a passage with just a single rooted sonority, that root is almost always either the tonic or the dominant. Example 1.1 demonstrated a tonal area with a single tonic root. Example 1.10 shows a passage from *Quiet City* where the only explicit chordal root in an Eb tonal area is the dominant.²² The first chord has a Bb root because the voice exchange in the outer voices between pcs F and Bb makes pc G in the first chord sound like a neighbor tone to pc F in the second chord. The Eb tonic is generated by the metric accent on the first and fifth scale-degrees.

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²² I am interpreting the inferable Eb-major triad in the melody as a representation of the tonic pc and not as an implied tonic harmony.
Although there are some passages where it is possible to find conventional progressions that generate a tonic (as, for example, at R2ff. in the "Saturday Night Waltz" from *Rodeo*) these passages are exceptional and do not truly represent Copland's typical harmonic style. In fact, Copland's music, unlike more traditional music, does not generally use chord progressions as the primary means for tonic generation.\(^{23}\) There are many passages in Copland's music, some very long in length, where traditional progressions are not active. These passages contain either a single rooted sonority or a succession of chord roots that are not tonic- or dominant-directed.

One instance of a long passage where functional progressions are absent is shown in Example 1.11, which presents a sketch of R47+2 to R49-1 of the third movement of the *Short Symphony*. Example 1.11 shows two complete tonal areas – A (R47+2ff.), Db (R48ff.) – and the beginning of a third – the F tonal area which ends the movement (R49-2ff.). None of these areas contain a functional progression; rather shifts between successive verticalities are coherent because of stepwise voice leading. At R47+2 in Example 1.11 an A tonic is generated in the melody by accents on the first, third and fifth scale-degrees.\(^ {24}\) Harmonically, R47+2 to R48-1 can be summarized as the repetition of an A-major six-three chord that is modified by a major ninth above the bass (pc Eb). However, this repetition is obscured because, once established at R47+2, the altered A-major chord is not literally present until R48-2 because the bass and soprano motions are out of synchrony with each other. (Arrows in Example 1.11 show explicit statements of the altered A-major chord.) That is, statements of pcs A, C# and E in the soprano do not occur at the same timepoints as statements of the dyad \{Db2, Eb3\} in the bass, which is the goal of a neighbor-tone motion; rather these pcs sound together with statements of the

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\(^{24}\) Example 1.11 does not show the metrical setting of this passage because of its great length. Assertions about accents, therefore, must be verified using the published orchestral score.
Example 1.11 Tonic generation without Root Progressions


Roots: A
A tonic

Roots: Db
Db tonic

Roots: (Db)
F
neighbor bass dyad \{D2, E3\}. Despite this lack of synchrony, however, the dyad \{D2, E3\} retains its melodic function and, therefore, does not suggest a second rooted sonority for the passage. The lack of synchrony between bass and soprano obviously weakens the repetition of the A-rooted sonority that is the harmonic basis of this passage. However, it also contributes to our understanding of connection between the initial A tonic of Example 1.11 and the preceding Db tonic of R44 to R47-1 (not shown in Example 1.11) because it emphasizes certain motives in R47+2ff. that are derived from motives in R44ff.\(^25\)

At R48-1ff. step motion connects this modified A-major six-three chord to a modified Db-major six-four chord which begins the second tonal area in Example 1.11. One can infer D and G roots for the intervening sonorities, \{C2, D3, F#6\} and \{Bb1, C3, G6\} respectively, which result from this step motion because these chords mimic a \(V4/2-i6\) progression in G minor. However, such a progression is non-functional in a traditional Db context, nor is it used by Copland in other works to define a tonic. Rather, Db is defined as a tonic by the accent on pcs Ab, F and Db in the melody and by other techniques that will be discussed later. The Db tonal area in R48ff., like the preceding A tonal area, also contains only a single harmony – the Db-major six-four chord – because the consistent emphasis on two neighbor-tone motions in the inner voices, \(\textless\text E4, F4\textgreater\) and \(\textless\text G4, \text A\text b4\textgreater\) respectively, makes the potential dominant chords in R48+5 (beat 4) and R48+7 (beat 2) sound like the result of melodic elaboration.

The subsequent F tonal area, of which only the first measure is shown in Example 1.11, is similarly not prepared by a chord progression. We know that F is the tonic of the passage beginning at R49-2 because of preconditioning – F was the tonic the last time this

\(^25\)For example, the bass dyad \{Db2, Eb3\} at R47+2 is a restatement of the interval formed by the lowest two pcs of the Db-rooted chord (\{Db2, Eb3, Gb4, Db5, F5, Ab5\}) which is repeated from R44 to R46+3 in slightly different registrations. Similarly, the opening melodic motive \(\textless\text A, \text B, \text C\#\textgreater\) and bass line \(\textless\text D, \text D\text b\textgreater\) at R47+2 are derived from two earlier motives at R46+2 to R46+4: \(\textless\text G\#5, \text A5, \text B5, \text C\#6\textgreater\) in the strings and woodwinds, and \(\textless\text D5, \text E\text b5, \text D5, \text C\#4, \text C4, \text C\#4\textgreater\) between the trumpet and horn. The succession \(\textless\text D, \text C\#\textgreater\) is emphasized in the latter by accents on each statement of pcs D and C\#.
bass line was heard at R30-2. In R49-2 F succeeds Db as a tonic by the simple expedient of juxtaposing an F-rooted chord, \{F1, D2, F2, C3, Ab3(4,5), C4(5,6)\}, with the Db-major six-four chord. The arrival of the F tonal area is particularly striking because the dramatic change in texture, which articulates the Coda of this movement, is not complemented by a functional chord progression as it would be in more traditional tonal music.

The examples already cited in this chapter demonstrate that functional progressions are not a necessary condition for tonic generation in Copland's music. Example 1.11 also suggests that successions of chord roots in Copland's music, when they are present, often do not fit into recognizable functional progressions and that frequently they are severely obscured, or even eliminated, by an overriding emphasis on melodic lines.

There are no inferable dominant-tonic progressions between successive tonics in Example 1.11. In the rare passages in Copland's music where such progressions can be inferred they are usually so subtle and de-emphasized that it is debatable whether we perceive them at all. Examples 1.12 and 1.13 show two other passages from the third movement of the Short Symphony where the inferable dominant-tonic progressions between successive tonics are exceedingly difficult, if not impossible, to hear. Example 1.12a quotes a passage where Bb is succeeded (at R40) by B as the tonic. We can retrospectively hear the Bb-rooted sonority which ends the Bb tonal area – \{F3, D4, Bb4, Gb5\} – as initiating a dominant-tonic progression in B. Example 1.12b shows how this chord, interpreted as B:V#7/#5 (\{E#, Cx, A#, F\}), progresses to the altered B six-four chord in R40+3. This dominant function, however, is very difficult to perceive because pc Gb derives from the coloristic use of the whole-tone scale \{Bb, C, D, E, F#, G#\} above the static Bb six-four chord harmony sustained in R39ff. and, therefore, does not sound like it is an essential chord tone. Example 1.13a quotes a similar passage where Copland connects B and Ab tonics by an inferable dominant-tonic progression. Example 1.13b
shows that the final chord of B progresses to the Ab-rooted sonority that is melodically unfolded in R42-4 to R42 in a manner that mimics the progression Ab:V5b5-I. The interpretation in Example 1.13b hinges on understanding the bass F in R41+5 as a lower neighbor tone to G. Experientially, however, the listener is much more aware of the return of Eb5 as the soprano pc of the chord, and the chromatic descending step motion in the tenor (<B3, A3, Ab3>), than of the implied root succession <Eb, Ab>, which is, at any rate, only perceived retrospectively.²⁶

Example 1.12 Underlying Dominant-Tonic Progression

²⁶The emphasis on Eb, as a pc common to the referential collections of the B and Ab tonics, and the comparative de-emphasis of the implicit dominant-tonic progression suggests a different interpretation of the formal function of tonality in Copland's music which will be discussed below.
Example 1.13 Underlying Dominant-Tonic Progression


Copland's music adopts the dominant-tonic principle in other ways besides inferable progressions between successive tonics. There are innumerable subtle references to the dominant-tonic relationship in Copland's motivic textures.²⁷ This may involve a strategically placed repetition of a particular motive as, for example, in the first part of Quiet City where the repetition of the "nervous, mysterious" sixteenth-note motive (in the trumpet) links non-successive dominant and tonic chord roots (R1 and R3-6 respectively) in an F tonal area. Or it may result from a division of the texture into two separate harmonic streams as, for example, at R9+3 in the first movement of the Short Symphony, where the texture of a C# tonal area is divided into an oboe melody that states the tonic triad (C#-major) and a bassoon melody that simultaneously states the dominant triad (G#-major). Quite often Copland will make reference to V and I using a motive in the bass.

For example, at R37+1ff. in the third movement of the same work, statements of the cell <C3, A2, F2, Bb1> in the piano, bassoon and double bass are overlapped to create the dyadic succession <{F2, C3}, {Bb1, A2}> and, thereby, to suggest the root movement <F, Bb> in a Bb tonal area. In each case cited above Copland mimics the effect of a dominant-tonic progression but casts it in a unique (melodic) form which effectively exists outside of root successions.

The presence of so many chord roots in Copland's homophonic textures, however, leaves the analyst with a fundamental choice: we can either discover new, consistent progressions of roots that define tonics, or we must find other functions of roots. A review of Copland's music reveals that he is quite conservative when he writes functional root progressions. In Copland's music, unlike that of other twentieth century composers such as Scriabin,28 relatively conventional progressions such as <bII, V, I> are extremely rare29 and more unusual chromatic progressions such as <bII, I> are notably absent. Instead, Copland constrains his root progressions to more familiar patterns – <IV, I>, <V, I>, <II, V>, <VI, V> and <IV, V>. The one striking exception to this rule is the jazz progression <b(VII), I>, which occurs in a tonic-defining role in at least three different pieces: the first movement of the Short Symphony at R1+2 to R2-2 (i.e., D:<i, i\p{vii}, i>), Billy the Kid at R43+1 (i.e., A:<VII, I>), and R13+1 to R13+2 of "Hoe-Down" in Rodeo (i.c., A:<\p{vii}, I>.

The examples cited above suggest that there are other significant processes in Copland's music besides chord progressions that are used to generate tonics. The most important of these processes will be defined below as tonicizing techniques.

29One instance of this progression occurs in "Corral Nocturne" from Rodeo at R5-2 to R5 where pc C is defined as a tonic by the progression <V, bvi, bII, V, I>. 
1.5 Tonicizing Techniques in Copland's Music

A tonic in Copland's music is normally generated by the confluence of several tonic-defining processes simultaneously or within a relatively brief timespan. Tonic generation sometimes involves the activation of a chord root as a tonic by an emphasis on a chord, for example by changes in texture or by phrase elisions. But Copland uses other techniques, some of which are idiosyncratic and need to be discussed here. The most important of these techniques are: isolated descending- and ascending-fifth motion of roots; triadic melodic structures; arpeggiation of special pc-set classes in the lowest voice; "directed motion;" textural and thematic articulation of a rooted chord; pedal tones; reiteration of a root; and neighbor-tone motion. Most of these techniques are reinforced by accenting the tonic pc or a tonic-rooted sonority. Many of them appear in classical tonal music, but in combination with tonic-defining root progressions. Because such progressions are often lacking in Copland's music, it is useful in characterizing his style to catalogue these techniques.

The techniques mentioned above often interact either simultaneously or within a small timespan to support mutually a single tonic. Normally a pc will be introduced as a tonic at some timepoint by one technique but will be confirmed later by other techniques. Most commonly one of these techniques will be perceived as primary (i.e., the technique which suggests the tonic most strongly) and the others as secondary. As a result, in many of the examples of individual techniques, other processes defining the same tonic are present.

1.5.1 Isolated Root Motion by Fifth

Fifth root motions are used at isolated moments in Copland's music to generate a tonic. The term "isolated" here signifies that the fifth motion is not the culmination of a long series of roots that function in a progression but simply occur without preparation at
particular moments in a piece. Descending-fifth (ascending-fourth) root motion mimics a
dominant-to-tonic tonal motion. Similarly, ascending-fifth (descending-fourth) motion of
roots mimics a subdominant-to-tonic tonal motion. Neither of the chords whose roots
define the fifth motion need be a pure triad. The roots are not necessarily the lowest
sounding pcs of the chord. However, this is preferred by Copland perhaps because it
allows a greater variety of interval structures above the bass. For example, one often finds
"incomplete" chords that are similar to characteristic seventh and ninth chords found
elsewhere in Copland's music.

A simple descending-fifth pitch motion can also create a tonic, even if these pitches
are not roots, if it is supported in the musical context by specific rhythmic, textural and
motivic features. For example, a descending-fifth pitch motion creates a tonic if the first
pitch, sustained by itself at the end of a tonal area, functions as an anacrusis to the second
pitch, which appears as the root of the first chord in the following tonal area. Similarly, a
descending-fifth pitch motion creates a tonic if the pcs these pitches represent have just
been heard as chord roots and if the second pitch is sustained in the bass. Descending-fifth
pitch motions are important for tonic generation in Copland's music because they often
result from the severe attenuation of an underlying descending-fifth root motion.

The dominant type of fifth root motion is more prevalent in Copland's music than
the subdominant type. Copland rarely makes the first chord the tonic when the following
fifth root motion to IV or V constitutes the only root succession in a passage. He also
avoids the ordered pitch interval of -7 in a <I, IV> progression when the roots are in the
bass. Although both descending- and ascending-fifth types of root motion are used in
homophonic textures, only the former is used to generate tonics in emphasized pitch
motions where the tones are not necessarily roots.

Indeed, the isolation of these root movements enhances their ability to generate a tonic.
One example can be found in mm.173-195 of the first movement of the Piano Sonata. Here the
harmonic underpinning of an A tonal area is the progression <i, iv>. See below, pp.237-238.
Fifth root motion plays a more important role in generating a tonic when the second chord (the harmonic goal) is accented (i.e., by duration, metrical placement, contour or dynamics). Accents are often supported by a change in texture and a rhythmic caesura (a cessation of rhythmic activity created by held tones or rests). Generally in Copland's music agogic accents support tonic definition but they are not sufficient to define them. Root motions of a fifth define a tonic more strongly if both chords are major or minor triads because this most closely resembles traditional tonal gestures.

Examples 1.14-1.18 below show characteristic passages from Copland's music where descending- and ascending-fifth root motion generates the tonic. Example 1.14 shows how a descending-fifth root motion <F, Bb> is attenuated to become a descending-fifth pitch motion that defines Bb as a tonic. An F-rooted sonority, {F1(2), Ab1(2)}, is supposed under a Bb-rooted sonority, {Bb4, Db5, F5, C6, F6}, in the first two measures of the excerpt causing Bb and F roots to sound simultaneously. When the F-rooted chord is finally heard by itself it resolves to a Bb that is no longer heard as a root. However, pc Bb does become a chord root after only a short delay: Bb, sustained in the bass while the motto of the first theme is restated above it, is the root of the first two sonorities of the motto (the last two sonorities in Example 1.14).

In Example 1.15 a descending-fifth motion of roots, appearing in attenuated form, generates a D tonic. In this passage Copland plays with the convention of a dominant as a metrical anacrusis to the tonic: D is established by the pitch motion from A to D in the bass, but rising major sixths in the inner voices obscure the root properties of the preparatory A. D is, however, unmistakable as a tonic despite the effacement of the dominant root. It is also supported as a tonic by other factors: the highest voices of the first and last chords in the repeated three-chord gesture are D-major triads; and the <A, B, D> melodic cell in the highest voice is familiar in jazz music as a D-tonic motivic gesture. The D-rooted chord is accented by metrical placement and increased duration.
Example 1.14 Attenuated Descending-Fifth Root Motion

P.S., I, mm.237ff.

Roots: Bb Bb Bb Bb F [Bb] .... Bb
Tonic: Bb

motto of first theme

Example 1.15 Attenuated Descending-Fifth Root Motion

P.C., I [17]-1ff.

Roots: [A] D D tonic [A] D

D tonic
Example 1.16 shows a passage where a tonic-defining descending-fifth pitch motion is used by Copland as a bridge between monophonic and homophonic textures. The monophonic passage in Example 1.16 ends with a long G5 in the trumpet; at R7 this texture is replaced by a homophonic texture whose first chord root is C. This establishes C as a tonic right from R7, in a way that is similar to a traditional dominant-tonic root progression. Later events confirm C as a tonic: the progression Vb5/4/3-1b7 at R7+1 to R7+2; and the C-Aeolian collection. The voicing of the passage emphasizes the fifth between G5 in the trumpet and C5 in the first violins: melodically, as the ordered pitch interval of −7 between successive pitches in the highest voice; and harmonically, as a sustained interval.

![Example 1.16 Descending-Fifth Pitch Motion as a Bridge Between Monophonic and Homophonic Textures]

Example 1.17 shows a passage where an ascending-fifth type of root motion not employing pure triads generates the tonic.\(^{32}\) Here a D-major chord, \{D2(3), A3, D4, F#4(6,7)\}, is established as a tonic by a plagal motion from a G-rooted ninth chord, \{G3, A3, D4, B5(6), D6(7), F#6(7)\}. The D-major chord receives a metrical accent. This <IV,

\(^{32}\)The rhythm has been simplified in Example 1.17—the re-articulated chords in the strings are simply notated as sustained.
I> root succession becomes, through repetition, the harmonic underpinning of the following D tonal area. Other factors again confirm D as a tonic: the emphasis on pcs F#, A and D in the first violin melody <F#4, G4, A4, G4, F#4, E4, F#4, D4>, and use of the D-major collection. We are also, however, predisposed to hear D as a tonic at R34 because of the unusual appearance near the end of the previous C tonal area (at R33ff.) of the fifth {D4, A4}, and because of the woodwind melody <A4, A5, D5, F5, A5, F#5, A5> (not shown in Example 1.17).

1.5.2 Melodic Construction

A top-voice diatonic melody that brings out the pcs of a major or minor triad indirectly through accents, or directly by arpeggiation or repeated fifth motion, activates the
root of that triad as a tonic. This tonic is said to be "melodically generated."33 Copland's melodies tend to emphasize triads as part of a diatonic collection. Often the collection in the melody affirms the root of the emerging triad as a tonic because it corresponds to traditional usage (i.e., the pitch-class content of the melody is constrained to a transposition of \(<C, D, E, F, G, A, B>\) and the root of the triad is the first tone of the collection). Copland tends to constrain the pitch-class content in his melodies to the major mode and the Dorian, Mixolydian and Aeolian collections. Only occasionally will he make referential a more unusual modal collection, such as the Lydian collection. (One example of a referential Lydian collection appears in the passage quoted in Example 1.17.)

Most often Copland's melodies will either use all the pcs of the referential collection (for example, the melodies in Appalachian Spring), or all but one of the pcs (like several of the melodies in Billy the Kid).34 Although accents tend to appear on all members of the triad often it is the tonic pc itself that receives the most accent. The most emphatic examples of such accent, such as at R12 to R15 of the Piano Variations, forcefully articulate the tonic pc as an accented pc ending short repeated phrases. More complex examples of melodic generation tend to place greater emphasis upon 5 than upon the root. Some of these melodies have discernible harmonic rhythms or harmonic groupings that follow the traditional syntax of \(<I, V, I>\), bringing Copland's music very close to

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33Reti discusses "melodic tonality" in Debussy's music and discusses a passage from Debussy's music where the harmony results from parallel chords. He argues that these "chords" are "in essence not harmonies at all, but rather choral melodies, enriched unisons" and that the tonic of the passage is not defined by them. Reti, op. cit., pp.23 and 26. Copland alludes to the importance of melody in his own compositional process in certain statements from What To Listen For in Music. For example, Copland argues that "the thing that takes the place of a story in music is, as a rule, the melody" and begins his list of compositional ideas with a "one-line melody." Aaron Copland, What to Listen For in Music (New York: McGraw-Hill Book Company, Inc., 1939), pp.6-7, and 23. Copland also alludes to the importance of melody as inspiration when he talks about how he only had the cowboy tunes themselves when he was writing Billy the Kid. Copland and Perlis, op. cit., p.279.

34The pcs which are omitted most consistently from Copland's melodies are the seventh and fourth scale-degrees. For example, in the orchestral suite of Billy the Kid Bb:4 is not used in the melody of the "Mexican Dance" (R20ff.), G:4 is not used in the Finale (R24ff.) and Ab:7 is not used in the tin-whistle melody at R6ff. These omissions change the diatonic collection into the pentatonic scale, which is used in many folk songs. However, Copland also frequently omits 5. This can be seen in the melody in F at R8ff. of the same work. Occasionally, Copland will omit a more modally significant scale-degree like 3 in his melody. This occurs at R4ff. of Billy the Kid when F is the tonic. See below, p.133.
traditional music at times. This tendency is more pronounced in some of the "popular"
pieces as in, for example, the "Shaker" tune from Appalachian Spring. Copland's
technique of melodically generating a tonic by accents, however, is clear even when such
traditional methods are not employed. The presence of tonics in monophonic passages in
Copland's music assures us that melodic generation is sufficient by itself to generate a
tonic.

Examples 1.18-1.20 quote passages from Copland's music where tonics are
melodically generated in homophonic, heterophonic, and monophonic textures
respectively. Example 1.18 provides a simple example of a homophonic texture where a D
tonic is melodically generated. Pc D is prominent in the repeated four-measure phrase
because it begins, ends and is stated frequently in the middle of the melody. The D-major
triad is prominent in R5+1 to R5+2 and in the corresponding passage R6-3 to R6-2. The
referential collection in the melody is the D-major collection. Pcs C and Eb are non-
collectional tones because they are constrained to the brief triplet-sixteenth-note figure and
prepare the collectional tones C# and E respectively which follow. This perception is
enhanced by the material in R4ff. (not shown in Example 1.18) where pcs C# and E appear
in the dominant chord in a <I, V, I> progression in D-major.
Example 1.18 Melodic Generation of a Tonic in a Homophonic Context

"Hoe-Down," R., 5 ff.

Example 1.19 provides an example of a melodically-generated tonic within a heterophonic texture. An F tonic is melodically generated in this passage. Pc F, prominent as the beginning and ending pc, appears as every other note in the first two measures of each four-measure phrase. Agogic accents in the first, third and fourth measures of every phrase bring out members of the F-major triad (i.e., A4, C5 and F4 in the antecedent phrase). The repetition of the last measure of the consequent phrase causes successive agogic accents on F. The pitch-class content of the upper voice in the original, and later heterophonic, doubling of the melody is the collection {E, F, G, A, Bb, C}, which is a subset of the F-major collection. This example verifies our assertion that melodic generation of a tonic is sufficient to create a tonic by itself: there are no other supporting techniques that confirm F as a tonic.
Example 1.20 provides a more complex example of a melodically generated tonic in a monophonic texture. Unlike earlier examples of melodic generation, there is an initial ambiguity in the sense of tonic caused by accents; D only gradually assumes primacy over A as tonic.\textsuperscript{35} The most consistent accent (of contour, meter and dynamics) is given to the pc A, and not the pc D. D becomes the tonic because of the strong pitch association between A and D (i.e., pc A moves to pc D three times), and because of the emphasis placed on pc F\textsuperscript{#} (i.e., F\textsuperscript{#} is followed by a rest each time it is stated in Example 1.20). The pitch-class content of the melody is a subset of the D-Mixolydian collection.

\textsuperscript{35}This interpretation is confirmed later in mm. 162-170 when a transposition of this theme up a major third – suggesting F\textsuperscript{#} as a tonic – is supported by the F\textsuperscript{#}-rooted sonority \{A\textsubscript{2}, F\textsuperscript{#}\textsubscript{3}, C\textsuperscript{#4}, F\textsuperscript{#4}\}. See below, p. 238.
1.5.3 Pc-Set Classes in the Bass

A melodic presentation of special pc-set classes in the lowest sounding voice establishes a sense of tonic. By "special pc-set classes" is meant either a simple major or minor triad, or a major or minor triad modified by one additional tone (modified triads). The latter includes sonorities such as seventh chords, minor-major chords, and triads with an added fourth. The root of a simple triad does not have to be accented to sound like a tonic, although such accent is relatively frequent. Accent is particularly important when triads modified by a tone are presented melodically because this helps define the root and, thereby, resolves any ambiguity. Normally the root of the triad being arpeggiated will also appear concurrently as the root of a chord. Melodic presentation of triads is more common than melodic presentation of modified triads.

Example 1.21 shows a passage that is based upon the melodic presentation of a triad in the lowest voice. The D tonic is generated, at least in part, by the bass arpeggiation of the pitches of this triad.\textsuperscript{36} The initial tone of the arpeggiation, D4, receives accent from

\footnotesize\textsuperscript{36}One might also hear passing references to a Bb tonic in this passage because of the manner in which the dyad \{Bb4(5), D6\}, created by doubling the melody in parallel thirds, is agogically accented at the end of mm.68, 70 and 73. The melodic cell \{D, C, A, Bb\} by itself also alludes to a Bb-major collection. However, there are other important (contextual) reasons for hearing D as the tonic of this passage. These are discussed below on pp.225-227.
contour and meter: D is the highest pitch of the arpeggiation and always occurs on the
downbeat. Other factors support D as a tonic, notably the presence of only D-rooted
verticalities over most of the passage, the metrical emphasis on D-rooted sonorities with D
in the bass, and the modified D-Aeolian collection.

Example 1.21 Bass Arpeggiation of a Triad
P.S., I, mm.67ff.

Example 1.22 shows a passage where a melodic presentation of a modified triad,
{G#, B, D#, F#}, generates a G# tonic. G# is emphasized as the final pitch in a two-
measure phrase that is repeated in the bass. This example shows that of all the voices the
bass most strongly defines the tonic; accents in the upper voice suggest B, but this is
weaker than the G# defined by the bass. Descending-fifth root motion also supports G# as
a tonic: in mm.43 and 48 the D#-rooted sonority {D#, C#5(6)} is succeeded by the G#
rooted sonority {G#3, B4(5)}. 
Example 1.23 provides a more complex example of this technique. Here the melodic presentation of a modified triad, \{C, Eb, E, G\}, generates a C tonic. The modified triad appears first at R14 and R14+2 in the grace notes that introduce the highest voice, but also gradually manifests itself in the lowest voice of the two-part texture. What is particularly interesting about Example 1.23 is how the modified triad \{C, Eb, E, G\} is used to reinterpret pc Eb from the tonic pc in a monophonic texture to the (minor) third scale-degree of C in a homophonic texture.\footnote{The shift in tonics in this passage focuses our attention upon the changing scale-degree function of pc Eb in much the same way as that observed earlier in Example 1.13.} C is confirmed as a tonic in R14+2 to R14+3 by a descending-fifth root motion (\(<C, G>\)) that is implied by the successive major sevenths \{G, F#\} and \{C, B\}.

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\textbf{Example 1.22 Bass Arpeggiation of a Modified Triad}

\textit{P.S., II, mm.43ff.}
1.5.4 Directed Motion

Directed motion defines a tonic in either homophonic or monophonic textures. In a homophonic texture it involves the bass line in a series of chords. The bass line moves in a single direction, and ends on a pitch that is accented by duration or meter and that belongs to the pc that is the root of its chord. The terminal chord in directed motions is often a major or minor triad, perhaps because this gives the clearest root definition. The bass line must contain at least two pitches that are not members of the terminal chord. This restriction distinguishes directed motions from tonic arpeggiation in the lowest voice (i.e., arpeggiation of the triad associated with the tonic pc). Such a distinction is desirable because directed motion is usually a motion towards a new tonal area, that is, it establishes

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38 Roy Travis uses the term "directed motion" to denote a middleground structure which spans an entire piece. Roy Travis, "Directed motion in Schoenberg and Webern," Perspectives of New Music 4/1 (1966): 85-89. This thesis, however, uses the term to denote a pattern on the surface of the music which articulates a new tonic and (often) a new thematic section.
a new tonic while arpeggias occur within a tonal area that has already been established. The intervals between successive pitches in the lowest voice are not restricted to "steps" (i.e., the ordered pitch intervals of 1, 2, 10 or 11). That is, a directed motion can present a succession of quite different interval sizes. Although Copland uses perfect fifths occasionally, the most common intervals in directed-motion lines are seconds, thirds, perfect fourths and sixths. The registral span of the motion and its direction is not restricted. Copland does seem to prefer ascending motion for this type of gesture, perhaps because such ascent often gives a contour accent to the goal pitch.39

Directed motions also occur in an attenuated form in two-part textures, and in partially or entirely monophonic passages. When a directed motion occurs in a two-part texture it retains all of the characteristics of a directed motion in a fuller homophonic texture except that the lowest voice is no longer the bass of a succession of verticalities. When a directed motion occurs in a monophonic passage it takes one of two forms: a single line (possibly doubled at the octave) moves in one direction and ends on an accented pc and this pc either becomes the root and lowest pc of a chord (partially monophonic context)40 or is confirmed as a tonic by another technique (partially or entirely monophonic context). Directed motions in monophonic passages exhibit all other conditions of directed motion in a homophonic texture (i.e., pc content, types of intervals, registral span and directional preference).

Unlike melodic generation, directed motion is not sufficient in itself to establish a tonic. In Copland's music directed motion indicates a tonic that is subsequently confirmed by other techniques. In order to show this dependency, each example of directed motion

39 A contour accent occurs when the goal pitch is the highest (or lowest) pitch within a relatively long and thematically significant segment (i.e., the first thematic area of a sonata form, an entire variation of a variation form, or a major section of a ternary form).

40 Implicit in the partially monophonic context is a complementary change of texture (i.e., a shift from a single pitch-class to a multi-pitch-class texture) marking the accented pc as a goal.
below includes enough of the following passage to show the presence of another tonic-defining technique which confirms the same tonic.

Example 1.24 shows a directed motion in a homophonic texture that generates a C tonic: C4, the bass pitch of a C-minor triad, receives a durational accent and terminates directed motion from an initial Bb1. The sense of direction towards an accented goal may be enhanced, as in this case, by the voice leading of the other parts. However, such voice leading in non-bass parts does not establish the terminal pitches in those voices as tonics because they are not pitch representatives of the root and the lowest pitch of the chord. A C tonic is confirmed in mm.38ff. by the repetition of a series of parallel minor five-three chords whose roots define a <i, iv, v> progression in C. C is also supported as a tonic by the C-Aeolian collection.

Example 1.24 Directed Motion in a Homophonic Texture
P.S., I, mm.35ff.

Example 1.25 shows a directed motion in a two-voice texture that generates an Ab tonic. The initial three-note motive, melodically generating a Db tonic, is transformed into a directed-motion line in the lowest voice. Ab5, the root of the twelfth {Ab5, Eb7}, receives an accent of duration and terminates motion from an initial Ab4. Ab is confirmed as a tonic in R3-2ff. because of the melodic presentation of an Ab major-major seventh
chord in the highest voice simultaneously with the incomplete melodic presentation of an Ab-minor triad – <Cb4, Ab3> – in the bass. We are also predisposed to hear an Ab tonic in R3-2ff. because of the transpositional relationship (T1) to R2+3 (not shown in Example 1.25) when G was a tonic.

Example 1.26 shows two related directed motions in a partially monophonic context where the goal pc becomes the lowest tone and root of a major triad. These descending directed motions (replicated in one or more octaves) occur in the last five measures of Example 1.26. The lowest octave of the first directed motion (R7+6) starts on D5 and terminates on E1, which is accented by dynamics, contour (as the lowest pitch in this variation), and duration. In R8-4 E1 becomes the lowest tone of a major triad whose root is E. This directed motion is repeated in the following three measures but with the lowest octave starting on G4 instead of D5 (the second pitch of the original directed motion). The terminal pitch E1 becomes the lowest tone of an E-major triad in R8-1. It is more emphatic
than the preceding directed motion because of the longer duration of the E-major chord.

The beginning of the passage in Example 1.26 also contains a repeated two-measure phrase that mimics an ascending directed motion. It does not qualify as a directed motion, however, because the terminal pitch, E₄, is not the lowest tone of the subsequent E-major triad at R₇₊₁ and R₇₊₄. We also tend to hear E as a tonic in this passage because of the motivic structure: the melodic cell that emphasizes pc E at the beginning – <G, Eb, F#, E> – is T₃ of the original four-note motive (mm.1ff.), which was stated in a C# tonal area; and the preceding variation, which also has E as its tonic, uses this motive at the same pitch level.

Example 1.26 Directed Motion in a Partially Monophonic Texture

P.V., ff.
Example 1.27 shows a directed motion in an entirely monophonic context where the terminal pc is confirmed as a tonic by another tonic-defining technique. The ascending line beginning on C1 terminates on F5, which is accented by dynamics and increased duration. An F tonic is confirmed by the melodic construction of the following theme, stated monophonically and emphasizing members of the F-major triad, which this directed motion prepares.

Example 1.27 Directed Motion in a Monophonic Texture

1.5.5 Changes in Texture

In a homophonic texture the root of a verticality is activated as a tonic if it is stated by the lowest voice, and if the verticality is emphasized as the end of a thematic group by an ensuing, significant change in texture. At the end of an important thematic group Copland frequently follows a rooted chord with a dramatic reduction in texture (i.e., changes in register, density, numbers of voices and levels of rhythmic activity) to articulate that chord as the end point, or goal. The terminal chord also usually receives a metrical accent. This recalls a technique of traditional tonal music, in which the end point of a group is usually determined harmonically by a cadence (i.e., <V, I>), and in which
subsequent textural changes after the cadence reinforce the sense of beginning a new group. In Copland’s music, however, end points are often not determined by harmonic progressions. Occasionally a series of chords mimics the gestural sense of a traditional cadence to define an end point but avoids syntactic relations in the root succession (if present). Texture is, thus, left as the sole means of defining – retrospectively – an end point. Despite the lack of syntactic harmonic support these end points are as significant to form in Copland’s music as they are in traditional tonal music. Chords articulated at end points in Copland’s music often carry over into the next group; they are used to elide beginnings with endings. This gives such ending chords an emphasis that makes them sound like traditional tonics.

This technique is used at R6 in the first movement of the Short Symphony (see Example 1.28). Following an interruptive passage at R4ff. expressing a Bb tonic (of which the last two measures are shown in Example 1.28) an alternation between two chords – {F#1(2), G3, B3, D4} and {A1(2,3), C#4, E4} respectively – becomes prominent. This alternation initially seems to support the root of the second chord (A) as a tonic, because of its greater relative stability and the previous association of the same collection with an A tonic at R3 to R4-1. Ultimately, however, it expresses a B tonic because the texture reduces to a single (octave doubled) line immediately following the statement of the B-rooted sonority at R6. Traditional harmonic progression does not establish the B as a tonic, of three chords, because the stepwise root movement of these three sonorities does not include a dominant-tonic progression.
Example 1.28 Textural Changes Define the Tonic

S.S., I, 4 +4ff.

Tonic: (Bb)

1.5.6 Sustaining a Pc in the Bass

A tonic is generated when a pc sustained in the lowest voice is a member of a major or minor triad that is arpeggiated, or emphasized by accents, in a higher voice. Most

41Reti alludes to the way pedals support our understanding of the tonic when, in a discussion of a passage from Debussy's "Reflets dans l'eau," he concludes that the constantly sustained Ab pedal "adds an increased feeling of oneness" to the "tonical impulses" of the melodic lines. Reti addresses Debussy's lengthy pedals and concludes that they "help to let the melodies be understood in their own melodic right and not as
commonly the sustained tone in the lowest voice is the root of the triad, as this creates the strongest sense of tonic and is, therefore, less dependent upon other techniques for confirmation. However, the third and fifth of the tonic triad can be used in a similar way. Often when a bass pedal is employed there are references to verticalities with the same root as that of the articulated triad, and the pitch-class content is constrained to a diatonic (seven-note) collection.

Copland's music has numerous examples of this technique. Example 1.29 shows a passage where the sustained pc is the root of the triad arpeggiated in the melody: A₃, initially sounding by itself, is sustained in the strings while the clarinet arpeggiates the A-major triad (<A₄, C₅, E₅>). The arpeggiation ends on a sustained E₅, making a perfect fifth with the lower A. This activates an A tonic, which is supported by the A-major collection.⁴²

Example 1.29 Sustaining a Pc in the Bass
A.S., mm.1ff.

Example 1.30 shows a passage where the fifth scale-degree, F₁, is sustained in the bass while a concurrent melody brings out the tonic Bb-major triad through rhythmic (agogic) accents. Other elements confirm Bb as a tonic: the descending-fifth pitch motion <F₆, Bb₅> in the highest voice; the ascending tenor line reiterating the sixth <F, D>; the melodically extended harmonic progressions." According to Reti this helps to distinguish them from classical melodies. Reti, op. cit., pp.23 and 27.

⁴²A is confirmed as a tonic by a subsequent plagal root motion, <A, D, A>, between successive ninth chords in R1 to R2-1 (not shown in Example 1.29). This plagal root motion is repeated over the larger A tonal area (whose beginning is shown in Example 1.29) until R5.
dynamic and durational accent given to the Bb-major six-four chord; and the Bb-Mixolydian collection. But these do not overshadow the stabilizing and tonic-generating effect of the sustained fifth scale-degree in the bass.

Example 1.30 Sustaining a Pc in the Bass
S.S., III, \[31\] ff.

Tonic: Bb

Example 1.31 shows how Copland uses this technique in a characteristic way to define a tonic and facilitate a smooth modulation. In this passage the functions of Db3 and Bb3, which are sustained as the lowest pitches starting at R19, are reinterpreted. The strong articulation of a Bb tonic prior to R19 dissipates after R19 when the otherwise clear root succession in fifths, <D, G, C>, is broken by the statement of the dyad {Db3, Bb3}. Initially this dyad suggests the return of the Bb tonic by implying a Bb root. However, the melody in the highest voice generates a new Gb tonic at R19ff. by accenting pcs Db, F# and A: Db5 begins each two-measure phrase and is preceded by a rest; an agogically accented F#4 ends each two-measure phrase; A5 receives an accent from contour in R19+3; and the longest notes in the top-voice melody, in R19+1 and R19+3, are members of the F#-minor triad. This example shows that the effects of the sustained tones and the accentual structure of the top-voice melody are, in this case, mutually dependent. The sustained tones require confirmation from the melody in order to negate our expectation of

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43The referential collection is Bb-Mixolydian and not Bb-major because pc Ab and not pc A functions as the seventh scale-degree in the larger Bb tonal area whose beginning is quoted in Example 1.30.
a Bb root; the top-voice melody needs the confirmation of the sustained tones to accommodate the increasingly chromatic texture of R19+1ff.

1.5.7 Repetition of a Root Using Different Verticalities

Several different verticalities that express the same root within a relatively brief timespan activate that root as a tonic. This is one of the least traditional techniques that Copland uses to establish a tonic. Sometimes no contrasting root will appear within the timespan in which the tonic is emphasized.

Example 1.32 shows an instance of this technique in the first movement of the Piano Sonata. In this passage four verticalities have Bb as a root: the minor third \{Bb, Db\} (mm.1 and 6); the tetrachord \{D, F, Gb, Bb\} (mm.1 and 6); the tetrachord \{Bb, Db, C, F\} (mm.2, 3, 7 and 8) and the trichord \{Bb, F, Ab\} (m.12). The first, third and fourth of
these verticalities receive accent: the first verticality by meter and by its special status as the beginning sonority of the piece; and the third and fourth verticalities by meter and duration. No sonority in the passage has a root other than Bb. The second and third verticalities in mm.3 and 8 respectively, which are the only other potentially rooted chords that do not have Bb as a root, result from the confluence of passing and neighbor tones in a gesture that seems directed toward a restatement of the tetrachord {Bb3, Db4, C5, F5}. The presence of four verticals that express the Bb root, combined with the lack of other rooted chords that express different roots, establishes Bb as a tonic that governs the opening of this movement. Other factors, particularly the references to Bb-rooted triads in the outer voices in mm.1-2 and 6-7, support this tonic.

Example 1.32 Repetition of a Root
P.S., I, mm.1ff.

Roots:  Bb Bb Bb Bb(none)(none) (none) Bb Bb Bb Bb (none)(none) (none)
Tonic:  Bb

Roots:  (none) (none) (none) Bb
Tonic:  (Bb)
Example 1.33 shows a passage from the third movement of the *Short Symphony* where the reiteration of the Ab-rooted sonority \{Ab1, G4, C5, Eb5, Ab5\} generates an Ab tonic. No sonority in this passage has a root other than Ab. Ab is supported as a tonic by the metrical accent given to the Ab-major triad in the highest voices in the first three measures of R18, by the contour accent on the bass Ab1 (the lowest pitch in this passage), and by the descending-fifth pitch motion <Eb2, Ab1> in the bass. At R34-1 the punctuating chord disappears in order to prepare for a new Eb tonic, which arrives at R34+4.

Example 1.33 Repetition of a Root

\[\text{Roots: } [Ab] \quad \text{Tonic: } Ab \quad [Ab] \quad \text{Ab} \quad \text{Ab} \quad \text{Ab}\]

\[\text{Roots: } \text{Ab} \quad \text{Tonic: } (Ab)\]
1.5.8 Neighbor-Tone Motion

Complete neighbor-tone motion – where two statements of a rooted chord frame another sonority – activates the root of the framing chord as a tonic if the framing chord receives accent from duration or meter, or has special status as the beginning sonority of an important section. Neighbor-tone motions are most effective when the lowest pitch of the framing chord is the root and there is step motion (i.e., ordered pitch intervals of 1, 2, 10 or 11) in all voices within the pitch-class collection treated as referential. Example 1.34 shows a passage from *Billy the Kid* where a G tonic is first established by neighbor-tone motion. A G-major six-three chord ({B₃, D₄, G₄}) encloses two separate complete neighbor-tone motions that establish a G tonic. This enclosing chord receives accent from duration – in each measure it is re-articulated over more eighth-notes than the neighbor chord – and meter – it occurs on the downbeat of each measure until R24+5. The neighbor-tone motions establish G as a tonic before the entrance of a eight-measure melody at R24+2, which emphatically confirms G through melodic generation.

Example 1.34 Neighbor-Tone Motion Defining a Tonic

B.K., 24 ff.

![Example 1.34 Neighbor-Tone Motion Defining a Tonic](image)

Tonic: G

Example 1.35 provides a more complex example, in which the tonicizing effects of this technique are severely attenuated by the pitch-class content. An E tonic is generated, at least in part, by a complete neighbor-tone motion embodied in the oscillation between an

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44 The passage has been simplified rhythmically: the re-articulated chords in the strings are represented in Example 1.34 by sustained tones.
45 The separate melodic lines identified in Example 1.35 (i.e., in the woodwinds and strings respectively) are both stated in triple octaves in the piece. Only the lowest octave of each melody is given in this short score.
enclosing root position E-major triad and a root-position F# major-minor seventh chord. 46 E is supported as a tonic by other factors, for example, the directed motion toward the initial E-major chord at R1, and the agogic accent on E4 in the inner voice motive <B3, F#4, E4> in the third trumpet and cellos. The tonal definition provided by the neighbor-tone motion is obscured by the superimposition of two melodies, the first of which (in the woodwinds) weakly emphasizes B in R1+1 and R1+2. This emphasis causes an ambiguity between E and B tonics because the stated diatonic collection – {B, C#, D#, E, F#, G#, A#} – is much more familiar as the B-major collection than as the E-Lydian collection. Copland's techniques, however, largely point to an E tonic in this passage. 47

1.5.9 Summary of Tonicizing Techniques

Copland uses eight techniques to establish tonics: isolated descending- and ascending-fifth motion of roots; triadic melodic structures; arpeggiation of special pc-set classes in the lowest voice; "directed motion;" textural and thematic articulation of a rooted chord; pedal tones; reiteration of a root and neighbor-tone motion. The description of these techniques constitutes a précis of Copland's harmonic style in that they define what Copland does and does not do to establish roots and tonics. These techniques will provide criteria for a meaningful tonal analysis of Copland's music.

46 The E tonic of R1ff. is weakly anticipated at R1-2 (beat 3)ff. when the three-note fragment <B3(4), F#4(5), D4(5)> is followed by the three-note fragment <B3(4), G#4(5), E4(5)> such that the third <G#, E> sounds on the downbeat of R1-1. However, this third is obscured because the voice-leading of R1-2 (beat 3)ff. contains two step-ascents that continue to the downbeat of R1: the second pc of each successive three-note cell, which is metrically accented, generates the ascent <F#, G#, A#, B>; the third pc of each successive three-note cell generates the ascent <D, E, F#, G#>. 47 This interpretation is confirmed retrospectively. For example, the elements that establish D as a tonic just before R3 (when the second theme is introduced) are the same as those that earlier defined E at R1ff.: the three-note motive, which is transposed down a tone so it ends on an agogically accented D; and the whole-tone neighbor chord motion, which is similarly transposed down a tone so we get an alternation of major chords whose root succession is <D, E, D>.
Example 1.35 Neighbor-Tone Motion Defining a Tonic

Melody 1 (VVs)

Melody 2 (Strings)
1.6 The Function of Tonics in Copland's Music

We have seen in the above examples that tonics are prevalent in Copland's music. But what purpose do these tonics serve? Their musical function is inextricably tied to some of the most salient characteristics of Copland's music: a general avoidance of chord progressions; the lack of a specific harmony consistently used as a prefix to tonic harmonies; the severe de-emphasis of the dominant key; the preponderance of static, non-developmental themes; the use of transitions that rely upon underlying step-progressions, and non-functional root successions, for coherence; specific types of tonal ambiguities; and other important surface features. In order to be meaningful for the analysis of Copland's music, a theory of tonality must account for these special characteristics.

1.6.1 Theories of Tonality

One possibility for the tonics in Copland's music is that they are organized into a hierarchy that expresses a global tonic, that is, the hierarchy of tonics as a whole expresses the global tonic, rather than each tonic expressing it in isolation. Two very different theories – prolongational and Hindemithian – allow for a hierarchy of tonics. Let us examine the suitability of each for Copland's music.

Prolongational theory has been expanded so greatly since Schenker's death that in effect we must consider a host of related approaches ranging from "pure" Schenkerian theory to the subsequent extensions of that theory in the analysis of post-tonal music. Extensions to Schenkerian prolongational theory are numerous in the analytical literature. For example, Cinnamon's articles reveal that Liszt maintains the essence of a traditional prolongational structure but transfers all of the structural characteristics normally associated with V to other harmonies. In Blume und Duft this harmony is III#.48 A much more

comprehensive approach to prolongational theory in post-tonal music, one that does not involve the transference of dominant-qualities to non-dominant harmonies, is suggested by Felix Salzer. His monograph *Structural Hearing* presents numerous prolongational analyses of works by Stravinsky, Bartok, Hindemith and even Copland.\(^{49}\) Salzer tries to show how these diverse composers use the dominant-tonic axis and other, contrapuntally-defined, structures as frameworks for directed motions that establish tonality.\(^{50}\) Baker summarizes Salzer's analyses as showing that a traditional triadic component is "prolonged by means of an embellishing 'contrapuntal-structural chord' which serves as the central member of the structural axis of the piece."\(^{51}\) Other authors, such as Wilson, take Salzer's approach one step farther to argue that a simple departure-and-return model, even one outside of a dominant-tonic axis, must be considered as legitimately "prolongational."\(^{52}\) Travis and Morgan, among other authors, have gone even further and tried to develop theories to account for prolongations of dissonant sonorities.\(^{53}\) Although these "liberal" approaches have been criticized in the literature\(^{54}\) there are, nevertheless, other contemporary studies in which a modified Schenkerian prolongational theory has been convincingly applied to fairly complex twentieth-century "tonal" music.\(^{55}\) For example, Baker's study of Scriabin's voice leading reveals some very important aspects of Scriabin's music – incomplete spans, spans with elements widely scattered among several registers.


\(^{50}\)Ibid., Vol. 1, pp. 204 and 227.


\(^{55}\)I have not included Neumeyer's study of Hindemith's music because, although his analytical method involves hierarchic stages, it is significantly different from a Schenkerian approach by his own admission. Neumeyer, op. cit., pp. 49-50 fn. 1.
and spans that run out of synchrony with each other and with the majority of parts that define the harmonic progression.\footnote{James Baker, \textit{The Music of Alexander Scriabin} (New Haven: Yale University Press, 1986). This material is presented in a summarized form in James Baker, "Scriabin's Implicit Tonality," in \textit{Music Theory Spectrum} 2 (1980), pp.17-18. Baker's study is doubly important to the study of tonality in Copland's music because Copland by his own admission was "very Scriabin-conscious" in the period around the time he went to France to study with Boulanger. Edward T. Cone, "Conversation with Aaron Copland," \textit{Perspectives of New Music} 6/2 (1968), p.59.} The lack of synchronization between related spans is particularly important because it obscures and conceals the relatively conventional harmonic progressions underlying most of Scriabin's music. There are also other convincing analyses, such as Benjamin's study of Stravinsky, that take a more collectionally-oriented perspective on tonality and prolongation.\footnote{William E. Benjamin, "Tonality Without Fifths: Remarks on the First Movement of Stravinsky's \textit{Concerto for Piano and Wind Instruments}," \textit{In Theory Only} 2/11-12 (1977): 53-70 and 3/2 (1977): 9-31.}

An adjunct to the modified prolongational theories cited above is the "double-tonic complex" that, originating with Robert Bailey, has been explored mostly in articles by Christopher Lewis.\footnote{The term "double-tonic complex" was apparently coined by Robert Bailey in "Das Lied von der Erde: Tonal Language and Formal Design," which was read before the American Musicological Society in October, 1978. Bailey makes some references to this concept in \textit{Richard Wagner: Prelude and Transfiguration from *Tristan and Isolde*} (New York: Norton, 1985), pp.121-146. While Bailey does discuss how the Prelude contains references to both A and C tonics, he does not specify what general conditions a piece of music must exhibit in order to generate a double-tonic complex, and he does not discuss the ramifications for a Schenkerian analytical approach. To my knowledge Lewis is the only author who explicitly talks about "double-tonic complexes" per se in the literature. Christopher Lewis, "Into the Foothills: New Directions in Nineteenth-Century Analysis," \textit{Music Theory Spectrum} 11/1 (1989): 15-23 and "Mirrors and Metaphors: Reflections on Schoenberg and Nineteenth-Century Tonality," \textit{Nineteenth Century Music} 11/1 (1987): 26-42. However, Lewis notes that Schoenberg also makes reference, if considerably more obliquely, to the principle behind a double-tonic complex when he discusses "fluctuating tonality" in two of his own compositions – \textit{Orchesterlied}, Op.8, no. 5 ("Voll jener Susse") and Op.6, no. 7 ("Lockung"). Arnold Schoenberg, \textit{Theory of Harmony} (London: Faber and Faber, 1978), pp.384-85. In *Mirrors and Metaphors* Lewis shows that a double-tonic complex is pertinent to the tonal structures of Wagner's \textit{Tristan und Isolde}, and Schoenberg's Op.6, nos.1 ("Traumleben") and 7 ("Lockung") and Op.8, no.5 ("Voll jener Susse").} According to Lewis, pieces that use a double-tonic complex exhibit the following four characteristics: they exploit common or ambiguous harmonic functions; they prolong two tonics in alternation or succession; they use one tonic to resolve the dominant of the other and they superpose lines or textures implying one tonic upon those implying the other.\footnote{Lewis, "Mirrors and Metaphors," p.40.} The background structure of a piece employing a double-tonic complex entails an irreducible conflict between these two tonalities, and not the
Schenkerian Ursatz. This conflict also affects the foreground because it allows certain
dissonant chords, which result from the simultaneous statement of both tonic chords, to act
as a resolution at cadences and, therefore, to be understood as essential structural
elements. Since either tonic triad may predominate at the beginning or at the end, a
double-tonic piece may begin in one key and end in another.

Hindemith's theory also allows for a hierarchy of tonics. The tonal centers that
are generated from Hindemith's degree-progression (the root succession within a tonal
sphere) – create a second, higher-level degree-progression. This succession of higher-level
tones generates in turn a single, overriding tonality (a "tonal center of a higher order") for
the entire piece. This higher tonic may be juxtaposed with other tonics in the second
degree-progression that either support or compete with it, so a global tonic, like a local
tonal center, might also be weakly defined. Hindemith's theory is a little vague about the
effect of cadence in the second degree-progression (of tonics) and the status of the final
tonic in a piece. Although his theory allows other conditions, Hindemith's examples
suggest that pieces are artistically satisfying if they end with a tonic that is also the
overriding tonic.

1.6.2 The Appropriateness of Existing Theories of Tonality for Copland's Music

Some of the analytical theories cited above are relatively easy to dismiss for the
analysis of Copland's music. On the one hand, certain of the prolongational theories, such
as the pure Schenkerian approach and the double-tonic complex, can be shown to be

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60 Ibid., p.30.
Hindemith also discusses hierarchy in Clavis III, pp.137-145. Neumeyer, op. cit., p.61
63 Hindemith's criteria for the selection of this "global" tonic are the same as those which applied to the
original degree-progression..."Here, too, the tonal center that reappears most often, or that is particularly
strongly supported by its fourth and its fifth, is the most important." Hindemith includes a chart that
describes the minimum number of chords which are necessary to establish a tonal center. Hindemith, Book
I, pp.151 and 136.
64 Ibid., p.151.
inappropriate models for this repertoire. For example, a pure Schenkerian prolongational approach is relatively easy to discount. One reason is that the pcs highlighted by the typical foreground leaps in Copland's themes do not form middleground step-patterns. A representative example of this problem is the registraly disjunct motive that opens the first movement of the Short Symphony (see Example 1.36). This theme successively highlights pcs D and C. We might hear these pcs organized into the middleground step-pattern <D6, C6, B5> from m.6 to R1-4 (beat 3). However, this requires a host of assumptions. We must hear the D-rooted harmony in m.6 to be the dominant of, and therefore directed toward, the G-major triad in m.8, and to hear the middleground step-pattern as a 5-4-3 descent in a G tonal area. This is extremely difficult to hear for three reasons: foreground chord progressions are absent; the chord in m.7, although dissonant, sounds like an arrival; and a prolongational structure does not match what is projected on the surface. We are far more aware of the characteristic ambiguity between D and G tonics that is projected on the surface than a tenuous step-pattern on a prolongational middleground. The inappropriateness of this approach is indicated by the nearly complete lack of conventional Schenkerian analyses of Copland's music in the literature.65

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65The only prolongational analysis of an entire piece by Copland in the analytical literature is Allen Forte's sketch of number 3 of the Four Piano Blues. Forte's analysis shows that a ii7 chord is prolonged. Allen Forte, Contemporary Tone Structures (New York: Bureau of Publications, Teacher's College, Columbia University, 1955), pp.63-73 and 160-166. Hilliard's tonal analysis of the Short Symphony does not include prolongational sketches.
Similarly, the double-tonic complex is an inappropriate model for Copland's music because of the general lack of progressions expressing a single key, let alone two at the same time. The few passages containing multiple concurrent tonal strands do not occupy entire sections or movements but merely individual local phrases. Even there, the conditions for a double-tonic complex fail to obtain. For example, let us inquire whether the first movement of the Short Symphony, which begins in D and ends in C, satisfies the
four conditions Lewis lists for the existence of a double-tonic complex. This movement does not present C and D tonics in alternation or succession (condition 2) because C does not even appear as a tonic until the beginning of the final part of the tripartite form.

Further, C is not heard to "resolve" the dominant of D (condition 3) because A is never followed by C in this movement. Similarly, D does not "resolve" the dominant of C because G is introduced as a tonic so much earlier than D in the form, before we are even made aware that C is important to the tonal structure. Finally, in the rare instances in this movement when there is a bitonal texture, which might satisfy the fourth condition, the tonics involved are not those which begin and end the movement. In fact, the only characteristic of double-tonic pieces which even remotely obtains in Copland's music is the use of certain chords that sound like they fuse two different tonal events as, for example, Copland's numerous quasi-jazz "dominant" chords. Unlike the sonorities cited by Lewis, however, the chords used by Copland usually initiate, and do not conclude, a cadence. Only very rarely is a tonic chord "fused" with the subdominant as, for example, at R6 to R7 and R9 to R10 in "Hoe-Down" of Rodeo. Here, however, the ambiguity between two different roots—D:I and D:IV respectively—does not represent a double-tonic complex because G is not a tonic and because the "fused" sonority initiates a plagal cadence to a D-major triad that is stated melodically in the following phrase (e.g., at R7 and R10, respectively).

Hindemith's theory is also an inappropriate basis for the analysis of Copland's music but for different reasons. Undeniably we can find chord roots in almost every passage from Copland's music, and we can organize a succession of these roots to define a tonic either weakly or strongly.66 Similarly we can derive a global tonic from the degree-

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66Hindemith's theory, as a compositional aid, restricts the ordering of roots in only minimal ways. He suggests four factors which are detrimental to an effective degree-progression: the absence over a long period of the intervals of the fourth and fifth; the melodic interval of the tritone; broken chords of any easily recognized species; chromatic progressions (successions of minor seconds) and the obscuring of tones in a degree-progression by elaborate melodic treatment. Hindemith claims that virtually any succession can be used to generate a tonic. The difference between these successions is the strength of the tonic which is
progression that is created by the tonic succession. What we lose in using Hindemith's procedure is our awareness of specific relationships between the collections of successive tonics. We also lose the richness of tonal allusion in individual tonal areas that results from Copland's motivic structure, which occasionally makes the roots of certain chords seem ambiguous or not present at all.\textsuperscript{67} Copland's tonal areas are also often clouded by an ambiguity between IC5-related tonic pcs. This type of ambiguity, which is particularly striking in transitional passages, can persist throughout most of a piece, for example, \textit{Quiet City}, as we shall see.

On the other hand, there are some extensions of prolongational theory that are much more difficult to dismiss. For example, it is hard to dismiss the type of approach adopted by authors such as Salzer, particularly without performing an exhaustive study of prolongation in Copland's music, because they do describe some important structural aspects of Copland's music. However, it is possible to show that, at least with regard to the ending of the first movement of the \textit{Piano Sonata}, Salzer's prolongational approach misrepresents the tonic succession on the surface of the music and thus distorts the function of that succession.\textsuperscript{68} Salzer loses sight of the surface tonic succession when he seeks to describe the entire passage as organized around a "dominant polychord" – \{F2, Ab2, Bb3, Db4, C5, F5\} – which fuses the dominant and tonic chords.\textsuperscript{69} In thus organizing his sketch around a dominant-tonic axis, Salzer ignores the local tonic of mm.210ff., which is Db. The prolongation of this polychord is severely weakened when, after being

\textsuperscript{67}One instance of a chord root becoming ambiguous occurs in m.5 of \textit{Quiet City}: overlapping versions of the pc-set [02.5], which are stated in different voices, make it unclear whether the root of the chord \{Bb2, C4, D4, G5, F6\} is G or Bb. One instance of successive chord roots disappearing can be found in R48 of Example 1.11: the potential D and G roots in this measure disappear because of the concurrent emphasis on melodic step-motion in all voices.


\textsuperscript{69}Baker argues that Salzer effectively interprets this passage as a prolongation of a simple triad because of Salzer's statement that "the chord built on the bass will always be the stronger one, and it is the bass and its chord which will determine the chord grammatical status of the whole chord cluster." Baker, "Schenkerian Analysis," p.156, and Salzer, Vol. 1, pp.192-193.
emphasized so strongly in the bass in mm.197-209, the dyad \{F, Ab\} disappears at m.210 just when Db is established. Salzer is correct in identifying that pcs F and Ab are important to the passage. However, there are more compelling ways of hearing their function. Copland emphasizes them as being common to the collections that support the Db and Bb tonics in mm.210ff. and 237ff. respectively. Pcs F and Ab are accented in the lowest voices near the end of the Db tonal area in the concluding gesture of a bass arpeggiation of the Db-major triad. These pcs are then clearly heard as the fifth and (lowered) seventh scale-degrees at the beginning of the subsequent Bb tonal area. The surface tonic succession <Db, Bb> therefore focuses our attention on the new scale-degree functions that pcs F and Ab acquire. This is a more immediate connective role for pcs F and Ab in the tonal structure than the somewhat abstract functional prolongational role proposed by Salzer.

1.7 A New Theory of Tonal Function

Since theories of functional tonality do not satisfactorily or reliably relate tonic succession to form in Copland's music, this dissertation will explore how tonics create functional distinctions among pitch classes, distinctions that are essential to form. On one hand, tonics can bring out similarities between pc collections by emphasizing the same scale-degree function in analogous places in the form, such as at the beginnings of sections. Successive tonics, on the other hand, can differentiate pcs that are common to successive collections by giving them different scale-degree functions.

The role of shared pcs in Copland's music is obvious and compelling. Numerous examples can be found where a significant reduction in texture isolates a pc that is common to the collections of successive tonics and, thereby, creates a surface connection between tonal areas that are otherwise unrelated. One example of this characteristic technique can be found at R22 to R23 in "Buckaroo Holiday" from *Rodeo* (see Example 1.37). At R23 D succeeds Db as the tonic. We know that R23 initiates a D tonic because it is a transposition
of the folk-song ("If he'd be a buckaroo by his trade") used in this section. The shift from Db to D is accomplished by the reinterpretation of pc Gb from Db:4 to D:3. What is characteristic about this connection is the change in texture, which isolates pc Gb from the accented Db:"IV" harmony and then sustains it before introducing a new collection and tonic.70

As we shall see, emphasis of common pcs permeates every aspect of form in Copland's music. This suggests that a much different view of the formal function of tonics should be considered in analyzing it. Tonics are a way of making scale-degree distinctions

70The introduction of the new collection at R23 is crucial in our perception of a shift to a D tonic at this point because otherwise we would hear pc A in terms of Db:IV. The importance of collections to the tonal shift here is reminiscent of a similar process which William Benjamin finds in the first movement of Stravinsky's *Concerto for Piano and Wind Instruments*. Benjamin, "Tonality Without Fifths," pp.63-69.
between different members in the referential collection. The function of tonics is to make
apparent the new meanings that emphasized pcs acquire over the course of a piece and to
emphasize the commonality between successive collections. This function of tonics is
consistent with the nature of Copland's themes and transitions and the special types of tonal
ambiguities that arise.71

1.7.1 Copland's Motivic and Thematic Designs

Copland's motivic and thematic designs are set up to project continuously one or
more emphasized pcs, instead of creating linear progressions as in more traditional tonal
music. Across the transition between two successive tonal areas, certain pcs common to
the two collections are emphasized by agogic accents in an outer voice, or by placement
within an important motive. Occasionally this agogic emphasis arises from simply
sustaining the pcs. In Example 1.38 pc E, sustained at the end of an A tonal area, is still
sounding when the next tonic, Bb, is melodically generated. This makes us focus on the
changing scale-degree function of pc E from A:5 to Bb:4. Quite often the pc we hear as
common is present throughout the first tonal area. For example, in Example 1.39 F#, the
most prominent pc in the bass in the E tonal area at R9-3ff., is later sustained in the highest
voice at R9+3 when C# replaces E as the tonic. This makes us focus on the changing
scale-degree function of pc F# from E:2 to C#:4. However, unlike Example 1.38, we also
focus on the changing scale-degree function of a second pc, G#, because that pc is
sustained together with F#.

71This definition of tonality suggests another broader aspect of consistency in Copland's music – an artistic
approach where methods of composition are incorporated only in Copland's own terms. For example,
Copland adapts tonality to his own purposes – to emphasize the foreground connections between successive
tonics – in much the same way as he apparently adapts a simpler version of the twelve-tone method much
later in his career. With regard to the latter Copland has said that he was "interested in the simple outlines
of the theory, and in adapting them to my own purposes." Cone, op. cit., p.68.
Example 1.38 Sustaining a Pc When the Tonic Changes
S.S., I, $3^{+2ff.}$

Tonic: A

Example 1.39 Sustaining Two Pcs when the Tonic changes
S.S., I, $9^{1-3ff.}$

Tonic: E

pc F# prominent in the bass

Tonic: C#

pcs F# and G# sustained

pc F# as E: $\hat{2} \rightarrow C#; \hat{4}$

pc G# as E: $\hat{3} \rightarrow C#; \hat{5}$
The common pcs can be associated with a motive in the soprano, or the bass, or an entire accompanimental pattern that continues from one tonal area to the next. A continuation of a motive in the soprano can be seen in Example 1.40. Here a simple two-note motive – \( <B_5, A_5> \) – ending a D tonal area is continued while the tonic changes to A.\(^7\) Maintaining this motive as the tonic changes underlines the changes in scale-degree function of pcs B and A respectively from 6 and 5 to 2 and 1. Although this motive is initially obscured (mm.175-178) because pc A sounds together with pc B above it, the motive returns in its original rhythmic setting at m.179. A continuation of a motive in the bass can be seen in Example 1.41. The last pc – B – of the motivic fragment in the bass \( <B_{#1(2)}, G_{#2(3)}, B_{1(2)}> \) acquires an unexpected meaning when it is repeated two measures later. B is no longer heard as the bass pitch of a tonic C# minor-minor seventh chord but, rather, as the root of E:V. This makes us focus on the changing scale-degree function of the pc B from C#:\( \hat{7} \) to E:5. The shifting of scale-degree function when an entire accompanimental pattern is maintained from one tonal area to the next can be seen in Example 1.42. The accompanimental pattern established at the end of an F tonal area, \( <F_{3(4)}, E_{4(5)}, G_{4(5)}> \), is maintained while the tonic shifts to C. This makes us focus on the changing scale-degree functions of pcs G, F and E respectively from \( \hat{2} \), \( \hat{1} \) and \( \hat{7} \) to \( \hat{5} \), \( \hat{4} \) and \( \hat{3} \).

\(^7\)We are predisposed to hear a D tonic at the beginning of this excerpt because of preconditioning – D was the tonic the last time this material was heard (mm.133ff.). See below, pp.234-237.
Example 1.40 Continuation of a Motive in the Soprano
P.S., 1, mm.171ff.

Example 1.41 Continuation of a Motive in the Bass
S.S., 1, 10ff.
Examples 1.37-1.42 have shown some rhythmic ways that Copland emphasizes one or more pcs as common to the collections of successive tonics. The emphasis on these pcs make us perceive each as a "primary connector," by which we mean the most notable pc that connects two tonics. (We will later refer to these changes of scale-degree function as primary streams of pc continuity.) However, there are other ways in which Copland establishes a pc as the primary connector between the collections of successive tonics. One of these involves setting up a conflict between the primary connector and another pc previously defined as the same scale-degree (chromatic opposition). Another involves making the pc connector a chord-factor of a sonority that does not function locally within a progression. Both processes occur in Example 1.43 to establish as primary connector the pc F, one tone of the recurrent dyad {F, Ab} that is prominent in both the D and G tonics (i.e., R2-1, R2, and R2+2). Conflict of scale-degree function occurs at R1+5 when pc F
is heard as the minor third scale-degree of D in a melodic motive after pc F# was previously defined in R1+1 as the major third scale-degree. Pc F is then emphasized at R2+2 in the following G tonal area as the root of a minor triad that does not function locally in a progression. Indeed, the triad makes F the strongest root that is heard in the entire G tonal area. These techniques help us to keep pc F in our ears and emphasize its changing scale-degree function from D: $\hat{3}$ to G: $\hat{7}$.

Common pcs are also often established as primary connectors in Copland's music by an overlap between two successive tonal areas. Overlaps occur when the precise timepoint of change from one tonic to the next is obscured; they normally result when a cadence makes us retrospectively reinterpret ambiguous harmonies. Example 1.44 shows a passage where ambiguous chord functions in R31-4 to R31 obscure the exact beginning of the Ab tonal area that succeeds the initial F. Pcs C, Eb, and F are all common to the collections of the Ab and F tonics. Pc C is particularly striking as a common tone between F and Ab because C5 is sustained in the highest voice in both tonal areas in Example 1.44 (i.e., at R30+3, [R31-3] and R31+2). However, pcs C, Eb and F are also emphasized by agogic and metrical accents in the outer voices during the period of overlap. This accentuation makes their connective role between the F and Ab tonics in Example 1.44 – the ways pcs C, Eb and F change scale-degree functions respectively from $\hat{5}$, $b\hat{7}$ and $\hat{1}$ to $\hat{3}$, $\hat{5}$ and $\hat{6}$ – more readily apparent.

---

73 The bass F in R2+2 is also emphasized by the rhythm (i.e., it receives a metrical accent and is followed by a rest) and by the tritone leap (to pc B), an interval that seldom occurs between successive notes in Copland's melodic lines. We also hear pc F as a common pc to the D and G tonics because it is consistently paired with pc Ab in both tonal areas.

74 Example 1.44 begins in the middle of the F tonal area. The ambiguous chord functions which obscure the beginning of the Ab tonic are discussed below on p.141.
Example 1.43 Emphasizing a Pc by a Chromatic Opposition and by Strong Root Definition

S.S., I, ff.

Tonic: D
pc F# as D: ³ → D: k³

conflict of scale-degree function

Tonic: G

pc F as G: k⁷
pc F as root of a minor triad
strongest root in G
Example 1.44 Overlapping Tonal Areas

**Tonic:** F pc C as F: $\hat{5}$

**Tonic:** Ab

- pc Eb as F: $v^7$  \rightarrow  Ab: $\hat{5}$
- pc C as F: $\hat{5}$  \rightarrow  Ab: $\hat{4}$
- pc F as F: $\hat{1}$  \rightarrow  Ab: $\hat{6}$

period of overlap between F and Ab tonics
On a few rare occasions Copland emphasizes a common pc by placing it in only a single strand of a bitonal texture that succeeds, or is succeeded by, another tonal area with a single tonic. Example 1.45 shows a passage where an A tonal area is succeeded by a simple bitonal C/C# texture that is generated by transposing the bass line of an essentially C-major texture up a semitone. Because pc B is so heavily accented (by dynamics, metrical placement and duration) in R44-3 to R44+1 it is relatively easy to hear it as a connective pc between the different tonal areas in Example 1.45. However, the change in scale-degree function of pc B from A: 2 to C: 7 at R44 is made even more striking because B is not present in the (low register) C# strand of the bitonal C/C# texture that follows the A tonal area.

Example 1.45 Common Pc Constrained to one strand of a Bitonal Texture

B.K., 44-4ff.

Tonic: A, pc B as A: 2

bitonal texture

→ pc B as C: 7
Under very special circumstances in Copland's music we can hear pc connections between tonics that are separated by another tonal area. This invariably involves special types of preconditioning. Example 1.46 shows a passage with three tonal areas – A (R46-3ff.), Eb (R46ff.) and C/C# (R46+4ff.). We can hear a clear pc connection, the recurrent dyad \{C, C#\}, between A and C/C#. That is, we can hear pcs C and C# change scale-degree functions respectively from 3 and 3 at R46-3 to 1 in the C tonal strand and 1 in the C# tonal strand of the bitonal texture at R46+4. This connection is only possible because of preconditioning induced by the larger context: Example 1.46 is an excerpt from a rondo form where the "A" material recurs in the C/C# bitonal texture and where subsequent contrasting sections, at least in the beginning of the form, have A tonics. This leads us to expect the C/C# bitonal texture at R46, when the contrasting material of the A tonal area has finished. The Eb tonal area also sounds like an interpolation because the material it states was previously heard (at R42ff.) in C/C#. Obviously, the interpolation of Eb between the A and C/C# tonal areas generates separate pc connectors between A and Eb, and between Eb and C/C# respectively. However, the connective pcs between the A and C/C# tonal areas are not completely overshadowed by the new connective pcs generated by Eb: we can easily hear pc C as a common tone to the collections of all three tonics in Example 1.46, that is, we hear pc C change scale-degree function from 3 to 1.
Example 1.46 Interpolated Tonic

B.K., \[46\]-3ff.

8va-

Tonic: A
pc C# as A: \( \hat{3} \) pc C as A: \( \hat{b}3 \)

[Interpolated Eb tonic] pc C as Eb: \( \hat{6} \)

C bitemodal texture pc C as C: \( \hat{1} \) pc C# as C#: \( \hat{1} \)
1.8 Summary

A tonic establishes distinct scale-degree functions for every pc in the referential collection. As tonics change, so do the scale-degree functions of each pc. In tonal music, these changes of scale-degree function are not particularly important when we hear the tonics functioning hierarchically to prolong a global key. But in Copland's music, which lacks such a prolongational hierarchy of tonics, such changes are crucial to form. Indeed, Copland usually emphasizes changing scale-degree function. These common pcs are characteristically emphasized within Copland's thematic and motivic structures by accents in prominent voices (i.e., outer voices, or the most rhythmically active lines) or by attaching a specific (melodic) behavior to a common pc. Common pcs are particularly obvious in passages of Copland's music where functional progressions are absent. One of Copland's favorite textural devices – a reduction in texture to a single pc – is particularly important in establishing common pcs.

The resulting changes of pc scale-degree functions created by particular tonal successions reveal interesting continuities and a formal patterning that is not obvious using conventional analytical methods. Four basic patterns emerge from an analysis of these changes: a repeated focus upon a particular pc at important moments in the form; a repetition of a succession of scale-degree functions on different pcs; a continued emphasis on a particular scale-degree function at the beginning of sections; and a repetition of an ordered series of focal pcs particularly at the ends of related sections. Quite often these patterns will reinforce aspects of the thematic form.
Chapter 2

Analytical Conventions

2.1 Introduction

In the last chapter we saw how common pcs are emphasized in Copland's thematic and motivic structures. The present chapter introduces the symbols that are used in the following analyses to represent characteristic features of connection between successive tonics in Copland's music. It also presents a brief analysis of a larger passage as a simple introduction to the analytical techniques that are applied in the analyses of Chapters 3-6.

2.2 Symbols Used in Pc Continuity Graphs

The following analyses will take the form of a graph of twelve lines showing how the twelve pcs are given various scale-degree functions as they connect successive tonal areas within the music in question. This will be called a "pc continuity graph." Each line lists the changing scale-degree functions of the respective pc connectors as a series of "streams." Scale-degree functions are only listed for the pc if it is emphasized as a connector at that point in the music; mere membership in successive diatonic collections is not sufficient to establish a pc as a connector. That is, an emphasized connective pc is represented on a graph by successive scale-degree figures appearing on top of a horizontal line, which indicates the period of time in which the pc can be said to be active in a stream. Special symbols demarcate and identify the nature of these streams. The symbol —, occurring at the end of the horizontal line, marks the termination of a stream, that is, the point at which the corresponding pc stops functioning as a connector in the music. The symbols P and S identify pcs as primary and secondary pc connectors, respectively, between collections of successive tonics. We ascribe primary or secondary status to a pc connector based on the emphasis it receives in the context: primary connective pcs almost
always appear in outer voices and are emphasized by agonic accents, or by placement within an important motive; secondary connective pcs, while emphasized as common pcs, are not as prominent as the primary connective pcs in the passage. Because the analysis is designed to identify streams of continuity, every change of tonic is shown to be supported by at least one primary connector.

It is possible to have multiple simultaneous primary streams that connect two successive tonics. These streams may be generated in the context by accents and other forms of emphasis on pcs that are not consistently associated with one another in successive tonal areas. We will call these unrelated simultaneous pc streams. However, the pcs these streams represent may be related to one another in the context because they participate in a recurrent dyad or trichord that is common to both tonal areas (e.g., the \{F, Ab\} dyad in Example 1.43), or because they are members of a motive that continues from one tonal area to the next (e.g., the \<B, A\> motive in Example 1.40). Pc connectors related by a recurrent dyad or trichord will be represented in analyses by connecting the respective pc streams by a vertical line with the symbol "I" (an abbreviation for interval); pc connectors related by a continuing motive (abbreviated as "M") will be represented in analyses by connecting the respective pc streams by a vertical line with the symbol "Mn" where "n" represents the number of a specific motive that is identified elsewhere. Because pcs related by a recurrent dyad or a continuing motive are never equally emphasized in the context analyses will rank these connective pcs according to their relative prominence, that is, a graph will show the most prominent connective pc as P1, the next most prominent connective pc as P2, etc.

1 All of the pcs which are noted with regard to Examples 1.37-1.46 would have their changes in scale-degree function shown in primary streams in a pc continuity graph.

2 I have used an abbreviation for interval — "I" — for streams that are generated from recurrent dyads and trichords because it creates less new terminology (i.e., it allows the use of one symbol in place of two — the separate abbreviations "D" and "T" for dyad and trichord respectively), and because it reinforces the similarity of the technique that generates these streams.
Figures 2.1 and 2.2, which analyze the primary connective pcs of Examples 1.39 and 1.40, demonstrate how pc streams related by a continuing motive or by a recurrent dyad respectively would appear in a pc continuity graph. These related streams are ranked.

In Figure 2.1 pc B is identified as the more important of the two connective pcs (and therefore labeled "P1" in the graph) because B5 is the highest pitch in the first four measures of the A tonic (mm.175-178); the label "M1" on the vertical lines connecting pcs B and A indicates that they belong to a motive that is present at both mm.171, in the D tonal area, and 175, in the A tonal area. In Figure 2.2 pc F# is identified as the more important of the two connective pcs (and therefore labeled "P1" in the graph) because pc F# is strongly emphasized in the bass in R9-4 to R9 and because it is the highest pc of the dyad that is sustained when the tonic changes: the label "I" on the vertical lines connecting pcs G# and F# indicates that they belong to a dyad that sounds at the ending and beginning respectively of the E and C# tonal areas. Figure 2.2 also demonstrates an additional symbol – brackets above and below successive scale-degree figures. This symbol is used to indicate that the enclosed pc(s) are sustained when the tonic changes.3

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3By *sustained* we mean a pc that is held over a tonal shift either literally, by use of a tie, or figuratively, by re-articulation or a very short rest (i.e., with a duration of one or two eighth-notes).
Other special symbols will be used in the analyses to represent differing degrees and types of connection between successive tonics. The first two of these – arrows and chromatic opposition boxes – result from characteristics of referential collections in Copland's music. Arrows toward or away from a scale-degree figure for a given pc shows the nearby presence of another pc in the music performing the same scale-degree function. Boxes around two simultaneous representations of a scale-degree figure for a specific tonic indicate that the referential collection of that tonic incorporates a chromatic opposition between two of its pcs, that is, that two collectional pcs perform the same scale-degree function. Figure 2.3, which is an analysis of the primary connective pcs in Example 1.13, includes an arrow and a chromatic opposition box. In Example 1.13 related primary streams are generated on pcs Eb and B because the dyad \{B3, D#5\} is emphasized in chords in the B and Ab tonal areas (i.e., at R41+4 to R41+6 and R42 respectively). (Pc Eb, labeled as P1, is considerably more prominent than pc B because it is sustained in the highest voice in both tonal areas.) The arrow in Figure 2.3 indicates that pc C is heard as the third scale-degree of Ab before pc Cb; the chromatic opposition box in Figure 2.3 indicates that both pcs Cb and C belong to the referential collection of Ab where they function as opposite representatives of the third scale-degree.\(^4\)

\(^4\)The chromatic opposition between pcs Cb and C in the referential collection of this Ab tonic was discussed earlier in connection with Example 1.1. See above, pp.8-9.
Overlapping phrase marks (the symbols \( \backslash < \)) are used to reflect overlaps between successive tonal areas, when the connective pcs are momentarily heard as having two different scale-degree functions simultaneously. Figure 2.4 graphs the primary connective pcs (Eb, F, and C) that were discussed with regard to Example 1.44. The overlap marks in each of the three pc streams at R31-3 show their ambiguity of function. For example, pc F sounds at that point both as F:1 and Ab:6. Notice also that the pc stream on Eb begins later than the others because it is not present from R30+3 to R31.
Square brackets that do not contain a scale-degree figure are used to indicate the lack of a scale-degree function. They are used only when the texture is divided into two separate strands that have different tonics and when a connective pc belongs to the referential collection of only one strand. Square brackets are used in Figure 2.5, which graphs the primary connective pc (B) that was discussed in connection with Example 1.45. In Figure 2.5 pc B is described as $C^7/C^#:| |$ or $C^7/| |$ in the bitonal texture because its absence in the low register suggests that it belongs only to the referential collection of C.

A dotted line in a pc stream indicates that the stream is temporarily suspended either because it is (briefly) displaced by another pc that has the same scale-degree function, or because a collection that does not contain that pc generates interrupting streams. The latter condition obtains only when preconditioning makes us hear the passage in a particular manner, as discussed above in connection with Example 1.46. A dotted line is used in Figure 2.6, which graphs the related primary streams on pcs C and C# present in Example 1.46. The stream on pc C# is suspended when the Eb tonic enters because pc C# does not belong to the Eb referential collection.

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5Because these strands are created by a specific registration of pcs I will consider only those pcs that are literally present in a given register to be members of the referential collection of the corresponding strand.
2.3 Sample Analysis of a Larger Passage

Figures 2.1-2.6 above show incomplete analyses of the pc-scale-degree design of short passages containing a single shift in tonic. Figure 2.7 gives an analysis of a larger passage, shown in Example 2.1, where the tonic changes three times. That passage contains a series of successive transpositions of the melody in R44+1 to R44+4. Because the first tonic is melodically generated all of the subsequent tonics in this passage are also melodically generated. At R46-1, G# is expected. However, a change in the bass leads to a melodic generation of C# as tonic. The final tonics, E and C# respectively, are notated as overlapped because it only becomes clear retrospectively that R46-1 initiates a shift in the tonic. The resulting pc-scale-degree design in Figure 2.7 is very simple. At each point where the texture changes, one pc common to both major-scale collections changes scale-degree function. This pc starts each new transposition: pc C in R44+5, pc E in R45, and pc G# in R46-1.
Example 2.1: Pe Continuity Structure of a Larger Passage

Tonic: Ab

Tonic: C

Tonic: E

Tonic: E

Tonic: C#
Figure 2.7, like Figures 2.1-2.6, omits references to the thematic design of the piece because it is a very short excerpt. In the following chapters, graphs of entire movements or pieces will include a comprehensive summary of the thematic design in separate lines between lines indicating measure numbers and tonics.

<table>
<thead>
<tr>
<th>Figure 2.7 (Analysis of Example 2.1)</th>
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<td>Complete Pc Continuity Graph of a Larger Passage</td>
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Figure 2.7

Complete Pc Continuity Graph of a Larger Passage

Ab
Bb
A
Ab
G
F#
F
E
Eb
D
Db
C

R: 44 +5 45 46 .1
Tonics: Ab C E E C#

B
Bb
A
Ab
G
F#
F
E
Eb
D
Db
C

P^3 3 5
P^3 1
P^3 1
2.4 Order of Appearance of Primary Connective Pcs in Pc Continuity Graphs

Graphic analyses simplify the foreground of the music to a degree because they do not represent the precise timepoints where a pc is emphasized within a given passage. For example, in a passage of music that contains three tonal areas the pc streams that connect the first two areas will be presented in entirety in a graph before the pc streams that connect the second and third areas are begun. However, this representation often does not correspond to the way the pcs are emphasized in the second tonal area: frequently the pc(s) that connect the second and third tonics are emphasized before the pc(s) that connect the first tonic to the second. This approach was chosen because it made the connective function of pc streams (particularly simultaneous primary streams that are related by a recurrent dyad or a continuing motive) much clearer, and because the exact time of emphasis of connective pcs is not germane to the types of analytical conclusions we will draw.

2.5 Format of the Following Analytical Discussions

The next four chapters present analyses of four pieces: Quiet City; Billy the Kid; the first movement of the Short Symphony; and the first movement of the Piano Sonata. These pieces are fairly representative of techniques in Copland's "popular" and "serious" styles.

Each analysis begins with an overview of the thematic and harmonic form, then proceeds to a pc continuity graph. Due to copyright restrictions, the scores cannot be included here. It is assumed that the reader will have the scores at hand.

A conclusion chapter following these analyses will draw together observations to show the essential unity of style between Copland's "popular" and "serious" music.

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6 A clear example of this can be found in the streams that begin the pc-scale-degree design of the first movement of the Short Symphony. For example, the recurrent (F, Ab) dyad that connects the G and A tonics (at R2+1ff. and R2+4ff. respectively) is emphasized two measures after the pc (E) which connects the A tonic to the subsequent Bb tonic at R4. See below, p.199.
Chapter 3

Quiet City

3.1 Form

The form and tonal structure of Quiet City are shown in Figure 3.1. A summary of the thematic content is included in Figure 3.1 because it is relevant to the form. The motives composing those themes are shown in Example 3.1. Subsections with the same label have material related by \( T_0 \), except as noted in Table 3.1.

Example 3.1 Summary of Thematic Content in Quiet City

Motive 1 (m.1ff.)

Motive 2 \( ([1]+1ff.) \)

Motive 3 \( ([3] ff.) \)

Motive 4 \( ([5]-1ff.) \)

Motive 5 \( ([7]+1ff.) \)

Motive 6 \( ([9]+1ff.) \)

Motive 7 \( ([10]-4ff.) \)

Formal divisions in Quiet City are determined by changes in texture, tempo, and thematic material. However, unlike more traditional music, the changes in these parameters do not always reinforce each other, so the unity of parts is not always clear. At R5-1, for
Figure 3.1 Summary of Thematic and Tonal Designs in *Quiet City*

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<tr>
<td>Tonics:</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F</td>
<td></td>
</tr>
</tbody>
</table>

**Table 3.1 Summary of Tn-Related Passages**

**Sections**

b4 | T1b

c4 | T1c3

e1 | T2e (melody)
c7 | T1c3 (melody)

38
example, a new (chordal) motive is introduced, but there is no change in texture, as a single
melodic line punctuated by sustained chords continues. The lack of textural contrast
suggests that the passage is a continuation of the second part of the piece. Similarly, the
persistence of a bass motive at R12 suggests that the following material, which
recapitulates material from part A, continues C.

The resultant formal structure in Figure 3.1 is unusual. In six parts, *Quiet City* is
comprised of an Introduction and Coda that flank a set of variations which, in turn, frame
two contrasting sections, B followed by C. All parts except A1 subdivide into two
sections. However, the changing relationship between sections differentiates the parts of
the form: sections within the Introduction, Coda and part A are related by variation, but
sections in the other parts of the piece are contrasting. A similar differentiation of the parts
of the form results from the relationships between successive subsections: in the
Introduction and Coda these are contrasting, but in all other parts these employ variation.

Figure 3.1 shows how the formal functions of variations of section b change during
the course of the piece. Reprises of this section do not have the same thematic weight as
the original. Rather, they function as transitions at the end of parts B and C. For example,
the material in R9-6ff. is a variation of the material (c4) that ends part A in R6+3ff., yet it
acts as a transitional passage between parts B and C. Similarly, the material at R12 is
thematically related to that of R9-6, but it too fulfills a transitional role as the preparation for
the material in R14ff. At R14 section b regains its thematic status when the original melody
of R3, transposed up a semitone, begins part A1. At the same time, part A1 restores the
clear successive variational process of part A, which was negated in parts B and C when
contrasting thematic elements entered.

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1 After this new triadic motive, the trumpet plays a transposition of an earlier motive (R3+2), so the
motivic integrity of part A is maintained.
The use of the same material at R6+3 and R9-6ff. reinforces a textural parallelism that obtains between the beginnings of every part in the form: each beginning expands texturally from a single note. So the variations of the section b material, which link parts A, B, C and A1, also share an opening textural gesture (an expansion from a single note) with the otherwise contrasting Introduction and Coda. This helps, along with the recurring Eb tonic, to establish an underlying unity between the somewhat disparate parts of the piece. Other elements, which will be discussed later under "Pc Continuity," confirm this unity in different ways.

The unusual formal structure revealed in Figure 3.1 probably has its origin in the fact that *Quiet City* originated as incidental music for an experimental play of the same name by Irwin Shaw. Copland conceived the trumpet part in *Quiet City* to represent the central character of that play, a trumpeter named David Mellnikoff. According to Copland this character "imagines the night thoughts" of many different people in a large city and plays his trumpet to "express his emotions and arouse the consciences of the other characters and of the audience." In the same passage Copland said that he wrote the music to reflect the "inner distress" of Mellnikoff, citing as an example the "nervous, mysterious" qualitative indication which characterizes the trumpet's first entrance in R1+1. The episodic dramatic structure of the play accounts for a musical form that uses many themes connected by a single, recurrent, melody which remains in one tonic. Unfortunately, the script of the play is unavailable so we can not specify an exact correspondence between Shaw's play and Copland's music. However, we might surmise that the musical form of *Quiet City*

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parallels the shifting focus in Shaw's play between the "night thoughts" of Mellnikoff and the other characters in the play. From this perspective, the characteristic textural device that unifies the beginnings of all the parts of the piece could be interpreted as another musical metaphor (besides the recurrent melody) for the "night thoughts" of Mellnikoff that similarly guide the drama of Shaw's play.

The formal correspondences surmised above are emphatically supported by the orchestration of the first two (non-successive) variations of section b – sections b1 and b2 – in that the main melodic line of b1 and b2 is stated by the trumpet. The orchestration of this material changes in R12 when the strings, and not the trumpet, carry the same melody. The accompaniment of this melody by the bass line of the previous theme might indicate that Mellnikoff's "night thoughts" are influenced by his environment and by the dreams of others as might be represented by the contrasting melody in section d.

3.2 Tonality

Tonic pcs in Quiet City are often obscured by the simultaneous tonicization of pcs a fourth above or below (i.e., pcs that are IC5-related). Such conflict is particularly evident in transitional sections, as, for example, in section b1 (R5-1ff.). Sometimes this ambiguity is generated in a passage because the expected resolution of a familiar harmony, for example, a major-minor seventh chord, is negated at the end of a tonal area by an unexpected pc collection. For example, at R9-6 the Eb tonic is challenged by a Bb tonic when the crucial seventh of the Bb seven-four chord, pc Ab, is succeeded by pc A. In the areas of conflict between IC5-related tonic pcs, the analysis in Figure 3.1 chooses the pc that is emphasized over most of the tonal area to be the tonic of the passage.

The problem of tonic identification is compounded by the preponderance of the pc set-type [0,2,5] both melodically and embedded within chords. For instance, the opening

4Section b is different from sections b1 and b2 because the melody is orchestrated for the English Horn (or Oboe).
of the work is permeated with representatives of this set: the Viola line \(<C_4, F_4, D_4>\) in mm.1-3; the characteristic verticality \(<D_4, G_5, F_6>\) in m.4; the cello line \(<F_3, Bb_2, G_2>\) in mm.3-7; and the vertical trichords \(<G_2, Bb_2, C_4>\) and \(<C_4, D_4, F_6>\) in m.5. The embedding of several different versions of this set sometimes makes it difficult to hear single roots, because these different versions usually have different fifths and, therefore, imply different roots. For example, it is unclear whether the root of the chord sustained in mm.3-5 is G or Bb. The transposition of entire chords, themselves composed of overlapping forms of \([0,2,5]\), sometimes directs entire passages as, for example, in R2 to R2+5. This transformational process obscures the chord roots in these measures.

3.2.1 Introduction

The opening tonal area is characterized by an ambiguity between C and F. The insistent emphasis on pc C, which is reinforced by the cadence to an octave-tripled pc C at R1, initially draws our attention away from the F tonic that eventually emerges as superior. F is suggested as a tonic when the second note of the opening interval \(<C_4, F_4>\) becomes the bass tone of the sonority \(<F_4(5), C_6>\) in m.2, making pc F the first and strongest chord root of the entire first section, and by the diatonic collection \(<F, G, Bb, C, D>\), which is a subset of the F-major collection. The transformation of this opening interval into an ostinato in the first violin, which is repeated over the entire first phrase, suggests we hear the cadential C chord root at R1 as F:V. This suggestion is confirmed when the subsequent introduction of a minor seventh in the trumpet theme (the "nervous, mysterious" theme that Copland cites) above a sustained C4 suggests F:V7. Our perception of C as F:V is further strengthened in the subsequent trumpet cadenza when a single statement of pc B, the leading tone of C, is immediately followed by Bb, the same pc which inflected the C chord root toward an F tonic in R1+1ff. C persists as a chord root in the first chord of the next section, \(<C_4, D_4, Bb_4, C_5, F_5, C_6>\) in R2, because the tripling of pc C disposes the listener to hear a dominant-ninth chord with a suspended fourth.
However, despite this emphasis on C as a root from R1 to R2, the climactic F root of R3-6 is not prepared by a descending-fifth root motion. Instead the pcs from the chord at R2 are rearranged at R2+1 such that Bb, and not C, is generated as the root (see Example 3.2a). This change in the chord root is made more obvious because the pcs in the pizzicato bass motive of R1-3 (<Bb3, D1(2), G3, F1(2)> are reordered in R2+1ff. to form a Bb-major triad in the first three notes (<D1(2), Bb3, F1(2), G3>). All but one of the pitches in R2+1 to R2+2 are then transposed down a major third in the next two measures. This is shown in Example 3.2a by an arrow labeled "T₈" connecting the blocks. It is difficult to assign a root to the resulting chord {Gb3, Ab3, Db4, Eb5, Db6}, at least in R2+3, because of a conflict between the T₈ transposition and the intervallic structure. The transposition leads us to expect an Eb root for this chord but its intervallic structure simultaneously suggests Gb as a root. However, when pc Gb moves as a passing tone to pc Ab in the cello our perception of the root of this chord is fundamentally changed. We gravitate toward Bb as the root because the first three notes of the pizzicato bass motive <Bb1(2), Ab3, Db2(3), Eb2(3)> form an incomplete Bb minor-minor seventh chord. Thus, although Bb is clouded at R2+3 it is effectively sustained as a root from R2 to R2+4. The subsequent plagal resolution to the F root in R2+5 is reinforced by the <F6, Db6, F6> motion in the first violin. The net result of the T₈ transposition is a contrast between the major and minor mode representations of the subdominant of F. This modal contrast in the Introduction foreshadows the harmonic structure in the following part A, which shows a similar contrast between IV and iv.
Example 3.2

a) Root Succession in \[ \{1\}+1 \text{ to } \{2\}+5 \]

b) Step-Descent in \[ \{2\} \text{ to } \{3\} \]

The restatement of the "nervous" sixteenth-note motive above the F root at R2+5 does, however, draw our attention to the shift away from the C root of R1 and thus, at least symbolically, effects the expected dominant-to-tonic resolution. This resolution is facilitated in R2ff. by the incorporation of the same motive into an inner voice of the texture, the English horn. The resulting line, \(<C4, Bb3, A\overline{b}3>\), presents the minor-mode version of the F:\(\hat{5}-4-\hat{3}\) descent that is reprised in R2+5ff. when the trumpet states the major-mode version above the sustained F (see Example 3.2b).

3.2.2 Part A

The ending tone of this descent becomes the first tone of the following melody through an elision. This phrase elision creates a similar elision of tonics, as shown in Figure 3.1, because it introduces a new pc collection. The subsequent D tonic of part A, however, does not become clear until at least R4-2. Initially, the pc collection which is introduced at R3 – \{D, E, F#, G, A, B, C\#\} – seems to be oriented toward a B tonic because the accented B4 in the melody is supported by a B-rooted sonority (a seven-four chord). However, the arrival at R4-2 of the second chord in this section, \{A3, B3, D4,
E4, G4}, reorients the pcs into a D-major collection because it sounds like a dominant seven-four chord in D. The second chord – {A, B, D, E} – registrally inverts the lowest two pcs in the first chord. This recalls the similar transformational relationship between the chords in the first two measures of R2. Example 3.3 summarizes the harmonic progression of R3 to R4+4. It posits a <vi, V, vii6> progression in D.


<table>
<thead>
<tr>
<th>Roots:</th>
<th>B</th>
<th>A</th>
<th>E</th>
<th>B</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>D:</td>
<td>vi</td>
<td>V</td>
<td>iv</td>
<td>i6</td>
<td>ii6</td>
</tr>
</tbody>
</table>

In R5-1 a very strong conflict is initiated between D and G tonics because the chord progression mimics, at a pitch level five semitones higher, the <vi, V> progression that obtains between the first two chords of part A. Example 3.4 summarizes the harmonic progression from R5-1 to R6. The first three chords of R5-1 resemble a contrapuntal expansion of the progression G:<vi, vii6> because of the stepwise bass line and because the top three notes in the first and third chords – {A3, D4, G4} – are identical. This harmony, like that in R3+1, is similarly directed to a sonority that sounds like the dominant seven-four chord of G.
Other elements, outside of the seven-four chord, appear to confirm a shift in tonic. For example, the introduction of pcs F and Bb weakly suggests that D is no longer the tonic because they are not members of the established D-major referential collection. Further, the melodic fragments in the trumpet and first violin around R5-1 are saturated with G-major and -minor triads. This strongly suggests a G tonic.

G is not given sufficient strength, however, to overshadow D as the tonic of the passage because of the emphasis on pc D melodically and as a chord root. For example, D5 and D4 are accented in the trumpet and first violin melodies from R5 to R5+7. In R5+3 pc D is emphasized in the bass because it unexpectedly becomes the first bass tone and only root in the repetition of the chordal gesture from R5-1. The next statement of this gesture (R6-2) transforms it such that the final D-rooted chord, which is crucial to the perception of a G tonic, is replaced by the original dominant seven-four chord of R3+3. The shift in roots from D to A is underlined in R6-2 because A, like D in the preceding statement, is also the first and only root in the gesture. The return of the A root is accompanied by the return of the referential D-major collection from R3 thus weakening any reference to a G tonic. Retrospectively, then, we understand the appearance of pcs F and Bb at R5-1 not as
indicating a change in tonic but, like R2ff. in the preceding F tonal area, as underlining an opposition between D:IV and D:iv.

Because the tonal ambiguity of this passage is difficult to resolve, the following discussion on pc continuity below will include a hypothetical structure which assumes a G tonic as well as D. This will be presented in order to prove that both interpretations contribute to an understanding of the pc-scale-degree design.

The trumpet melody, which heralded the return of the D-major collection in R6-5, is restated in R6+3 transposed up a tone as the introduction to the next subsection. However, the tonal implications of this transposition are denied in the next measure when the melody continues a semitone lower than expected. This not only introduces an unexpected pc collection and tonic but also results in the D tonic being left (at R6+2) on the dominant chord. This establishes an important precedent for the Coda, which is similarly left open-ended.

The next tonal area is also difficult to determine as it seems to be equally poised between Eb and Bb. Eb is strongly suggested melodically in R6+3 because of the T1 relationship to R6-4 and because of the embedding of members of the Eb-major triad within the descending trumpet line. It is suggested harmonically in R6+5 when a truncated version of the chordal gesture of R5-1 ends on a Bb-rooted harmony. However, unlike earlier versions this truncated version is tonally ambiguous because the Bb-rooted chord does not have a minor seventh to strengthen the implication of Eb, and because the root progression <Eb, Bb>, by itself, can be heard as representing either an Eb or a Bb tonic. Eb is, however, suggested by the registration of the Bb-rooted sonority in R6+6: the T1 relationship of the outer voices of this chord to those of the A-rooted sonority in R6 suggests that we hear pc F in R6+6 as Eb: \( \hat{2} \) just as we heard pc E in R6 as D: \( \hat{2} \). Further, Eb is only briefly contradicted for one measure in R7-3 when pc A, a tone most easily heard in connection with Bb, is introduced. For these reasons, Figure 3.1 identifies Eb,
and not Bb, as the tonic for the passage. The tonal opposition between Eb and Bb, which
is encapsulated in pc A, is greatly intensified the next time this material is stated at R9-6.
On this basis, the passage may be viewed as the first of two references to the much
stronger Eb tonic that will be established at R12.

3.2.3 Part B

At R7 a C tonic is melodically generated by the line <G5, C5, Eb5> that results
from the overlap of the last pc of the trumpet line with the first two pcs (<C5, Eb5>) of an
ascending third line in the first violin (i.e., <{C5, Eb5}, {D5, F5}, {Eb5, G5}>). The
C root of the first chord in R7, emphasized by sustaining G5 above C5, is preceded by a
sustained G5. This descending-fifth motion in C parallels the earlier ascending-fourth pitch
motion in F (mm.1-2). C is supported by the C-Aeolian collection and by two important
root progressions: a dominant-tonic root progression into R7+2 when the English Horn
starts its phrase, and a subdominant-tonic root progression into R8 when the eight-measure
phrase is repeated (see Example 3.5). Part B also continues the emphasis on IC5-related
tonic pcs that was begun in the preceding part. Pc F is emphasized in the bass from the
registral climax of the phrase, in R7+4, to the end of the phrase, where it appears as the
only root other than the tonic C, and F is the root of the harmony on which the C tonal area
inconclusively ends in R8+6. Reading an F tonic here would parallel our hearing of
prominently sustained pcs in previous sections. That is, the sustained G at R7-1 would be
heard as F: 2, just as the sustained E at R6 was heard as D: 2 and the sustained F at R6+5
was heard as Eb: 2.
The return of the material of R6+3 at the same pitch level in R9-6 brings back the tonal opposition between Eb and Bb. The Eb-major triad, embedded within the descending line in the trumpet, confirms Eb. The truncated chordal gesture at R9-4, unlike R6+5, ends with the same chord as in R6 but transposed up a tone. Because this earlier chord has a dominant function we are predisposed to hear a similar function in R9-3, especially since Ab, the seventh of the chord, was not present the last time we heard Bb as a chord root (R6+6). The gesture in R9-4ff., like that in R6-2ff., also presents a single root, the pc Bb. However, pc A has an even more prominent role in contradicting the Eb tonic because it counteracts Ab as the seventh of Eb: V7. Surprisingly, pc A is further emphasized: it is the last pc of the section and it persists across the part division at R9 into the next tonal area.

The most interesting aspect of R9-6 is how subtly the melody shifts our perception away from the previous C toward the Eb tonic when compared to the earlier statement of the same material at R6+3, which shifted abruptly from D to Eb. For example, the descending melodic line in the trumpet at R9-6 could also be construed as generating a C minor-minor seventh harmony, which is the most recurrent C-rooted chord in the previous tonal area (R7ff.). This suggests that the descending trumpet line is not only preparing the
new Eb tonal area but also, simultaneously, closing the previous C tonal area by offering a (melodically realized) resolution for the subdominant chord in R8+6.

3.2.4 Part C

At R9+1 the highest voice of a two-part texture melodically generates a D tonic by the initial repetition of the motive <D4, D5>, which agogically accents D5, and by the leap in R9+5 from D4 to an agogically accented A3. This final A of the phrase is sustained with pc D, allowing D to emerge as the last root of the phrase. Initially, this D tonic is supported collectionally by the pentachord from the D-major collection – {D, E, F#, G, A}.

At R9+6 a new motive, shown as motive 7 in Figure 3.1, suggests an A tonic because it emphasizes pc A in the bass and pcs A and C in the soprano. The three-note ostinato in the bass in R10-2 (<A, D, E>) seems to confirm A as a tonic because it mimics the bass line of a <I, IV, V, I> progression in A and is supported by several verticalities that have A as a root. However, A does not become the tonic because the manner in which motive 7 is incorporated in the following section is reminiscent of a "vamp" in popular music. The references to A in this passage temporarily cloud the D tonic (established at R9ff.) in much the same manner that references to G (at R5-1ff.) clouded the D tonic (established at R3ff.).\(^5\) In R10ff. motive 7 becomes an ostinato accompaniment to T2 of the melody from R9+1ff. (motive 6). This motivic transposition does not result in a shift in tonic and, therefore, it changes our perception of the first note of motive 6 from D:\(^\uparrow\) to D:\(^\uparrow\).\(^\uparrow\)

The references to A begin to dissipate at R10 with the entrance of motive 6. At R10+5ff. several characteristics of the D tonal area at R3ff. – the peculiar F#-minor triad

\(^5\)It is relatively easy to hear the correspondence between R5-1ff. and R9+6ff. because pc A is strongly emphasized in each passage.

\(^6\)The shift of the first note of motive 6 to the second scale-degree recalls the implied change of pc A to G:\(^\downarrow\) at R5-2ff.
that inflected its original melody (i.e., R4-1, R4+2 and R4+6) and the tetrachord \{E, F#, A, C#\} on which the first two sonorities of the chordal gesture at R6-2 are based – are assimilated into the motivic texture.

At R11 the sonority \{A1, C#5, E5, F#5, A5\} initiates a passage that is directed in five different voices to the D-rooted sonority \{D1, F#5, A5, B5, D6\} of R11+5. Example 3.6a shows the voice leading of this passage. Example 3.6b summarizes this motion as a succession of five-voice chords. For example, the outer voices at R11 move by contrary motion to pc D: the step ascent \(<A5, B5, C#6, D6>\) in the soprano sounds above the step descent \(<A1, G1, F#1, E1, D1>\) in the bass. The notes in the soprano are supported by parallel six-four chords within the referential D-major collection. The three-note motive, which the bass tone begins, is modified in each measure such that the second and third notes rise by step until the original pattern, \(<A, D, E>\), is restated five semitones higher \(<D, G, A>\) in R12-3. Any sense of harmonic progression in these measures is avoided by sustaining the first tone of the bass motive and increasing the size of intervals between all three notes by registral displacements. The eventual shift of the first note of this bass motive from pc A to pc D is foreshadowed in the previous D tonal area (R3ff.) by the shift in root (from D to A) between two sonorities (R5 and R6 respectively) that share A as a common tone in the bass. Also, the prominence of pc B in this climactic sonority, as the non-essential sixth, recalls the earlier emphasis given to B as D:6 at the beginning of part A (i.e., R3+1, R4, and R4+3). However, the expansion of texture, which results from contrary motion between the bass and other, higher voices, recalls the textural shape which is given to the first half of the phrases that begin in R7 and R8 in the C tonal area of the previous part. This reference to elements of the D and C tonics at R3ff. and R7ff. respectively, which are themselves followed by Eb tonics, in turn foreshadows the return of the Eb tonic in R12.
The transformation of the first tone of the three-note bass motive into the tonic scale-degree at R12-3 is important three measures later when the transposition of this motive up a semitone becomes the basis for an Eb tonal area. Unlike R12-3, the three pcs in the transposed bass motive in R12ff. become the roots of a repeated <I, IV, V, I> progression generating an Eb tonic.\textsuperscript{7} Eb is supported by the accents on Eb in the melody, and by the use of pcs from the Eb-Dorian collection.

The arrival of Eb as a tonic at R12 is significant because it marks the ending point of an important step-progression in the bass that links the ending of part A to the beginnings of parts B and C (see Example 3.7). This step-progression, which links prominent vertical fifths at the beginnings of sections, begins in R5 when the tonal areas of part A were inflected by an ambiguity between IC5-related tonic pcs. The linear intervallic pattern 5-5-5-5-5 is particularly evident on the surface of the music at R6-3 to R6+6 and R12-1 to R12 because the recurrent <D, Eb> tonic succession imbues successive soprano pcs in Example 3.7 with identical scale-degree functions: pcs E and F function respectively

\textsuperscript{7}The chords \{Eb1(2), Eb4, Ab4, Bb4, Eb5, Ab5, Bb5, Eb6\}, \{Ab1(2), Db4, Eb4, Ab4, Bb5\}, and \{Bb1(2), Ab3, Db4, Eb4, Db5(6)\} have Eb, Ab and Bb roots respectively.
as D:\^2 and Eb:\^2; and pcs A and Bb function respectively as D:\^5 and Eb:\^5. The step-progression is, however, obscured in the approach to the \{D, A\} fifth in R9+5: the step-motion from F, which ends the C tonal area (R7ff.), to the D of R9+5 is interrupted by the material of subsection c5, which suggests the return of the \{Bb, F\} fifth in R7-5.

Example 3.7 Step-Progression in [5] to [12]

At R13 we hear \(T_2\) of the two-measure phrase which began in R12+2. However, an F tonic is not generated at R13 because the final sonority in each measure has been modified such that it generates F, instead of C, as the chord root. This removes the central \(<I, IV, V, I>\) progression that earlier defined the Eb tonic. Further, R13 is marked by the statement of \(T_1\) of the melody from R6-4ff. This suggests a continuation of the Eb tonic (at R12ff.) that is subsequently confirmed in R13+3ff. by a \(<II, V7>\) progression in Eb generated by a change in the order of the pcs in the three-note bass motive at R13 (i.e., from \(<F, Bb, C>\) to \(<F, C, Bb>\).  

R13ff. is formally significant because it combines some of the characteristics of the D (R3ff.) and Eb tonics (R6+3ff. and R9-6ff. respectively). For example, at R13ff. the

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8Pc Bb is the only soprano pc in Example 3.7 that is not sustained in the highest voice in the actual context. Bb is, however, the most prominent upper-voice tone at R12 because it is sustained in the highest register of the trumpet.
9The \(T_2\) transposition in the trumpet recalls the interval of a major second which characterizes the *nervous, mysterious* theme in the Introduction. The orchestration for trumpet is also important because it reprises R6+5 when the trumpet similarly sustained pc F as Eb:\^5.
10The reordering of these pcs is significant because it recalls a similar reordering of pcs in the bass in the Introduction (the pizzicato bass motive) where Bb was also a root.
shift from F (R13) to Bb (R13+3) as the root of the final chord of the measure is similar to
the shift from D (R5) to A (R6) between the chords in the earlier D tonal area that shared pc
A in the bass. Further, the relationship between the ending chords of R13 and R13+3 is
similar to that between the chords at R3+1 and R4-2 in that at least two pcs are registrally
invariant. That is, Eb4 and F4 are common to the last chords of R13 and R13+3, and D4
and E4 are common to the chords of R3+1 and R4-2. R13ff. also recalls the Eb tonics at
R6+3ff. and R9-6ff. because it re-establishes the pc collection (Eb-major) that was
referential when Eb first became a tonic (R6+3), and it recalls the dominant seventh chord
that was contradictory the last time Eb was a tonic (R9-6).

At R13+2ff. the simultaneous use of two different IC5-related transpositions of the
melody from R5+2ff., T3 and T8, recalls the central tonal opposition that has characterized
the Eb tonic since its first appearance at the end of part A. A Bb tonic is suggested by the
T8 transposition and by making pc Eb sound as the minor seventh in the F-rooted chord on
beat 3 of the first three measures of R13. The T3 transposition is also important, however,
because it implies the F tonic that will arrive when the final part of the piece begins.

The material in R12ff. sounds transitional because there is an underlying step-
progression in R12-3 to R14+1 (see Example 3.8). The sonorities in Example 3.8a are
connected by a linear intervallic pattern, 8-8-8-8-8, between the soprano and bass which is
accompanied by a second linear intervallic pattern, 5-5-6-6-7-7, between the bass and
tenor. The step-progression in R12-3ff. overlaps with the ending of the previous step-
progression (shown in Example 3.7) because the first two chords of the former (R12-3 and
R12) are also the final two chords of the latter. These step-progressions are similar in
certain ways. For example, the bass lines of both step-progressions contain a movement
from pc Bb to pc C. Example 3.8b shows, however, that there is an even closer
 correspondence between the step-progressions of R5+5ff. and R12-3ff.; T8 of the initial
two chords of the former gives the final two chords of the latter.
Example 3.8

a) Step-Progression in $[12]-3ff.$

\[ \begin{array}{ccc}
12 & 3 & 12 \\
+2 & +4 & 13 \\
13 & -2 & 13 \\
+3 & to & 14 \\
14 & -1 & 14 \\
+1 & & \\
\end{array} \]

b) Transpositional Relationship

\[ \begin{array}{ccc}
5 & 6 & 14 \\
14 & -1 & 14 \\
+1 & & \\
\end{array} \]

3.2.5 Part A1

At R14 the material of the first section of part A is transposed up a semitone. This generates an Eb tonic for the same reasons that the D tonic was generated in R3ff. The transposition at R14 of the entire texture of R3 provides an important confirmation of the many T1 relationships which connect the material of the Eb tonic to that of previous tonal areas – that is, the bass motive in R12-3 and R12, the chords in R6 and R13+3 (beat 3), and the melodies in R6-5 and R13-1 – and helps to establish Eb as the culmination of an ongoing process. For example, when the collection of the D tonic of R6 is suddenly supplanted by a new collection in R6+3, a melody resembling T1 of the trumpet line at R6-4 is sounded. In subsequent statements of this material (R9-6, R12) it comes to resemble more closely the original melodic line until R13, where it becomes identical. The gradual metamorphosis of this melodic line into a shape identical to the original parallels the
increasing tonal direction towards an Eb tonic. The importance of Eb is emphasized at R14 when it is sustained as the tonic of the following part.

The only modifications to the original material from section b result when Copland terminates the melody in the tenth measure and makes a quasi-cadenza from the last measure. This results in ending the Eb tonal area with the Bb-major triad, thus making an implicit reference to the conflict between Eb and Bb at R6+3 and R9-6 and a direct reference to the similar ending of the D tonal area, when Eb was first introduced as a tonic. This Bb harmony is followed by a statement of the octave <F, F>, sounding successively in the trumpet and English Horn respectively. The octave focuses our attention on pc F as Eb (recalling a similar emphasis on pc F at R6+5 and R9-4 of the preceding Eb tonics) just before F becomes the tonic pc at R16 as the opening material of the piece is restated. This focus on the second scale-degree is reminiscent of R5-1ff. where pc A was implied to function as G, pc E sounded as D, and pc F sounded as Eb.

3.2.6 Coda

The final part presents basically the same materials as the Introduction, only in a truncated form. Thus, an F tonic is generated in R16ff. for the same reasons as in mm.1ff. However, this material has been affected by the ambiguity between IC5-related tonic pcs that characterized part A. In R16+1ff. the F root never reappears as expected. Instead, Copland retains the C root of the trumpet cadenza as the final root of the piece leaving the F tonal area open ended. This C root does not have sufficient strength to overpower the F tonal preconditioning and become a tonic in its own right even when the interval <G, C> appears, almost like an afterthought, in R17+3.

Imprinting an inconclusive open ending onto the final tonal area of the piece contributes significantly to the unity of the piece (if not to its closure) as it makes the final tonic reflect the open endings of the D and Eb tonics in part A. In this way the introductory
material is shaped by the central theme which guides the form of the piece, and is related to
the single tonic – Eb – which constitutes the focus of the piece.

3.3 Pc Continuity

Figure 3.2 graphs the pc continuity structure of Quiet City. Primary streams of
connection reflect the most emphasized pcs which are common to the collections of
successive tonics. In some cases, especially where many pcs are common to the pc
collections of successive tonics, secondary pcs are shown which, although emphasized,
may not be obvious. These secondary streams of connection were chosen either because
they are related to a nearby primary stream or because they help to clarify processes in the
pc continuity structure.

3.3.1 Stream Generation

One of the most important means of generating a primary stream of connection
between successive tonics in Quiet City is the sustaining of a pc from one tonal area into
another. This occurs at R7 and R9+1 when parts B and C respectively are articulated. The
most striking of these two passages is the latter, because pc A, which encapsulates the
characteristic ambiguity between Eb and Bb, is accented at the end of the Eb tonal area.

Two sets of paired primary streams in Figure 3.2, in mm.1ff. and R7ff.
respectively, result from emphasizing a common dyad or trichord within different chords of
successive tonal areas. For example, paired primary streams on pcs G and D connect the F
and D tonics at R3 because these two pcs are prominent in the trichord \{D4, G5, F6\} in the
F tonal area, which is stated in mm.3, 7, and R1-2, and in the crucial dominant sonority
Figure 3.2 Pc-Scale-Degree Design of *Quiet City*

<table>
<thead>
<tr>
<th>R:</th>
<th>m.1</th>
<th>1</th>
<th>2 -1</th>
<th>2 +5</th>
<th>3</th>
<th>4 -2</th>
<th>5 -1</th>
<th>6 -4</th>
<th>6 +3</th>
<th>7</th>
<th>8</th>
<th>9 -6</th>
<th>9 +1</th>
<th>+6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts:</td>
<td>Introduction</td>
<td>A</td>
<td></td>
<td>B</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sections:</td>
<td>a</td>
<td>a1</td>
<td>b</td>
<td>b1</td>
<td>c</td>
<td>b2 (trans.)</td>
<td>d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsections:</td>
<td>a</td>
<td>b</td>
<td>a1</td>
<td>b1</td>
<td>c</td>
<td>c1</td>
<td>c2</td>
<td>c3</td>
<td>c4</td>
<td>d</td>
<td>d1</td>
<td>c5</td>
<td>e</td>
<td>f</td>
</tr>
<tr>
<td>Tonics:</td>
<td>F</td>
<td>F/D</td>
<td>Eb</td>
<td>C</td>
<td>Eb</td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The diagram illustrates the Pc-Scale-Degree Design of *Quiet City* with annotations for each section and subsection, including tonics for each part.
\{A2, B3, D4, E4, G4\} in the following D tonal area, which is stated in R4-2. Both pcs D and G, however, are emphasized as common to the collections of the F and D tonics outside of this particular interval because of accents in the outer voices: pc G receives agogic accents in the bass in m.5 and R4+2 and in the soprano in R2-1, R4-2 and R5-2; pc D is accented by register as the lowest bass pitch (D1) in the first two sections (i.e., in R1-3, R2+2, and R5+3) and by agogic accents in the melody from R5 to R6-5. The comparatively stronger emphasis on pc G at the beginning of the D tonal area makes the stream on that pc more important as a connector in Figure 3.2. Three primary streams, which are generated by emphasizing a common trichord, connect the C and Eb tonics in part B. For example, the streams on pcs F, Bb and G are generated by emphasized chords in the C and Eb tonal areas that share the trichord \{F, G, Bb\}. In the C tonal area this trichord forms the outer voices of the sonority \{F2, Ab3, Eb5, G5, Bb5\} which marks the registral climax of the repeated phrase (i.e., R7+4, R8+4) and the sonority \{F2, Ab3, F4, G4, Bb4\} which ends the first phrase (i.e., R8-1). In the following Eb tonal area the outer voices of the first chord, \{F1(2), D4, G4, Bb4\} in R9-4, place a similar emphasis on this trichord. The sustaining F5 in the trumpet in R8+5 and R9-4 makes the stream on pc F the most important. The stream on pc Bb is considered to be the next most important in the group because Bb is accented as the soprano pc of the sonorities in the C tonal area and emphasized by a voice exchange, which involves pcs Bb and F, in the two chords of the Eb tonal area.

If, however, one considered a G tonic to be present at R5-1 then a third group of primary lines, which resembles those just discussed, would appear in the pc-scale-degree-design of the piece (see Figure 3.3). These primary lines are generated by the prominence of the trichord \{D, G, A\} in the sonorities \{A1(2), G3, C4, D4\} and \{A1(2), G3, D4, E4\} which are sustained in R5 and R6 respectively. These streams are ranked in a similar way
to those of R7: pc A is the most important line because it is so emphatically accented in the bass; and pc D is ranked second because it receives agogic accents in the melody in R5ff.

Figure 3.3 A Second Interpretation of \( 5^{-1} \)

<table>
<thead>
<tr>
<th>R:</th>
<th>4</th>
<th>2</th>
<th>5-1</th>
<th>6-4</th>
<th>6+3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts:</td>
<td>(A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sections:</td>
<td>(b)</td>
<td>b1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsections:</td>
<td>c1</td>
<td>c2</td>
<td>c3</td>
<td>c4</td>
<td></td>
</tr>
<tr>
<td>Tonics:</td>
<td>(D)</td>
<td>G</td>
<td>D</td>
<td>Eb</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.3 A Second Interpretation of \( 5^{-1} \)
Some of the streams in Figure 3.2 are generated by a continuing oscillation between two pcs which are common to the collections of successive tonics, but which occur within different motives. For example, at R10ff. the primary streams on pcs C and C#, which initially conflict chromatically as different versions of D: result from the alternation of C5 and C#(Db)5 in two different motives, motives 1 and 7 respectively, in the D and Eb tonal areas. The alternation between C5 and C#5 in the D tonal area (R11-3, R11-1 and R11+1) is answered by a similar alternation between Db5 and C5 in the Eb tonal area (R12, R12+3, R12+4 and R13-1). However, because these alternations are heard within different motives the two streams are not paired in Figure 3.2. This technique is also used to generate the secondary stream on pc F# which accompanies the primary streams on pcs C and C#. For example, the type of emphasis on pc F# at R12-3ff., which is effected by the neighbor tone motion <F#5, E5, F#5> in an otherwise static, sustained chord, is recalled in R12+1 when the melody incorporates the neighbor tone motion <F5(6), Gb5(6), F5(6)>.

This correspondence, as in the paired primary streams of the same section, is similarly reinforced by a literal pitch connection involving F#5.

Other techniques which generate primary streams in Quiet City include emphasizing a common pc by successive agogic accents in the outer voices, by following it with rests each time it is stated or by eliding phrases, as in the first movement of the Short Symphony, to make the ending pc of one tonal area function simultaneously as the beginning pc of the next. The use of successive agogic accents and rests occurs in R16 where primary streams on pcs C and F connect the central Eb and F tonics. The stream on pc C results from the successive agogic accents on that pc in the soprano and bass voices of both tonal areas (i.e., R14+1 and R16+4, and R14+1, R15-2, R15+1, R17-1 and R17-4 respectively). The stream on pc F is similarly generated from agogic accents on pc F in the soprano in R16-4 and R16+3. However, pc F is also emphasized because of the rests that demarcate the beginning and ending of the octave F in the trumpet. The use of elision to
focus our attention on the changing function of a particular pc occurs at R3 where pc A, which is ostensibly the goal of the \(\hat{5} \rightarrow \hat{4} \rightarrow \hat{3}\) descent, simultaneously introduces a new motive that has a different pc collection. The arrival of pc A at R3 is emphasized because the earlier descent in the English horn (R2ff.) predicted that the third scale-degree, which had been avoided to that point, would be Ab and not A. This conflict is shown in Figure 3.2 by the use of an arrow to the initial \(\hat{3}\). The importance of pc A to the D tonic is subsequently underlined by the successive agogic accents in the bass (i.e., R4-2, R5, R5+5, and R6).

### 3.3.2 Suspended Streams

Several of the streams in Figure 3.2 are briefly suspended when the connective pc is momentarily replaced by another pc that has the same function. For example, the primary stream on pc D at mm.1ff. is identified as suspended at R2+3 because it is momentarily replaced by pc Db as the sixth scale-degree. The line remains suspended through R2+5 because pc D, although implied by the return of the original collection, is not explicitly restated. At R3 we hear pc D change scale-degree function from \(\hat{6}\) to \(\hat{1}\). The primary stream on pc C initiated at R9+6 is suspended at R11+2 when C is replaced by C# as the seventh scale-degree. At R12 we hear pc C change scale-degree function from \(\hat{7}\) to \(\hat{6}\).

Two secondary streams that are suspended, \(<\hat{4} \rightarrow \hat{6}>\) on pc B in R1ff. and \(<\hat{5} \rightarrow \hat{4}>\) on pc A in R3ff., are included because they anticipate the primary stream on pc A, \(<\hat{4} \rightarrow \hat{5}>\), which articulates part C. At first the secondary stream \(<\hat{4} \rightarrow \hat{6}>\) on pc B, in particular, is difficult to hear because of the relative insignificance of that pc to the F tonal area. However, this connecting stream is quite important motivically because it recognizes the eventual transformation of the fragment \(<\text{C5, B4, G4, D5}>\), which begins the trumpet cadenza, into a melodic ostinato in R5+2ff.
3.3.3 Pc-Scale-Degree Design

The most important structural division in the form, R14 (part A1), is not delineated by a change of tonics. The parts that do have tonal shifts, however, are marked by primary streams that end with 5. The first two of these connecting primary streams are identical. For example, part A is articulated by the primary stream 3/5 on pc A and part B is articulated by the primary stream 3,5 on pc G. The streams which articulate the other parts similarly end on 5: part C is articulated by the primary stream 4,5 on pc A, and the Coda is articulated by the primary stream 5 on pc C. That is, at R9+1 we hear pc A change scale-degree functions from 4 to 5; and at R16 we hear pc C change scale-degree functions from 6 to 5. Like the characteristic device of textural expansion from a single note, the repeated focus on 5 as the terminal function in a primary connective stream unifies every part in the form that is marked by a change in tonic.

The emphasis on the fifth scale-degree in the pc-scale-degree design is supported by surface features of the music. For example, by far the most prominent pc of the opening F tonal area (mm.1ff.) is C, the fifth scale-degree. Similarly, the only part division not directed by a change in tonics, part A1 (R14), is marked by the sustaining of the fifth scale-degree of Eb (Bb5) in the trumpet. The interval of a fifth is also very prominent in the step-progressions that underlie R5-1ff. and R12-3ff.

3.3.4 Importance of [0,2,5]

The resulting primary articulative streams on the pcs A, G and C manifest the pc set-type [0,2,5] that permeates the opening of the piece. This association is suggested in the pc-scale-degree design over the entire piece by the broader shift in focus from pc G (m.1 to R9-6), to pc A (R9-6), which culminates in a focus on pc C in R9+6ff. Other aspects of the pc-scale-degree design support this characterization. For example, in R7 the paired primary streams on pcs F, Bb and G similarly form [0,2,5]. The primary streams
on pcs D and A, which articulate part C, similarly combine with the stream on pc C (R9+6ff.) to form [0,2,5]. [0,2,5] is suggested at R1ff. by the streams on the pcs A, B and D and at the end by the successive primary streams on pcs D, C, and F at R9-6ff.

The use of overlapping forms of [0,2,5] to create chords that represent larger set-types as in, for example, [0,2,4,7,9] in R2 and [0,2,5,7] in R2+1, suggests another way in which the pc-scale-degree design might be said to reflect this set. [0,2,5,7] contains a subset – [0,2,7] – that is intervallically similar to [0,2,5] and is also present in the pc-scale-degree design. [0,2,7] is formed by streams on pcs D, G and A at the beginning of the piece (the opening primary streams), over the part division at R14 (part C), and at the beginning of section b1 in Figure 3.3.

The surface of the music also contains at least one important motivic reference to [0,2,7] – the three-note bass line of motive 7. This bass line is emphasized in part C in three important ways: it is transformed such that the first note shifts from D:5 (R10-3ff.) to D:1 (R11+5ff.); it is the only motive of section d that continues into section b3; and it is transformed at R13+3 by a change in the order of its pcs.

3.3.5 Palindromic Structure

One of the more curious aspects of the pc scale-degree design is the way an initially palindromic structure, which is incorporated into the Introduction and parts A and B, is overlapped at R9+1ff. by a structure emphasizing the seventh scale-degree. The palindromic structure, which is shown in Figure 3.4, is most clearly expressed when the stream <4,3,5> on pc G in R3 to R7 is retrograded on the same pc from R7 to R9+1. That is, in R3ff. we hear pc G change scale-degree function from 4 to 3 to 5; this progression is reversed in R7ff. when we hear the same pc change scale-degree functions from 5 to 3 to 4. Accompanying this stream at R3ff. are two other streams, <5,4> on pc A and <1,7>

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11The first four pcs of the piece – {C, D, F, G} – also form the set [0,2,5,7].
Figure 3.4 Palindromic Structure in the Pc-Scale-Degree Designs of Figures 3.2 and 3.3

<table>
<thead>
<tr>
<th>R:</th>
<th>m.1</th>
<th>3</th>
<th>5</th>
<th>6</th>
<th>6+3</th>
<th>7</th>
<th>9-6</th>
<th>9+1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts:</td>
<td>Introduction</td>
<td>A</td>
<td>6-4</td>
<td>6+3</td>
<td>7</td>
<td>9-6</td>
<td>9+1</td>
<td></td>
</tr>
<tr>
<td>Sections:</td>
<td>a</td>
<td>b</td>
<td>b1</td>
<td>c</td>
<td>b2 (trans.)</td>
<td>d</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsections:</td>
<td>a</td>
<td>c</td>
<td>c2</td>
<td>c3</td>
<td>c4</td>
<td>d</td>
<td>c5</td>
<td>e</td>
</tr>
</tbody>
</table>

Figure 3.3
on pc D, which are also retrograded on the same pcs at R9-6ff. That is, at R4-2ff. we hear pcs A and D change scale-degree functions respectively from $\hat{5}$ and $\hat{1}$ to $\hat{4}$ and $\hat{7}$; this progression is reversed in R9-6ff. when we hear the same pcs change scale-degree functions from $\hat{4}$ and $\hat{7}$ to $\hat{5}$ and $\hat{1}$. Palindromic structure is also created when the initial primary streams $<2,\hat{4}>$ and $<\hat{3}/\hat{5}>$ in mm.1ff., which occur on pcs G and A respectively, are retrograded in paired primary streams on pcs F and G at R7. This palindromic structure is enhanced if one admits the streams in Figure 3.3, which are shown in brackets in Figure 3.4, because the ending function of the streams on pcs G and A at R6-4, which are $\hat{4}$ and $\hat{5}$ respectively, are the first functions of the streams on pcs F and G respectively at R7. The resulting palindromic structure unifies the first three variations of section b (i.e., sections b1, b2 and b3).

The pc-scale-degree design in R9+1ff. contrasts with the preceding palindromic structure in that it initially focuses on streams that begin on $\hat{7}$ and that have not been stated prior to this point. For example, at R9+6ff. we hear pc C change scale-degree function from $\hat{7}$ to $\hat{6}$ to $\hat{5}$, and at R10ff. we hear pc C# change scale-degree function from $\hat{7}$ to $b\hat{7}$. However, this focus is actually a continuation of a series of streams beginning on $\hat{7}$ which is begun at R7ff. when the palindromic structure itself is starting to become obvious. For example, the focus on streams that begin with $\hat{7}$ is initiated in R7ff. when the stream $<b\hat{7},\hat{5}>$ on pc Bb is followed by the stream $<\hat{7},\hat{1}>$ on pc D. That is, at R7ff. we hear pc Bb change scale-degree function from $b\hat{7}$ to $\hat{5}$, and at R9-6ff. we hear pc D change scale-degree function from $\hat{7}$ to $\hat{1}$. The $<b\hat{7},\hat{5}>$ stream on Bb at R7ff. is confirmed as the origin of this unusual structure when the stream on pc C in R9+1ff., which begins on $\hat{7}$, ultimately ends with $\hat{5}$.\(^{12}\) This overlapping structure effectively serves to unify the second and third variation of section b (i.e., sections b2 and b3).

\(^{12}\)The origin of this series of streams sharing the same initial scale-degree function might conceivably be traced back to R1ff. because of the striking use of $\hat{4}$ at the beginning of the streams on pcs B and A at R1
3.3.6 Significance of Ambiguity Between 1C5-Related Tonic Pcs

Ambiguity between 1C5-related tonic pcs is an important expressive idea of this piece. The emphasis on IC5 is translated to the pc-scale-degree design in two ways: by expressing simultaneous primary streams (either paired or unrelated) on IC5-related pcs, and by stating \( \hat{\frac{4}{3}} \) or \( \hat{\frac{3}{4}} \) at the beginning or ending of various different streams. Paired primary streams are presented on IC5-related pcs at the beginning of the piece (on pcs D and G) and at R7 on the two most important of three simultaneous primary streams (i.e., those on pcs F and Bb).\(^{13}\) Unrelated (simultaneous) primary streams are presented on IC5-related pcs at R9-6ff. (on pcs A and D), and at R14ff. (on pcs F and Bb). The pc scale-degree design also reflects IC5 by the presence of so many streams that incorporate \( \hat{\frac{4}{3}} \) as their beginning or ending function. This focus is especially notable in those unusual streams which use \( \hat{\frac{3}{4}} \). The emphasis on the fourth scale-degree becomes even more pronounced if one includes the hypothetical streams in Figure 3.3. For example, the stream on pc G uses \( \hat{\frac{4}{3}} \) in three different parts, \(<\frac{4}{3}, \hat{\frac{1}{3}}, \frac{1}{3}, \hat{\frac{4}{3}}, \frac{4}{3}, \hat{\frac{3}{4}}, \frac{3}{4}, \hat{\frac{4}{3}}\>\) respectively. The initial stream \( <\frac{4}{3}, \hat{\frac{1}{3}} > \) is restated immediately in a stream on pc D.

3.4 Summary

The foremost question we had in examining tonality in Copland's music is how tonics and their successions relate to form. We can summarize the most important features of *Quiet City* to address this question. Despite their unusual and contrasting placements within parts in the thematic design, the crucial thematic variations on the b section are unified tonally throughout parts A, B, C and A1 by a recurrent Eb tonic. This unity is

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\(^{13}\)Pcs F, Bb, D and G are, themselves, representative of the most crucial ambiguities of the piece – those which characterize the Introduction, Coda and part A. For example, pc F represents the ambiguity between F and C tonics which characterizes the opening and closing parts of the piece. Similarly, pc Bb represents the ambiguity between Eb and Bb tonics at the end of part A. Finally, pcs D and G represent the perplexing and, perhaps, unsolvable ambiguity between D and G tonics at R5-1. The significance of these pcs is alluded to in the motivic structure of the Introduction. For example, the part of the pizzicato bass motive of R1-5 to R1-1 that Copland reorders in a repetition at R2ff. involves the pcs F, Bb, D and G.
strikingly emphasized at R14 because the return of the A material is not supported by a change in tonics. As a result, A1 becomes the only part in the form that is not marked by a tonal shift. We might surmise that the recurrent Eb tonic has programmatic significance as a tonal counterpart to the "night thoughts" of the central character in the play. Parts A, B and C are also, however, unified by an important underlying step-progression (as shown in Example 3.7). This focus on the unification of the variations of section b significantly reduces the importance of a return to F because this tonic is limited to the parts that frame the variations – the Introduction and Coda.

The tonics in Quiet City create a structure of pc streams – the pc-scale-degree design – that adds significantly to our understanding of the piece. The pc-scale-degree design confirms a unity in the piece independently of the specific thematic and tonal designs in that every part that is marked by a tonal shift has a primary stream that ends on 5. The emphasis on the fifth scale-degree could also be interpreted as another manifestation of the vertical interval of a fifth, which was the first harmony heard in the piece (m.2). The emphasis on IC5 in the pc-scale-degree design (through simultaneous primary streams and the use of \( \hat{4} \) and \( \hat{4} \)) recalls the importance of tonal ambiguities between IC5-related tonic pcs within individual tonal areas in the Introduction, Coda and parts A, B and C. However, the pc-scale-degree design also reflects other features of the surface of the music. For instance, the succession of primary streams recall the pc set \([0,2,5]\), which permeated the motivic structure of the Introduction. The latter in particular contributes to our understanding of unity in Quiet City because it shows how the material of the Introduction affects the rest of the piece. The pc-scale-degree design, however, also shows some of the conflict which occurs in the thematic design as a result of the placement of the variations of section b. It shows a palindromic structure overlapping with another structure that, mimicking the larger emphasis on \( \hat{5} \), focuses on streams that begin with \( \hat{7} \). The palindromic structure also contributes to our understanding of unity in the piece because it
confirms the continuity between parts A, B and C that is suggested by the underlying step-progression.
Chapter 4

Billy the Kid (Orchestral Suite)

4.1 Introduction

In the previous chapter we saw a pc-scale-degree design that revolved around the repetition of the fifth scale-degree at the beginning of major parts in the thematic design. This parallel was reinforced on the surface of the music by a recurrent textural device that characterized the beginnings of all parts and by a long-term step-progression featuring parallel fifths that unified the central portion of Quiet City. In this chapter we will discuss pc continuity in Billy the Kid, which is one of the earliest and most famous of Copland's "popular" works. Despite predominantly conventional local tonic procedures, Billy the Kid is worthy of study in the present context because it demonstrates tonal structural principles that are similar to those found in Quiet City. We will see that the pc-scale-degree design of Billy the Kid, unlike that of Quiet City, revolves around the repetition of particular streams on different pcs and the large-scale repetition of an ordered series of focal pcs. The pc-scale-degree design for Billy the Kid also has a deeper significance than that of Quiet City because it offers several ways to hear the unique tonal structure of the suite as closed.

4.1.1 Omission of Material

The analysis presented below is of the orchestral suite derived from the ballet. It assumes that, despite Copland's omission of one-third of his original material, the tonal structure is planned, not a haphazard result of cuts. This assumption is particularly

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1Copland testifies to the great popularity of Billy the Kid with his statement "I cannot remember another work of mine that was so unanimously well received." See Aaron Copland and Vivian Perlis, Copland: 1900 through 1942 (New York: St. Martin's/Marek, 1984), p.283.
important because the most crucial point in the analysis below – R27A – is one of the two places in the suite where entire scenes from the ballet have been omitted.

4.2 Form

The form of *Billy the Kid*, shown on the top four lines of Figure 4.1, follows the descriptive titles which Copland apparently supplied to mark the movements in the original score of the orchestral suite. According to Copland the suite matches the main action of the ballet in six connected movements: "The Open Prairie," "Street in a Frontier Town," "Card Game at Night," "Gun Battle," "Celebration After Billy's Capture," and "Billy's Demise." The problem with this description is that the second movement spans a tremendous portion of the suite – from R6 to R29-3. Copland argues that this very large and thematically diverse movement ("a kaleidoscope of tunes") is unified because the cowboy songs and Mexican dance fulfill a programmatic purpose – the portrayal of a street in a frontier town. However, authors such as Julia Smith and Neil Butterworth suggest that Copland's second movement, in fact, contains two separate movements. Smith identifies R20ff. as the proper third movement and, using a label coined by Lukas Foss for his solo piano arrangement of *Billy the Kid*, calls it "Mexican Dance and Finale." The "Mexican Dance" begins at R20 and the "Finale" begins at R24. Because of the obviously different characters of these passages Figure 4.1 correspondingly shows the second movement as divided into two halves at R20.

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2The other passage affected by the omission of entire scenes is R49 where four scenes – "Billy in Prison," "Billy Lost," "Billy Finds Refuge with His Sweetheart" and "Garrett Kills Billy" – are omitted. A much less significant omission in the suite occurs at R54 when a phrase repetition in the ballet disappears.  
3All except the first two of these titles are absent from the published score of the suite. See Copland and Perlis, op. cit., p.385 n.13.  
4Ibid., p.284.  
5Ibid.  
6Julia Smith, *Aaron Copland: His Work and Contribution to American Music* (New York: E. P. Dutton and Company, Inc., 1955), p.189. However, in a later catalogue of Copland's works (see p.304, n. 31a) Smith lists seven titles for the suite, the first six of which are what she discusses on p.189. The seventh, "The Open Prairie Again," implies a much different structure for the suite which will not be discussed. Smith also arrives at a six movement form because her fourth movement includes Copland's "Card Game at Night" and "Gun Battle" as a single movement.
Figure 4.1 Summary of Thematic and Tonal Designs in *Billy the Kid*

| R:          | m.1 | 2  | +4 | 3  | 4  | 5  | 6  | 7  | +4 | +8 | 8  | -3 | 8  | +1 | 9  | +4 |
|-------------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Movement:   |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Sections:   | a   | a1 | a2 | a3 | a4 | a5 | a6 | b  | b1 (ant.) | c (ant.) | b1 (cons.) | c (cons.) | c1 | b2 |
| Rondo forms:| A /A | /A |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Tonics:     | C   | F  | C  |    |    |    |    | Ab | F  | Ab | F  | Ab | F  | C  | C  |

R: 10 +4 11 -4 11 12 14 15 +2 16 +5 17 18 19 -4 19 20

 Movements: (II.1) II.2
 Sections: b3 (ant.) c2 b3 (cons.) c3 c4 d (trans.) e f e1 c5 b4 g (trans.) h
 Tonics: Db F D A A D D Bb

R: 21 22 23 24 25A 26A 27A 28 29 -3 30 31 -3 31 +2

 Movements: (II.2 "Mexican Dance and Finale") III. "Card Game At Night"
 Sections: h1 i h2 j j1 j2 k (trans.) a7 l m n
 Rondo forms: (Bb) G Bb G B B A Ab F F Ab Ab
Figure 4.1 (cont.)

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Table 4.1 Summary of Tn-Related Sections

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Table 4.1 Summary of Tn-Related Sections

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The suite has a largely continuous, or through-composed, form. Most of the movements, with the exception of the second, do not have a strong internal division. Many are based on fairly simple forms. For example, the first, fourth and sixth movements rely upon variation of the material stated at or near their beginnings, while the third movement is a simple ternary form. The fifth movement is also loosely based upon a traditional form—the rondo. This form is identified using capital letters in the fourth line of Figure 4.1. The third line of Figure 4.1 shows the varied recurrence of material in the entire suite.

The second movement is very unusual because its two halves, R6ff. and R20ff. respectively, have two different forms: the first has an unusual rondo form and the second has a variation form. The unusual quality of the rondo in R6ff. (shown in the fourth line of Figure 4.1) is caused by the interpenetration of the antecedent and consequent phrases in the second and fifth segments of the rondo (i.e., those starting at R7 and R10 respectively). However, this rondo is also obscured by references to a ternary form created by the striking introduction of new thematic material in R14, and by the recapitulation of the material from R8+1ff. in R17ff.

The fourth movement ("Gun Battle") is also unusual because it has a unique juxtaposition of six short repeated motives, each with its own fixed timbre. These short motives, shown in Example 4.1, are developed only in limited ways, by rhythmic extension or truncation. The rhythmic flexibility of this material presents a distinctly different character from that of the rest of the suite. This musically underlines the drama by evoking the posse's chase after Billy and the gunshots in the ensuing battle.

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7Smith's analysis of the form allows her to characterize this rondo form as the basis of an entire movement. See Smith, op. cit., p.190.
8The eight-measure periods which represent A and B in this rondo are interpenetrated when the first four-measure phrase of B is stated before the concluding four-measure phrase of A. This results in a larger passage that is neither A nor B but a mixture of both. The fourth line of Figure 4.1 shows the second and fifth segments by enclosing brackets around its constituent parts (i.e., [ ]). Smith apparently ignores this interpenetration because she claims that the second and fifth segments of the rondo should be B and A respectively, that is, the rondo form (excluding the two transitional passages) should be labeled ABBAABCDCBA. See Smith, op. cit., p.189.
The through-composed form of the suite is modified by one important recapitulation of material, the restatement of the "open prairie" music at the end, which creates a cyclic form. The cyclic quality of this recapitulation is heightened here by the near exact recapitulation of the first and sixth sections of the first movement (sections a and b). The "a" material also appears at R28, but its brevity makes it sound, in retrospect, as a foreshadowing of the more substantial recapitulation in the sixth movement. Yet the allusion to a larger rondo form, created by this internal restatement of the opening material, links the widely separated rondo forms in the second and fifth movements. The restatement of the opening material at R28 also helps to associate the setting in the fourth movement, "at night, under the stars," with the "open prairie" setting in the first movement.  

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9 Several other works by Copland as, for example, the Short Symphony, the Piano Sonata, Quiet City and Appalachian Spring, have a similar cyclic aspect to their form.

10 Viewing the third movement as a substitution for the first is also relevant to the tonic succession in the suite because the tonic at the beginning of the third movement acts as a substitute for the expected return of the opening tonic of the suite. This is discussed below on p.140.
4.3 Tonality

A summary of the tonic succession in the suite is given in the fifth line of Figure 4.1. The processes that generate these tonics are closer to conventional harmonic techniques than the tonic-defining processes in Copland's "serious" works. As a result, the tonics in the suite tend to be relatively clear and free of the ambiguity which characterizes much of Copland's music. What little ambiguity there is in the suite results either from a special type of varied reprise or successive recombinations of short motives. These will be discussed later. Many of the local tonic successions in the suite are, however, inflected by overlappings that result from preconditioning or harmonies with ambiguous functions.

One of the most interesting questions about the tonic succession of *Billy the Kid* is why, after alluding to C as a global tonic at R27A and R51, the suite ends with an E tonic in R53. The following discussions on tonic succession and pc continuity will address some of the ways this concluding tonic is resolutive within the tonal structure, instead of dismissing it as a programmatic device.

4.3.1 First Movement

The opening C tonic, suggested by the durational accent on the fifth \{C4(5), G5\} in the first two measures, is generated by a descending-fifth root motion: the G-rooted chord in R1-2, \{G1(2), A3, C4, F4, C5, G5\} (the jazz chord F/G), progresses (two measures later) to a C-rooted fifth, \{C2(4), G4\}. The fifth \{C2(4), G4\} is subsequently stated on the downbeat of the next ten measures. At R2, the removal of this harmonic underpinning makes us concentrate on the Eb-major triad, thus raising the possibility of an Eb tonic for the same melody. This implication is very important for future tonal events (i.e., those at R28) and has a direct bearing upon special patterns within the pc continuity structure. However, Eb is not generated as a tonic for three reasons: the C harmonic underpinning is
absent only briefly; the melodic line in R2+4, <Eb5, D5, C5, Eb5>, makes a clear association between the pcs Eb and C; and there is no root progression in Eb. At R2+4 the original harmonic underpinning is restated, thereby removing any root quality we might have heard Eb to possess.

At R4-3 the transposition of the bass motive <C2(3), G1(2)> down a tone (to <Bb1(2), F1(2)>) predisposes the listener to hear a similarly transposed tonic, Bb. These measures do indeed focus on Bb as the root of the chord {Bb3, C4, Db4, Eb4, Ab4, Bb4, Db5(6), Eb5(6), Ab5(6)} and a Bb tonic is suggested in a small way by the presence of the pcs {Ab, Bb, C, Db, Eb, F} from the Bb-Aeolian collection. Unlike C, however, Bb is not supported by a descending-fifth root motion because pcs Bb and F are stated below the same chord. Thus, despite the appearance of Db, a pc which has not been heard in the suite until this point, Bb does not displace C as the tonic of the passage.

The function of pc Db at R4-3 is clarified three measures later when the bass motive is again transposed, this time down a fourth (to <F2, C2>): Db forecasts the subdominant function of an F tonic that arrives at R4. F is generated as a tonic by a descending-fifth root motion (<F, C, F>) when both pcs in the transposed bass motive become chord roots in the first three measures of R4, that is, pc F is the root of the sonority {F2, Ab3, G4, Bb4} and pc C is the root of the following sonority {C2, Bb3, F4, G4, D5}. An F tonic is also supported in R4 to R5-1 by the metrical accent given to the F-rooted sonorities and by the transposition (T7) of the bass motive.

At R5 C returns as a tonic when C-rooted, instead of F-rooted, sonorities are metrically accented. This return to C is foreshadowed by the chords which are metrically accented from R3+4 to R5-1 (see Example 4.2). The outer voices of these chords are

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11 In the preceding statement of this motive (at R4-4 to R4) only the first pc (Bb) was a chord root.
12 The chord sustained above pc C does not always have a C root. For example, the chords at the end of R4+3 and R4+4 sound like an extension of the F minor-minor seventh chord stated on the downbeat and, thus, suggest an F root. Pc C eventually returns in the two measures before R5 as the root of the chords on beat 2.
directed towards pc C: the highest voice states the ascending stepwise line <G4, Ab4, Bb4, C5> and the lowest voice states the descending line <C3, Bb2, F2, C2>. The terminal pc C of both lines coincides with the last root (C) stated in the F tonal area (R5-1). The following chord (R5) reasserts the original tonic function of the C-root.


4.3.2a Second Movement (First Half)

At R6-1 the texture is reduced to a single sustained pc, Eb, over which an Ab tonic is melodically generated. Ab is followed at R8+1 by an F tonic that is also melodically generated. The change from Ab to F is obscured because the eight-measure periods associated with each tonic are interpenetrated: the opening four-measure phrase of F is stated before the concluding four-measure phrase of Ab. The F tonic, established at R8+1, is succeeded by a C tonic at R9 when the transposed theme, melodically generating a C tonic, is superimposed over an accompanimental pattern previously generating the F tonic. C is supported by the C-major collection and by durational accents at R9+1 and R9+7. F gradually reemerges as a tonic over C in R9+7. This return, implied by the reappearance of the pc Bb, is suggested by the alternation of Bb-major and C-major triads in the high register. These triads sound like the progression F:<IV, V> above a tonic pedal. The change of texture at R9+7, which results from the introduction of chords and the elimination of the (lower) harmony voice from the texture, seems to support a change in tonic. However, F only gradually emerges through this progression as more significant
than C, which is suggested melodically by the repetition of the ending gesture of the C
tonal area (<E6, G6, C6>). As a result, the passage has been analyzed in Figure 4.1 as a
tonal overlap. At R10 the theme is transposed to Db above a {Db2, Ab2} pedal and
alternating tonic- and dominant-chords in Db ({Ab3, Db4, F4} and {Ab3, C4, Eb4, Gb4}
respectively).13

At R14ff. a series of chords creates an alternation between Bb- and C-rooted
chords.14 These roots are defined at R15 as part of a <IV, V, I> progression in F.15
However, F is generated as a tonic in R14 to R15 before this harmonic resolution by the
outlining of an F-major triad in the highest voice (i.e., <F, C, F, A, C>), and by the F-
major collection. F is confirmed as a tonic in the first two measures of R15 by the
repetition of the harmonic progression <I, III, IV, V>, and by the new melody at R15.
This melody grows from repetitions of the cell <C5, Bb4, C5, G4, F4> and associates its
most insistent pc, C, with pc F in the fifth that is repeated at the end of phrases (i.e., <C5,
F4> at R15+5ff.).

This material is interrupted in R17 by the reappearance of material from section c
transposed to D. At R18, like R9, a superimposition of similarly transposed material from
section b2 redirects the passage away from D toward an A tonic. The subsequent tonal
overlap between A and D, which we expect to mark the return of D, occurs in a different
manner in R18+4ff. than in R9+4ff. Pc G returns but the D- and G-rooted harmonies
articulated on beats 1 and 3 of R19-4ff. ({D4, F#4, C#5, D5, E5, A5} and {B3, D4, F#4,
G4, B4, D5} respectively) are much less coherent than earlier. This is because the

13The presence of a tonic pedal at R10ff. retrospectively offers another reason to hear pc F in R9+7ff. as a
tonic pedal.
14The first chord (at R14) has only a Bb root, despite the C4 pedal which links the first two chords of the
series and the fourth {C, F} between the outer voices, because of the emphasis given to the fifth {Bb, F}
through doubling. Similarly, the relatively high register of the D-minor triad at the end of R15-1
articulates a D root that is so weak that it does not obscure the dominant-tonic relationship expressed within
the chords which frame it. The dominant-to-tonic resolution is further supported by register because the
lowest tones of the respective chords, C4 (R15-1) and F4 (R15), are in the same register.
15The root movement in R14 to R15 closes the <IV, V> progression that was implied at R9+7 when F
was last a tonic.
harmonization of the melody in sixths is never replaced by another texture as it was in R9+7ff., and because the rhythmic complexities, which are created by the interplay of the imitative lines, work against clear root identification. It is not until the cadence into R19 that the plagal relation between the G and D roots is clearly established, making D stronger than A.

4.3.2b Second Movement ("Mexican Dance and Finale")

In R20 a Bb tonic is generated harmonically by the progression <I, IV, V11, I>. Bb is supported as a tonic by the Bb-major collection and by the emphasis on pcs Bb, D and F in the outer voices. At R22 a new tonic emerges through a modification of the re-articulated chords that alternated in the Bb tonal area. G is set up as a tonic by neighbor-tone motion around the pitches of a G-major chord, by the G-major chords that start each of the two-measure phrases in the same registration (with the root in the bass and the fifth in the soprano) and by the G-Mixolydian collection.\(^\text{16}\)

The tonal shift from Bb to G is obscured because the alternation between F4 and G4 remains constant in the top voice of the chords in both tonal areas.\(^\text{17}\) At R23-1 the neighbor sonority previously functioning in support of a G tonic, the chord \{G2, C3, A3, C4, F4, G4(5)\}, is retrospectively redefined as an altered dominant of Bb because it reintroduces the progression expressing Bb.

When G returns as a tonic in R24 it is initially expressed by the same neighbor-tone motions which suggested G in R22. G is confirmed as a tonic two measures later by the accent on the pcs D and G in the melody, but it is obscured initially by references to E, which is prominent as an upbeat in the four-measure phrases. The first four-measure phrase also ends on an E minor six-three chord, but this is not a strong reference because

\(^{16}\)In contrast, the neighbor chord has three different pcs – C, A, and G respectively – that appear in the soprano. This makes the restatement of the root-fifth registration of the G-major chord more striking.

\(^{17}\)The temporal placement of these pitches in the Bb tonal area – F4 is stated in odd-numbered measures and G4 is stated in even-numbered measures within the phrase – is reversed in the G tonal area.
the placement of a G chord with an added sixth at the same point in the repetition of this phrase makes us retrospectively hear the harmony of R24+5 as similarly expressing a G root.  

References to E are subdued at R25A by the reappearance of pc F, which has not been heard since R24+5. It is now in the bass for the first time. This deflects the harmony toward the subdominant of G. What starts out as a simple gestural reference to C as the subdominant of G becomes increasingly directed toward C as a tonic in its own right by the accumulation of references to the characteristics of previous C tonics. For example, the transformation of the simple texture of R24 into the very striking and commanding texture at R26A, which uses the entire orchestra, recalls the C tonic of R5, the last time a full orchestral texture was heard in the suite. Further, the outer-voice pattern of the passage from R27+4 to R27A, like the passage in R4+1 to R5-1, can be heard as alluding toward the voice leading model that is shown in Example 4.3. The string (and flute/piccolo) melody in R27+3 to R27A-3 emphasizes the opening step of the soprano in this pattern by changing the pc accented on the downbeat of each measure in R27+3ff.: in R27+3 to R27+4 the accented pc is G; in R27+5 to R27+8 pcs G and A are alternately accented; and in R27A-3ff. pc A is accented. The final pc of this melody in R27A-1 (beat 4) – pc B – is accented by contour (the piccolo B7 is the highest pc of the G tonal area) and by dynamics. The sudden contraction in register at R27A suggests that we hear the B on beat 4 of R27A-1 to function differently than previous occurrences of that pc, that is, pc B is no longer heard at R27A-1 as an upper neighbor tone to pc A. If we accept the model in Example 4.3 then the implied soprano ascent in R27+4 to R27A (<G, A, B, C>) provides the major

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18 However, this repetition simultaneously introduces an alternation of two dyads, \{G3, E4\} and \{E3, D4\}, around a sustained G3 which further emphasizes the pc E. An E tonic is also alluded to by the conjunct voice leading in the bass in R25 to R25A in that the seventh \{E3, D4\} at R25+3 and R25A-1 can be heard to frame the alternating sevenths \{D3, C4\} and \{C3, B3\}. The termination of the bass line <E3, D3, C3, D3, E3> on pc E (at R25A-1) is demarcated by the addition of a third note, a second above the lowest note, within the parallel sevenths in the bass. This predisposes us to hear an E minor-minor seventh chord from R25 to R25A-1.
mode version of the ascent in R4+1ff. (<G, Ab, Bb, C>) created between accented sonorities at the end of the F tonal area in the first movement (recall Example 4.2).

The voice leading directed toward C, however, is interrupted by the dramatic statement of pc Eb by itself at R27A. In some ways, this pc actually strengthens the sense of a C tonic. For example, Eb makes the continued perception of G, the explicit tonic from which motion is directed in the passage, increasingly tenuous because Eb is not present in the established G referential collection. Further, the falling bass line that introduces pc Eb at R27A – <F, E, Eb> – recalls the E-Eb opposition that characterized the C tonic in R5. Moreover, the simple act of succeeding a C-oriented passage with an octave-doubled Eb recalls the similar association of Eb with a C tonic at R6. Finally, the alternation of pc Eb with a G-eleventh chord is suggestive of the alternation between tonic and dominant chords in C minor. This allusion is emphasized when pc Eb, sustained above a rising step-progression in the bass which treats pc G as a goal, inflects the sustained pc G in the direction of a tonic six-four chord in C minor. Example 4.4 presents a tonal interpretation of the step-progression underlying this passage.
Ultimately, C fails to be established as a tonic simply because no root-position C harmony is allowed to sound after G is sustained in the bass. In fact, a C tonic is very expressively denied by the reprise of the "open range" theme with a new pc collection that contradicts C. Because C is never explicitly realized as a tonic, the analysis in Figure 4.1 shows G, and not C, as the tonic from R24 to R28-1.

4.3.3 Third Movement

However, the parallel of R27Aff. to R6 is even deeper than the mere implication of a C tonic. As at R6, Eb here also leads to an Ab tonic, although its arrival is artfully delayed until R29-3. The melody in R28ff. suggests Ab because of its T₈ relationship to R2ff. (i.e., down a major third). But it is perhaps easier to hear B as a tonic because the collection in the melody, which has only one pc in common with the G referential collection, is so unexpected that it makes us focus even more intently upon the B-major triad that opens the theme. The first two notes of this triad are, to some extent, anticipated at R27Aff. in the bass line where the oscillation between pc Eb and the G-eleventh chord results in the repetition of the third <Eb4, B4>. Moreover, the pedal G helps to negate our expectations of an Ab tonic because the resultant harmony, which has a major third,
precludes our hearing a transposition of the minor-minor seventh chord that permeated the melody in R2.

The same G pedal is also, paradoxically, detrimental to our perception of B as a tonic because the most accented pcs in the bass suggest, at least as far as the downbeat of R28, that we hear pcs G, B and Eb to form the augmented chord \{Eb, G, B\}. The tonal ambivalence of this augmented chord, which can potentially function as V\#5 in C, E or Ab respectively, contradicts a B tonic and suggests instead the Ab tonic which arrives in R29-3. Ab is satisfying because we can hear it as a substitution, by a deceptive cadence, for the expected C tonic which was foreshadowed in the G tonal area from R25A on.

The Ab tonic, presaged by the reprise of the Eb interruption and by the transposition of the "open range" theme, arrives at R29-3, where it is melodically generated over an Ab2 pedal. Retrospectively, this arrival facilitates hearing pcs Eb and G, which are sustained in R28-2, as rooted not by C but by Eb. Under this hearing, the B-major triad at the opening of the melody of R28 becomes incorporated into Ab as a jazz extension of a dominant chord (i.e., the chord \{Eb, G, B, F\#\}) which resolves to the tonic in R29-3 (see Example 4.5). The sustaining of pc G in the bass until the oboe states <B4, A\#4, G\#4>, which is the transposition of the crucial line that negated the implication of an Eb tonic at R2, reinforces this hearing. Although Ab is clear after R28, it is not clear in prospect at R27A. As such, the implication of Ab does not fully negate the initial perception of a B tonic. Thus, the B and Ab tonics are marked as overlapped in R28 of Figure 4.1. The support of Ab, when it finally does arrive, by the Ab-major collection, and not by the Ab-minor collection that is predicted by the "open range" theme, marks Ab with the same character of modal mixture that infused the C tonal areas in the opening movement.
Example 4.5 Implied V-I Progression in [28]-2ff.

The F-Aeolian implications of the quoted folk-song at R29ff. are realized at R30. Here an F tonic is generated by the plagal progression <I, IV, I6>. F is understood as the tonic because F-rooted harmonies begin and end the repeated three-measure phrase. At R31-3 the Ab-major opening phrase of this movement is reprised, but it does not dislodge the F tonic yet. Instead, the F and Ab tonics are overlapped from R31-3 to R31+1, and Ab does not clearly return until it is melodically generated in R31+2ff. The main cause of this overlap is the ambivalent association that the first and last chords in the repeated series <{Ab2(4), C5}, {F3(4), Ab4}, {C3, Eb4, Ab4}, {Eb3, C4, G4}> have respectively with F and Ab roots and C and Eb roots. At the beginning the first chord has an F root because it is preceded by a C-rooted sonority (the fifth {C4, G4, C5}) and followed by an F-rooted sonority (the second chord in the series). The repetition of the series, however, makes the same chord sound like it has an Ab root because the fifth motion <Eb3, Ab2> in the bass follows the third chord of the series, which has an Ab root. This relationship subsequently causes a reevaluation of the root of the fourth chord of the series from C (as F:v6) to Eb (as Ab:Vadd6).

The tonic succession in the third movement, <Ab, F, Ab>, is transpositionally related to the tonic successions of the two halves of the second movement: it is T10-related.
to that which opens the "Mexican Dance and Finale" and \( T_0 \)-related to that which opens the second movement. Because both of these earlier successions continue with a restatement of the second tonic of the pattern (i.e., G at R24, and F at R7+8) we expect an F tonic to arrive at R33.

### 4.3.4 Fourth Movement

However, it is not F but A that becomes the tonic of the fourth movement because of the percussive reiteration of pc A following the A-rooted minor third \( \{A, C\} \). This makes the only other harmony in R33 to R35+1, the third \( \{F, A\} \), sound like A: \( \text{VI} \). The A tonic is, however, clouded by references to an F tonic starting as early as R35 because of the emergence of the ostinato \(<F1, A1, F1>\) from the repeated bass A of R33ff. The conflict between A and F tonics continues in the motives heard later within the movement. For example, motives 3, 4, 5 and 6 (Example 4.1) can refer to either an A or F tonic.\(^{19}\) Ultimately, the ambiguity between F and A is resolved in favor of the latter when the bass ostinato \(<F1, A1, F1>\) is displaced at R39 by a repeated A, the derivational origin of that ostinato. Pc A here is even more emphasized than at R33ff. because it constitutes the entire texture.

The motivic material of this movement recalls key elements of the passage preceding the pivotal reprise of the "open range" theme (R27+3 to R27A). For example, the implied ascent from pc G to pc C (shown in Example 4.3) is recalled at R36 when the string motive in R36 traces a descent from pc C to pc G using the same pcs. This motive also alludes to the withholding of pc C at R27A because its first five pcs focus on an alternation between B and C. Similarly, the alternation between pcs F and E, which was so

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\(^{19}\) Motives 4 and 6 are particularly interesting because they suggest that Copland's music is imitating certain characteristics of Stravinsky's centric music. For example, both of these motives suggest the chord \( \{F, A, C, E\} \) (a 047c tetrachord) within a passage that treats the diatonic octad \( \{A, B, C, D, E, F, F\#, G\} \) as a referential collection. This superficially conforms to characteristics which Johnson notes in music by Stravinsky that exhibits a major-third polarity. See Paul Johnson, "Cross-Collectionsal Techniques of Structure in Stravinsky's Centric Music," in *Stravinsky Retrospectives* (Lincoln: University of Nebraska Press, 1987), p.56.
emphatic in the bass line from R25A to R27A, is recalled in the prominence of pcs E and F in several of the motives. For example, E and F are prominent in the beginning of the woodwind motive in R35+2, and they registrally frame the arpeggiation of the F major-major seventh chord, <F4, A4, C5, E5>, in the xylophone motive in R36-4. The most important correspondence, which is the brass chordal motive of R36+6 shown in Example 4.6, simultaneously refers to both voices in the voice-leading model of the passage leading up to R27A. For example, the conjunct voice leading in the outer voices of these chords recalls the earlier ascent <G, A, B>. Similarly, the contrary motion that exchanges pcs E and F in the outer voices of the first two chords recalls the emphasis on pcs F and E in the bass in R25A to R27A. Finally, if one groups the descent in the strings (<C, B, A>) together with this motive then a descending (stepwise) root progression, matching the bass line of the chords, emerges.

Example 4.6 Brass Chordal Motive ([36]+6ff.)

[Example diagram]

Roots: F E D

The accumulation of these motivic references to R27A recalls the C tonic that was implied, but expressively withheld, when G was a tonic. The brass motive, in particular, seems to suggest C partially because C would logically be the next root if a fourth chord were added but also because the juxtaposition of this motive with the string melody alternating pcs B and C makes the final sonority sound like ii7 in C. Besides offering a
sense of connection to, and continuity from, R27A these references are also important in preparing the return of C as a tonic in the next movement.

**4.3.5 Fifth Movement**

At R40 the texture is divided into strands: an upper strand melodically generating a C tonic, and a lower strand generating C# by a repeated ascending-fourth pitch motion. Julia Smith suggests this bitonal setting is meant to approximate an out-of-tune player-piano which is entertaining the town in celebration of Billy the Kid's capture. The standard accompanimental pattern – accented bass note followed by a [melodically realized] chord – seems to support this interpretation because it is divided between the two strands. If one transposes the bass line down a semitone the entire passage becomes unequivocally C major. The contrasting pitch level of the bass line, however, is particularly important because it casts new perspectives on the pcs which are emphasized in the melody and introduces unexpected roots. This is shown through the contrast of Examples 4.7a, which gives a pure C-major context by transposing the bass down a semitone, and 4.7b, which shows the actual passage. For example, pc B at R40+1, which is an embellishing major seventh in Example 4.7a, is a minor seventh which suggests a possible resolution to pc A in Example 4.7b. Similarly, pc A at R40+4, which is a non-essential sixth in Example 4.7a, acts as the resolution of the dissonant pc B and becomes an essential tone as the root of an A minor-major six-three chord in Example 4.7b. Finally, pc F at R41, which is the seventh of a dominant seventh harmony above a tonic pedal in Example 4.7a, is the third of a C#-major harmony which sounds throughout the measure in Example 4.7b.

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20 Because of the strong accent on pc B (R40+1) the first three pcs of the upper strand – <G4, A4, B4> – initially seem to support a G tonic. However, this initial reference to G is not sufficient to overshadow the C tonic that is generated by the melody as a whole. The allusion to G is important because it recalls the last time G was a tonic – R24ff. – and, thereby, represents the first element in a series of subsequent references in the fifth movement to the voice-leading structure shown in Example 4.3.

21 Smith, op. cit., p.190. There are, however, other non-programmatic reasons for the opposition between C and C# tonics that are revealed by the tonal structure of the movement as a whole, as we shall see.
Example 4.7

a) [40]+1ff. With Bass Transposed Down a Semitone

Roots: C

b) Actual Context of [40]+1ff.

Roots: C# E C# E C# E A B [C??] C#

Example 4.7b is also significant in terms of roots because the C# substitution creates chords whose roots – C#, E and A respectively – collectively suggest an A tonic. Only the second chord in R40+4 has any resemblance to a C-rooted sonority, and this reference is ambiguous because the chord is an augmented triad.22

The reference to A, which is caused by the unexpected roots in the passage, is important in immediate tonal connections because it prepares the next tonic. A is generated in R43ff. by the repeated progression <I, IV, bVI, i>, by the A-Mixolydian collection, and by the termination of the repeated four-measure phrase with the melodic gesture <A4,

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22The reference to an augmented triad, which most likely has an E root, foreshadows the ending sonority of the suite, the chord {E, G#, B, C}. 

E4, A3>. The C-C# tonal opposition returns at R44, only to lead once more to the contrasting A tonic at R45-2. This mimics the tonal structure of the second and third movements, which also alternate tonics related by minor thirds. The use of new material for the second A tonic recalls the similar thematic differentiation of the G tonics in the "Mexican Dance" and the subsequent "Finale" in the second half of the second movement. That is, when G returns as a tonic in the second half of the second movement it is associated with the theme of the "Finale." A is generated at R45-2 by the repeated descending-fifth pitch motion <E4, A3> above an ostinato, <{C2, C#4}, A1, {C#2, C4}, A1>, that incorporates pcs C and C# as chromatically opposed representatives of the third scale-degree. A is confirmed as a tonic by the ending of the first four-measure phrase (R45+3) and by the A-major collection in the melody.

At R46 a restatement of the material in R42ff. transposed to Eb interrupts the progression from A to the bitonal C/C# texture that we have been preconditioned to expect. This texture resumes four measures later. The sixth movement ends with the chords \{G#1(2), D4, F#4, A4, D5\} and \{C#2(3), C4, Eb4, Ab4, C5\}. This chord succession, originally a subordinate phrase ending at R48, is incessantly repeated to form a four-measure phrase-extension at R48+4. It strengthens the opposition between the C and C# tonics (see Example 4.8). If we view the bitonal texture of this movement as an alteration of an essentially C-major texture then the closing two-chord gesture in R48+4ff. represents an altered \langle V, I \rangle progression in C. However, the roots of these chords suggest

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23 R46 is also striking formally because the material of section p changes its function: at R43 this material is used to introduce another contrasting segment in a different key (segment C in the rondo); but at R46 it is used to segue into a reprise of the opening material in the original bitonal texture of the movement (segment A in the rondo).

24 Because the drama of the next movement dwells on the fact of Billy's death it is natural to identify the emphatic repetition of these chords as symbolizing the final gun battle in which Billy is mortally wounded following his prison escape. Obviously, such a view is not tenable if one considers the original context of the ballet because the movements of music where Billy was incarcerated, etc., have been omitted. However, the similarity of this material to that in the fourth movement and in R27A to R28 is highly suggestive of a struggle of some sort. If we consider the ending of the "Celebration" in this manner then the tonal opposition between C and C#, which is the focus of the entire movement, inherently contains within it the germinal seed of what is eventually associated with Billy's death. This is appropriate symbolically because it suggests that Billy's death, like his life, is shaped by his society.
that we understand this two-chord gesture as a \(<V, I>\) progression in C#; G# and D are the roots of the first chord;\(^{25}\) and C# is the root of the second chord. The resulting opposition between C and C# is reinforced when it is pc C, and not pc C#, that is sustained by itself following the last statement of this gesture. This effectively crystallizes the opposition between the C and C# tonics that was introduced at R40.

Example 4.8 Concluding Gesture of Bitonal C/C# Texture (48 ff.)

The fifth movement makes numerous references to the seminal voice-leading model underlying K27+4ff. (Example 4.3). For example, the main theme of the bitonal texture begins with the ascent \(<G, A, B>\), and, in the phrase repetition at R41ff., uses the same ascent in a transposition down a fourth (within the C referential collection) as the upper portion of the accompanimental pattern. This transposition, \(<D, E, F>\), recalls the descent (\(<F, E, D>\)) that characterized the lowest voice and implied root progression of the brass motive at R36+6 (shown in Example 4.6). The change of span in this motive from a major (\(<G, B>\)) to a minor third (\(<D, F>\)), which results from this transposition, foreshadows a similar shift between minor and major thirds that culminates in the arrival of the final tonic of the suite.

\(^{25}\)G# is considered as a root of the first chord because of the predisposition toward continuing a texture divided into two streams, and the noted similarity to a \(<V, I>\) gesture in C#.
The references to the voice-leading model in Example 4.3 are continued in the first A tonal area (R43ff.) by a similar incorporation of an ascending major and minor third, \( \langle A5, B5, C#6 \rangle \) and \( \langle B5, C#6, D6 \rangle \) respectively, in the melody and by the curious harmonization at R46-6ff. of the melody in the second Atonal area (R45ff.). The latter, which results in a simultaneous statement of the theme beginning on A5, F#7 and G#7 respectively, recalls the sonority \( \{F3, G3, E4\} \), which was introduced in the bass in R25Aff. and was similarly subjected to parallel motion.

At R49 a G tonic is melodically generated by repetition of the ascending bass line \( \langle G1, B1, D2 \rangle \). G is supported by the G-major collection, and by the harmonic progression \( \langle IV, (III), V6/4, I \rangle \) (R49+2 to R49+4).

### 4.3.6 Sixth Movement

At R51 the first theme of the suite is recapitulated above a G1(2) pedal. The C tonic, which we are predisposed to hear, is generated when this pedal tone becomes the root of the chord \( \{G1(2), D3, F3, Bb3, D4\} \) and resolves to the C-rooted chord \( \{C2, A3, C4, E4, C5, G5\} \) in R51+6. R52 recapitulates R4 and generates an F tonic in the same manner. Unlike that in the opening movement, this F tonic is not followed by a C tonic. The suite ends, instead, on an E tonic which is generated in the same way C was generated in the first movement.

### 4.3.7 Aspects of Resolution in the Final Tonal Area

The E tonic ending the suite has a programmatic function. Copland apparently intended it as a "different coloration to convey the idea of a dawn breaking over the prairie." It is dramatic because it produces a higher, more triumphant, sound and allows for a fuller orchestration of the "open range" material than the original pitch level.

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26 The opening gesture of this melody — \( \langle C#7, B6, A6, G#6 \rangle \) — is similarly related to the seminal voice-leading model in Example 4.3.
However, the move to E at the end can also be understood as a culmination of several processes in the suite. On one hand, it is the ultimate formal realization of the modal mixture which characterizes the C tonic in the first movement. Eb is related to C when it delays the resumption of the bitonal texture in the fifth movement; E is related to C at the end because the recapitulation of the first two tonal areas of the first movement (C and F) in the sixth movement preconditions us to understand E as a substitution for the C tonic that we expect. Further, the opposition between pcs Eb and E is underlined at two important points in the suite – R6-1 and R27A – by the statement of pc Eb alone immediately following passages where pc E has been emphasized: at R6-1 Eb is stated after pc E is established as the third scale-degree of C in the emphatic last statement of the "open range" material in the first movement; and at R27A Eb is stated after pc E has been emphasized as the sixth scale-degree of G.

The material at R28 is important because it helps to establish a connection between C and E. For example, the emphasis on pcs B and C at R28 (as different representatives of the third scale-degree of Ab) is recalled in different ways in the C tonic at R40ff. and in the E tonic at R54+5ff. At R40 there is an the insistent emphasis upon pc B in the melody of the C tonal strand, and at the end of the suite pcs B and C are both included in the final sonority of E.

The opening material of the fifth movement strengthens a connection between C and E because the bitonal setting introduces pc E as a root of two chords (recall Example 4.7b) – a minor-major chord (\{G\#1, E4, G4, B4\} at R40+1, R40+2 and R40+3) and an augmented triad (\{G\#1, C4, E4\} at R40+4) – that foreshadow elements of the final E tonic. For example, the minor-major chord anticipates the modal mixture (two different third scale-degrees) that, inherent to the "open range" material, manifests itself at R54 of the concluding E tonic area (R53ff). The augmented chord \{E, G\#, C\} anticipates the ending sonority of the suite – \{E, G\#, B, C\} – because it contains three of the pcs of that
chord. It might also be understood as a reflection of the modal mixture of the "open range" material of the beginning because it is \( T_1 \)-related to the previous augmented triad – \{Eb, G, B\} – that is formed by the outer voices in R27A to R28-2 as a result of the alternation between pc Eb and the G-eleventh chord.

E and C are also related through an important ascending step-progression in the strings, \(<F\#6, G\#6, A\#6, C7>\), that is superimposed over the repetition of an E-major chord at R54ff. (see Example 4.9a). This links the ending E tonic to the material at R28 because the highest note of the B-major chord in the melody, F\#, is the starting pc of the ascent. However, the implicit emergence of pc F\# from pc E in R54 parallels the earlier emergence of pc F\# in R28 from a texture that emphatically emphasized pc E. This suggests pc E is the ultimate origin of this line. Thus, the step-progression in the strings in R54ff. presents a microcosmic motion between pcs E and C that recalls the macrocosmic tonal motion of the suite as a whole.

The final two pcs of this line, Bb and C respectively, are also important in the long-term connection of C and E (see Example 4.9b). They provide the voice-leading resolution, albeit in a different context, of the lowered seventh scale degree (Bb) of C. This resolution was avoided in the first movement of the suite by punctuating the end of phrases with a chord having the fifth scale-degree (pc G) in the soprano. The use of Bb (A\#) is also, in itself, significant because that pc is a not a member of the established E referential collection, and it prepares a C that sounds simultaneously with B. This recalls the opposition between major and minor modes that characterized the C tonic of the first movement.
The step progression in R54ff., however, also brings our attention to an important motive in the soprano voice of the chords that end the first and last movements of the suite (see Example 4.9c). For example, the most striking thing about the opening C tonic is the successive transformation of the chord ending each phrase, a transformation that results in a shift from pc G to pc A in the soprano. The E-major chord sustained in R54ff., already emphasized by the superimposed step-progression, has the fifth scale-degree (pc B) in the soprano. The resultant soprano line of these chords, \(<G, A, B>\), restates the ascending line which has increasingly predominated the motivic structure since R27+4ff. Thus, the final sonority of E becomes the goal of a larger process that becomes increasingly more evident following the crucial denial of C at R28.
4.3.8 Minor-Major Third Complexes in the Tonic Succession

The tonic succession in the suite also contains an opposition between major and minor thirds. For example, the crucial G tonic at R24 (the "Finale" of the second movement), which created the expectation of a return to C, is framed by the tonics Bb and B in R23 and R28 respectively. The implicit contrast between the minor and major thirds of G, which is suggested by this tonic succession, is strengthened by the initial reference to a G tonic (R22) within a larger Bb tonal area and by sustaining pc G as a pedal when the melody expressing B is stated in R28.

The tonic succession in the third, fourth and fifth movements also creates minor-major third complexes but about pcs F and A: the third and fourth movements contain the tonic succession \(<Ab, F, Ab, A>\); and the fifth movement contains the tonic succession \(<C/C#, A, C/C#, A>\). These complexes might be construed to suggest another relationship between C and E. For example, the succession \(<Ab, F, Ab, A>\) is associated with C because the opening tonic (Ab at R29) sounds like C:bVI. However, the succession \(<C/C#, A, C/C#, A>\) is associated with both C and E: it occurs in a movement where C is a very important tonic; and the bitonal texture C/C# is permeated by references to E as a chord root. Thus, we might understand the first complex \(<Ab, F, Ab, A>\) as oriented toward C and the second as marking a shift toward E.
4.4 Pc Continuity

Figure 4.2 summarizes the pc-scale-degree design of the suite. Most of the changes from one tonic to the next are marked by several connecting streams, emphasizing a high degree of connectivity in the suite. The abundance of common pcs between collections associated with successive tonics compensates for the disruptive sectional nature of the music that results from the use of many different themes. The motives which link primary connective streams are shown in Example 4.10.

Example 4.10 Motives Identified in the Pc-Scale-Degree Design

\[ \text{M1 (mm.1ff.)} \quad (11 +5ff.) \quad \text{M2 (19-3ff.)} \]

\[ \text{M3 (15 +2ff.)} \]

\[ \text{M4 (16 ff.)} \]

\[ \text{M5 (20 ff.)} \]
4.4.1 Stream Generation

Streams in the suite are sustained over long periods of time, and tend to a great number of tonics. Very often when a tonic returns after being briefly displaced by another tonic in the suite the same pcs are emphasized throughout. Thus, in the tonic succession \(<C, F, C>\) of the first movement a focus is maintained on the pcs G, Bb and C. Similarly, in the tonic succession \(<Ab, F, Ab>\) in the third movement a focus is maintained on the pcs F and C. Further, streams in *Billy the Kid* are particularly obvious in that they are often created by registral connections (i.e., the repetition of particular pitches) or by a common pc acting as the first pc of a theme which interrupts a previous melody.

Registral connections generating a primary stream can be seen in the connection of the Bb and G tonics in R23 to R24. The melody at the end of the Bb tonal area emphasizes D5 in the repeated gesture \(<D5, Bb4>\); the melody of the subsequent G tonic places agogic accents on D5. The F and Ab tonics in R30 to R31+2 are similarly connected by the pitch C6, which is prominently sustained in the highest voice.

Primary streams are frequently generated in the suite by using an expected (collectional) pc as the first note of a theme that interrupts another theme. For example, when the twelve-measure phrase in Bb is repeated at R21ff. the expected ending gesture, \(<D5, Bb4>\), is replaced by the gesture \(<D4(5,6), C4(5,6)>\), which is the opening gesture of a new G tonal area, where pc D assumes a new scale-degree function as the fifth. 28 Often, as in the fifth movement, this technique of connection results in fairly striking interruptions. For example, at R45-2 an A tonic interrupts the concluding phrase of a C tonic, replacing the expected final measure of a repeated two-measure sub-phrase (the melodic gesture \(<C5, E4, C4>\)) with new material. We expect pc E at R45-2 to sound in

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28The actual phrase before G arrives is, in fact, twelve measures, but this results from an internal expansion caused by the repetition of the eighth and ninth measures of the twelve-measure phrase. The phrase symmetry allows the arrival of G as a tonic to simultaneously sound as a regular interlude, and not simply as an interruption.
Figure 4.2 Pc-Scale-Degree Design of Billy the Kid (Orchestral Suite)

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<th>1</th>
<th>2</th>
<th>+4</th>
<th>3</th>
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<th>5</th>
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<td>II.1 &quot;Street in a Frontier Town&quot; (rondo)</td>
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<td>a6</td>
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<td>Db</td>
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**Diagram:**
- **A:**
  - \( \hat{6} \)  
  - \( b6 \)
  - S-b6-b3

- **Ab:**
  - \( \hat{6} \)

- **G:**
  - P1 \( \hat{5} \)
  - 2 \( \hat{5} \)

- **F#**

- **F:**
  - M1
  - \( \hat{6} \)
  - P2 \( \hat{6} \)
  - 1 \( \hat{6} \)

- **E:**
  - \( \hat{3} \)

- **Eb:**
  - S-b3
  - b3
  - P-b3
  - 5
  - P1-b7

- **D**

- **C#**

- **C:**
  - P1
  - 5
  - S-1
  - 3
  - 3
  - 3

- **B**

- **Bb:**
  - P1-b7
  - 4

**Key Dots:**
- F
- G
- Eb
Figure 4.2 (cont.)

<table>
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<th>R:</th>
<th>10</th>
<th>+4</th>
<th>11-4</th>
<th>11</th>
<th>12</th>
<th>14</th>
<th>15+2</th>
<th>16+5</th>
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<th>18</th>
<th>19-4</th>
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<tr>
<td>Movements:</td>
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<td>Sections:</td>
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<td>b3 (cons.) c3</td>
<td>c4</td>
<td>d (trans.)</td>
<td>e</td>
<td>f</td>
<td>e1</td>
<td>c5</td>
<td>b4</td>
<td>g (trans.)</td>
<td>h</td>
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<tr>
<td>Tonics:</td>
<td>Db</td>
<td>F</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>Bb</td>
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A
Ab
G
F#
F
E
Eb
D
C#
C
B
Bb
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### Figure 4.2 (cont.)

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<th>R.</th>
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<tr>
<td>Movements:</td>
<td>II.2 &quot;Mexican Dance and Finale&quot;</td>
<td>III. &quot;Card Game at Night&quot; (ternary)</td>
<td>IV.</td>
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<td>i</td>
<td>h2</td>
<td>j</td>
<td>j1</td>
<td>j2</td>
<td>k (trans.)</td>
<td>a7</td>
<td>l</td>
<td>m</td>
<td>l1</td>
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<tr>
<td>Tonics:</td>
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<td>B</td>
<td>B</td>
<td>Ab</td>
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<td>F</td>
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<td>Ab</td>
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</tbody>
</table>

A

Ab

G

F#

F

E

Eb

D

C#  

C

B

Bb
Figure 4.2 (cont.)

| R:   | 33 | 35 | +2 | +8 | 36 | +7 | 37 | +5 | 38 | -4 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Movements: | IV. "Gun Battle" (variations) | | | | | | | | | | | | | | | | | | | |
| Sections: | n | n1 | n2 | n3 | n4 | n5 | n6 | n7 | n8 | \( R \) | o | o1 | p | q | o2 | r | p1 | o3 | o4 |
| Rondo: | A | A | B | C | A | D | B | A | A |
| Tonics: | A | C, C# | A | C, C# | A | Eb | C | C# |

\[
\begin{align*}
A \quad & \quad \overset{\text{P} \hat{1}}{\longrightarrow} \overset{\hat{6}}{\longrightarrow} \overset{\hat{1}}{\longrightarrow} \\
Ab & \quad - \quad - \quad - \\
G & \quad \overset{\hat{6}}{\longrightarrow} \overset{\overset{\hat{5}}{\text{S}} \overset{\hat{7}}{\text{S}} \overset{\hat{5}}{\text{P} \hat{3}}}{\longrightarrow} \\
F# & \quad - \quad - \quad - \\
F & \quad - \quad - \quad - \\
E & \quad - \quad - \quad - \\
Eb & \quad - \quad - \quad - \\
D & \quad - \quad - \quad - \\
C# & \quad - \quad - \quad - \\
C & \quad - \quad - \quad - \\
B & \quad - \quad - \quad - \\
Bb & \quad - \quad - \quad - \\
\end{align*}
\]
Figure 4.2 (cont.)

R: 48 49 50 51 52 53 54

Movements:
(V.) VI. "Billy's Demise" (variations)

Sections: (o4) s s1 a a5 a8

Rondo: (A) E E

Tonics: C G C F E
the context of C because of the preconditioning of the top voice of the accompanimental pattern in R44+2ff. – the alternation of F4 and E4 in this voice predicts the arrival of pc E at R45-2. However, pc E begins an accompanimental pattern in A.

Other important methods that generate primary streams of connection include connection by a common soprano note in chords that are successive over the point of tonal change, the continuation of an accompanimental motive from one tonal area to the next at the same pitch, the use of a characteristic recurrent dyad, and incessant reiteration of a pc as a dissonance.

Connection by a common soprano pc is best shown in the single primary connective stream at R14. Pc F, the soprano pc of the Db-major chord ending the Db tonal area, is the soprano pc of the first chord of the F tonal area (F: "IV").

Connection by the continuation of an accompanimental motive is best demonstrated in two motivically analogous areas, R8+1 to R9+7 and R18 to R19-4. The accompanimental patterns <F3, E4, G4> and <D4, C#5, E5> respectively are continued as ostinatos in the lowest voice while a new theme, generating a tonic a fifth away, is superimposed. This forces the listener to focus on the changing meaning of the pcs in the repeated accompanimental pattern.

Generating a pc stream by the use of chords which feature a recurrent dyad is particularly important at the end of the suite. For example, primary streams are created on the pcs C and C# at R44 to R46+4 because of the emphasis on chords that contain both these pcs in the C/C# and the A tonal areas.29 The chords on the downbeats of R44+3 and R44+5 in the C/C# bitonal texture – the A minor-major chord, and the C-major triad above C# in the bass respectively – contain pcs C and C# in a prominent (outer voice) position.

29The Eb tonic, while generating a primary and secondary stream of connection on its own, is parenthetical to the streams connecting the C/C# and A tonal areas. The streams connecting Eb only temporarily suspend the continuation of a primary connective stream on pc C#.
The placement of these chords on the downbeat of every other measure establishes a pattern that is continued at R45-2 when the first chord of the A tonal area also prominently contains pcs C# and C. Pcs C and C# are made particularly conspicuous in R45-2ff., however, because they appear in the bass within a one-measure ostinato that alternates the dyads \{C2, C#4\} and \{C#2, C4\} on beats 1 and 3 respectively. The next C/C# area (R46+4) first emphasizes C# and C by re-articulating a C-major triad above the C# bass line, but later repeats a closing melodic figure (R47+5ff.) such that a chord containing C# in the bass and C in the soprano appears on the downbeat of every other measure.

The recurrent dyad \{G, D\} is particularly important at the end of the suite. Starting as a simple continuation of the primary stream on D at the end of the G tonic in R51-3, \{G, D\} is emphasized because pc D is given a special timbre – it is played by the harp.\(^{30}\) The G pedal in the bass which connects the G tonic to the following C tonic resolves to a C-rooted sonority only after pc D is sounded as the soprano pitch (R51+5). \{G, D\} reappears a measure later as the expected ending gesture of the phrase in the high woodwinds. The \{G, D\} fifth recurs between the highest voices in the first three measures of the F tonal area (R52ff.). (Because this involves all three pcs of the woodwind gesture ending the C tonal area – pcs D, G and C – Figure 4.2 shows that an additional primary stream on pc C is related to the streams on D and G that connect the C and F tonics.) This connection is reinforced because the C tonal area does not end with the dramatic Bb-rooted chord of R4-4, which connected the C and F tonics earlier in R3 to R5. The climax of this set of pc streams occurs when the fifth \{G, D\} becomes the highest two voices of the first sonority of the E tonal area (R53). The final transformation of the \{G, D\} fifth is satisfying, in part, because we hear pc D as the strongest pc connector between the F and E tonics. This focus on D realizes a change in function of that pc that is projected in the

\(^{30}\) The stream on pc D was originally generated by a similar kind of prominence at the end of the first and third measures of four-measure phrases, a prominence which was emphasized by stating D over harmonies in which it was not consonant (i.e., D is stated above the subdominant in R49+2, and sustained above Db-major, B-major, and A-major triads in R49+4 to R49+5).
opening movement of the suite. For example, pc D originally appears as the highest note of the woodwind motive that ends section a1 and a3, and then becomes the root of a D-major triad superimposed upon a C-ninth chord at the end of next section (a4).

4.4.2 Pc-Scale-Degree Design

The music projects characteristic ways in which prominent pcs change scale-degree function when the tonics change. These characteristic changes are repeated, even when the pc materials and tonics are different, and different movements characterized by similar changes in scale-degree function sound similar on this account.

Table 4.2 demonstrates how the pc-scale-degree design in Figure 4.2 reflects the interaction of two important abstract groupings of pc streams of continuity – \{<5,2>,<3,7>,<1,5>,<1,4>\} and \{<3,5>,<1,3>,<5,7>,<6,1>\} – by charting the timepoints at which these streams are initiated on particular pcs. Many of the streams listed in this table involve only primary streams. These are indicated by a box around the respective pcs. Table 4.2 treats streams that contain different representatives of the same scale-degrees as the same. That is, the table ignores the relatively superficial differences between, for example, the stream \(<1,3>\) and the stream \(<1,3>\). Streams have been listed in Table 4.2 by the first form in which they appear in the pc-scale-degree design of the suite. Table 4.2 includes retrogrades of streams, which are indicated by brackets, because these occur at almost every significant repetition of a part of each group in Figure 4.2. For example, the stream on pc G which is initiated in m.1 – \(<5,2,5>\) (the first stream of Group 1) – contains both \(<5,2>\) and its retrograde \(<2,5>\). Similarly, the stream on pc F which is initiated at R6 – \(<6,1,6,1,4,4,\ldots>\) – contains both \(<6,1>\) (the fourth stream of Group 2) and its retrograde \(<1,6>\) and \(<1,4>\) (the fifth stream of Group 1) and its retrograde \(<4,1>\). However, Table 4.2 lists retrogrades only when they illustrate a contrast between successive combinations of streams or show a formal parallel between different parts of the pc-scale-degree design. Thus, Table 4.2 shows the retrogrades of the streams
Table 4.2 Repetition of Groups of Streams in Figure 4.2

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<th>II.2</th>
<th>III.</th>
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- $b7, 4$
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- $<3, b7>$
- $<6,1>$
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**Group 1**
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- $E$
- $C$
- $E$
- $E$
- $C$

**Group 2**
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- $C$
- $C$
- $C$
- $C$

**Other**
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- $A$
- $A$
- $B$
- $D$

- $D$
- $G$
- $G$
- $Bb$

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$\hat{1}$

$\hat{3}$
<3,5> and <€,1> at R31-3 because they coincide with the statement of third retrograded stream from Group 2 (the stream <b,7,5> on pc Eb) which was absent at R29-3. Similarly, Table 4.2 shows the retrogrades of the streams <b,3,5>, <9,b,7>, and <€,1> at R7+4 and R22 because this shows that the pc-scale-degree design takes on a similar form at the beginnings of the two halves of the second movement ("Street in a Frontier Town" and "Mexican Dance and Finale"). Retrogrades are particularly significant for the perception of Group 2.

The two groups of streams shown in Table 4.2 are derived from the repetitions of streams in Figure 4.2. Group 1 is relatively easy to derive from Figure 4.2 because all five streams – <5,2>, <b,3,7>, <1,5>, <b,7,4>, and <4,1> – are initiated at R9+4: we hear pcs G, E, C, Bb and F change scale-degree functions respectively from 5, b, 1, b, and 4 to 2, b, 5, 4 and 1. Group 2, however, is more obscure than Group 1. It is the sum of the streams that are initiated at R20 and R28 respectively. That is, at R20ff. the first, third and fourth streams of Group 2 occur when we hear pcs D, F and G change scale-degree functions respectively from 3, 5 and 6 to 3, b, and 1; at R28ff. the first, second and third streams of Group 2 occur when we hear pcs Eb, B and F# change scale-degree functions respectively from 3, 1 and 5 to 3, b, and b. Group 2 is similarly suggested by the numerous simultaneous statements of three of its constituent streams. For example, as discussed above, the retrogrades of the first, third and fourth streams of Group 2 are stated in streams that are initiated at R31-3. Similarly, the second, third and fourth streams of Group 2 are present in streams that are initiated at R40 and R42 (in the tonic succession <C/C#, A>). That is, we hear pcs C#, C, G and A change scale-degree functions respectively from [ ]/1, 1/[ ] , 5/[ ] and 6/[ ] to 3, b, and b. Group 2 is more elusive than Group 1 because we never hear a simultaneous statement of its four streams.

31 The square brackets signify that a given pc has a scale-degree function in only one part of a bitonal texture.
The purpose of Table 4.2 is to show the interaction of streams from Groups 1 and 2. These groups of streams are clearly distinguished by behavior. Those of Group 1 are largely static. Most of the repetitions of streams from this group result from either the transposition or literal recapitulation of thematic material. For example, the streams initiated at R19-4 are T9 of those initiated at R9+4 because both involve the material of section b. More importantly, however, the streams initiated at R51, which could be considered as a support for the cyclic form, result simply from the literal recapitulation (T0) of the thematic material that generated the streams at m.1. In Table 4.2 these thematic recapitulations are marked by curved lines labeled as T9 and T0 respectively that connect circled rehearsal numbers.

However, repetitions of Group 1 streams are not entirely constrained to thematic recapitulations. For example, the first two statements of streams from this group, at m.1 and R9+4 respectively, do not result from passages with obviously related thematic materials. These statements have four streams in common—the streams <5,2>, <1,5>, <b3,b7> and <b7,4>. However, even this relatively striking correspondence possesses a static aspect because the streams at m.1 and R9+4 result from the same tonic succession—<C, F>. Thus, three of the four common streams occur on the same pcs. That is, in both passages we hear the pcs G, C and Bb change scale-degree functions respectively from 5, 1 and b7 to 2, 5 and 4. Only the fourth common stream—<b3, b7>—occurs on two different pcs: at m.1 pc Eb changes scale-degree function from b3 to b7; at R9+4 pc E changes scale-degree function from 3 to 7.

In contrast to the mostly static repetition of streams from Group 1, however, the repetition of streams from Group 2 is much more flexible and dynamic. The pc-scale-degree design in Figure 4.2 employs many different combinations of its constituent streams. Sometimes, like at R10, it is fairly difficult to infer the presence of streams from Group 2 because only one of its streams—<1,3> on pc F—is present. What is revealed by
Table 4.2, however, is the consistency between the pc-scale-degree designs within the two halves of the second movement and between the second and third movements. For example, at the beginning of the first part of the second movement (R6) we hear the different pcs F, Eb and C change respectively from \(\hat{6}, \hat{5}\) and \(\hat{3}\) to \(\hat{1}, b\hat{7}\) and \(\hat{5}\) and then revert to their former functions. The initial change is then repeated. When the second half of this movement begins (R20) we hear an almost identical pc continuity structure but the changes from \(\hat{6}, \hat{5}\) and \(\hat{3}\) to \(\hat{1}, b\hat{7}\) and \(\hat{5}\) now occur on the pcs G, F and D respectively. The streams \(<\hat{3}, \hat{5}>\) and \(<\hat{5}, b\hat{7}>\) are then repeated at R28 as part of a group of three streams that articulate the third movement. Thus, at R28ff. we hear pcs Eb and F\# change scale-degree function respectively from \(\hat{3}\) and \(\hat{5}\) to \(\hat{1}\) and \(b\hat{7}\). The stream \(<\hat{6}, \hat{1}>\) is replaced by the stream \(<\hat{1}, b\hat{3}>\) that occurs on pc B. The repetition of these groupings at the beginning of II.1 and over most of II.2 respectively unifies the two disparate halves of the second movement.

The specific grouping of streams which occurred at R20 then becomes the focus of the third movement. However, the second stream of this particular group – \(<\hat{5}, b\hat{7}>\) – enters late and, therefore, appears only in its retrograde form. Thus, at R29-3ff. we hear the pcs F and C change scale-degree functions from \(\hat{6}\) and \(\hat{3}\) respectively to \(\hat{1}\) and \(\hat{5}\). The stream \(<b\hat{7}, \hat{5}>\) on pc Eb enters (R31-3) when these changes are reversed.

The ending streams on pcs G and C, however, contain retrogrades of two of the four streams from Group 2 – the streams \(<b\hat{3}, \hat{5}>\) and \(<\hat{1}, \hat{6}>\). We hear these streams from Group 2 because of preconditioning, that is, when E is substituted at R53 for the C tonic, which is forecasted by the large-scale recapitulation, the change of scale-degree function in these connective pcs between R51ff. (when C is the tonic) and R53ff. (when E is the tonic) is emphasized.\(^{32}\) Thus we hear a broader change in the respective scale-degree functions of pcs G and D from \(\hat{5}\) and \(\hat{1}\) (at R51) to \(\hat{3}\) and \(\hat{6}\) (at R53). The accentuation of streams from Group 2 within streams from Group 1 at R51ff. suggests that the final E tonic

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\(^{32}\) This process is unique to this context. Without the substantial preconditioning of this context we would not hear the streams included for Group 2 at R51 in Table 4.2.
synthesizes the two groups of streams into a single whole and, thereby, provides a satisfactory conclusion.

Table 4.2 also indicates a form for the suite that confirms the thematic form that was shown in Figure 4.1. The pc-scale-degree design focuses first on streams from Group 1. In the second movement it contrasts these streams by using them in a quasi-rondo structure that is initiated by the streams from Group 2. Group 2 streams then become the sole focus of the third movement, but are contrasted by new streams when the fourth movement is articulated. With the exception of the stream <2,7>, most of these other streams are not included in Table 4.2 because they are of relatively little importance in terms of stream repetition over the suite. However, they are apparent in Figure 4.2. Streams from Group 2 retain their importance in the fifth movement. However, streams from the first group start to reappear. This is first suggested by the return of the stream <b7,4> in a modified retrograde form (<4,7>) on pc D in R45-2. Streams from the first group then appear to regain priority toward the end of this movement (R48+4ff.), and are used to articulate the final movement of the suite. Far from being eliminated, however, the streams from Group 2 are actually synthesized into streams whose orientation seems to be toward Group 1. The synthesis of streams from groups 1 and 2 joins the most static streams in the pc-scale-degree design – the streams of Group 1 – with the most dynamic streams – the streams of Group 2. This synthesis is supported by the only stream shown in Table 4.2 – the stream <2,7> – that does not belong to either groups 1 or 2. (Table 4.2 identifies this stream by the label "Other"). This stream, which occurs on pc B at R35+2 and at R43, is also heard at R51ff. in the stream on pc D for the same reason (preconditioning that makes us expect a C tonic at R53) as the streams from Group 2. Thus, at R51ff. we hear a broader change in the scale-degree function of pc D from 2 (R51) to 7 (R53). In this way the ending also synthesizes a significant stream that is introduced in the fourth movement when only streams from Group 2 are present.
4.4.3 Aspects of Resolution in the Pc-Scale-Degree Design

The pc-scale-degree design suggests a reason why pcs D and G are the last primary streams to be heard in the suite. Looking at the long-term pc streams in the suite, we observe a kind of bipartite form articulated at R27A. This two-part division is caused by a large-scale repetition of successive pc streams <Eb, F, D, D+G>. Figure 4.3, which isolates the most important stream lines of Figure 4.2, shows this repeated pattern. The primary stream shifts from an initial G to Eb in R5, which is paired with, and eventually followed by, a longer primary stream on pc F. A secondary stream on pc C is also present. The stream on pc F overlaps with a stream on pc D in R14; the stream on D is subsequently paired with a stream on pc G (R19-4). The broader movement between the focal pcs at each end of this series in the first half – Eb (R5ff.) and D+G (R19ff.) – is emphasized by repeating the Group 2 streams of R6ff. (on pcs F, Eb and C) at R20ff. (on pcs G, F and D). Continuity between the focal pcs F and D is suggested by the repetition of the Group 1 streams of R8+1ff. (when F is the long-term focal pc) at R17ff. (when D is the long-term focal pc).

The sequence of pc streams repeats starting at R27A, where a stream on pc Eb is introduced. At R29-3 this stream is again paired with, and followed by, a stream on pc F. The stream on pc F is again paired with a stream on pc C. The relationship to the opening part is made explicit at R29-3 by the recapitulation of the same streams <\hat{6}, \hat{1}>, <\hat{b\hat{7}}, \hat{5}> and <\hat{3}, \hat{5}> which occurred on pcs F, Eb and C respectively at R6ff. Each of these two groups is prefaced by a dramatic statement of pc Eb. The parallelism between mm.1ff. and R27Aff. leads us to expect a focus upon pc D and its eventual pairing with pc G. However, they do not appear at R35. Rather they are delayed until just before the end of
Figure 4.3 Summary of the Most Important Focal Pcs in Figure 4.2

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<td>II.2</td>
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<td>b c b1 (ant.) b e b2 c b3 d (ant.) (trans.) c5 b4 g h i h2 j</td>
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<td></td>
<td></td>
</tr>
<tr>
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A
Ab
G
F#
F
E
Eb
D
C#
C
B
Bb
## Figure 4.3 (cont.)

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<th>30</th>
<th>31 -3</th>
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<th>33</th>
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<td>IV.</td>
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<tr>
<td>Sections:</td>
<td>k a7</td>
<td>l m</td>
<td>(lI)</td>
<td>n</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Tonics:</td>
<td>(G) B B Ab</td>
<td>Ab F F Ab Ab A</td>
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<table>
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<td>(V.)</td>
<td>(04)</td>
<td>s a a5 a8</td>
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</table>

### Chart

- **A**
- **Ab**
- **G**
- **F#**
- **F**
- **E**
- **Eb**
- **D**
- **C#**
- **C**
- **B**
- **Bb**

### Diagram

- Conversion: P1: P2: P3: P4:
  - P1: 5-P1 5-2-P2 2-P1 5-P2
  - P2: 5-P2 5-
  - P3: 5-P3 5-
  - P4: 5-P4 5-

- Tonic: (G) B B Ab Ab A

### Notes

- **Movements:** (11.2) f
- **Sections:** k a7 1 m (11) n
- **Tonics:** (G) B B Ab Ab F F Ab Ab A

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Note: The text and diagram are related to music theory, specifically the analysis of musical compositions. The table and chart illustrate the harmonic and melodic structures of a musical piece, while the diagram visualizes the transformation and relationships between different musical segments.
the suite – R49.33. Pc D, appearing as the ending primary stream in the suite, is paired with pc G in R50. This is a satisfactory close not only because of the repetition of the large scale pattern <Eb, F, D, D+G>, but also because we end on the same pc that was the focus of the opening.

4.4.4 The Importance of Major and Minor Thirds

The pc continuity structure supports the cyclic form of the suite independently of the thematic design because it ends with the same focus it begins on. But it also suggests that we hear the suite as divided into two large parts at R27A. These parts can be heard as expressing a metaphor for an opposition between Eb and E as the third of C because pc Eb sounds like the goal of the first half and an E tonic is the goal of the second half. The opposition between these two pcs as different representatives of the third scale-degree in C is crystallized at the end of the first movement where a cadence in C major is negated by a held Eb. On the other hand, this movement from a minor third to a major third could be construed as a metaphor for the intervals in the "open range" theme. For example, in the first six pcs of this theme Bb is first involved in a minor third (<G, Bb>) and then in a major third (<Bb, D>). The implied succession from minor to major thirds in this theme provides a metaphor on a microcosmic level for the large-scale chromatic opposition between pcs Eb and E in the C tonic which governs most of the suite. The pc relationships in the "open range" theme also account for the static repetition of the streams in Group 1 at R19-4, which results from a transposition of the thematic material of R6 down a minor

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33 This suggests a disjunction in the form of the suite that emphasizes the contrasting nature of the fourth and fifth movements already established by their unique tonal structures (i.e., the fourth movement is the only movement to employ long-term tonal ambiguity, while the fifth movement is the only movement which divides the texture into two separate tonal strands). However, the underlying similarity between the two parts of the bipartite form suggested by successive focal pcs is emphasized by using a single primary stream to connect successive tonics only at R6 and R33 respectively. That is, at R6 the C and Ab tonics are connected by a single primary stream – <b3, 5> on pc Eb; and at R33 the Ab and A tonics are connected by a single primary stream – <3, 5> on pc A. The parallel is reinforced by other similar features of these streams. For example, both streams are generated by sustaining a pc when the tonic changes, and both begin on a representative of the third scale-degree.
third, because it is followed in the third and fourth movements by an implied T4 of two streams of Group 2 – <\hat{3}, \hat{5}> and <\hat{6}, \hat{1}> – from pcs C and F respectively to pcs E and A.³⁴ This implied T4 prepares the crucial large-scale substitution at R53 when E, substituted in place of C, is the tonic.

The ultimate superiority of the major third in a cadence is implied by the way pc Eb is heard as the third scale-degree at the beginning of each respective half. For example, at R6 pc Eb is striking because it is the lowered third scale-degree, emphasized by the completion of the ascending motive in the brass (i.e., <C3, G3, Eb4>), within material that has already cadenced on the major third. However, when pc Eb is sounded by itself at R27A, the initial correspondence of Eb with the minor mode of G, which similarly follows a passage firmly rooted in the major mode, is displaced when Eb becomes the third scale-degree of B. This alludes to the final choice of the major third at the end of the suite. This choice is dramatically confirmed in the last few measures of the suite when the brass motive, which similarly concluded the first part, is restated (R54ff.) but now has the third scale-degree of E-major as its final note (i.e., <E4, B4, G#5> in the third trumpet).

4.5 Summary

We can summarize the material of the above analysis on the orchestral suite of Billy the Kid and answer the foremost question of this thesis: what function do Copland's tonics serve – how do these tonics and their successions relate to form. On the most basic level, tonal shifts in Billy the Kid occur at the beginnings of all of the movements and many of the sections in the form shown in Figure 4.1. Contrasts in thematic material, thus, are usually supported by contrasts in tonics. In some cases, such as the third movement and, to a lesser degree, the fifth movement, the tonic succession seems to conform closely to classical tonal designs. That is, the ternary form of the third movement is reflected in an

³⁴This transposition is partially obscured, however, because pcs E and A present the retrogrades of these streams <\hat{5}, \hat{3}> and <\hat{1}, \hat{b7}>.
Ab-F-Ab tonal design; the rondo form of the fifth movement is reflected by a tonal design where the "A" segment remains in its original key (C/C#) and all other segments, with the single exception of the first "B" segment, have different tonics. The strikingly different thematic structure of "Gun Battle" is complemented by the fact that it is the only movement in the suite that has a single tonic.

The tonic successions in the suite, in themselves, do not seem to support a C global tonic by prolongation. Rather, Copland reminds us of C by more abstract means – he creates thematic materials in the successive tonal areas which continually refer to the step-progression that is shown in Example 4.3. Ultimately, Copland uses this seminal step-progression to link the ending E tonic to the C tonic that guides most of the suite (as shown in Example 4.9). Tonic successions within movements, however, might also be construed to be important with regard to the connection between C and E. This is suggested in the third to fifth movements by the association of the successive minor-major third complexes about F and A respectively with pcs C and E.

The tonic successions in the suite articulate a separate structure of pc streams, the pc-scale-degree design, that traces changes in the scale-degree functions of emphasized pcs. This pc-scale-degree design contains valuable information. It confirms certain aspects of the thematic design. For example, it offers a compelling reason for us to understand R6 to R29-3 as a single unified movement. The two apparently distinct parts participate in an ongoing quasi-rondo form, begun in the first half and mimicking its thematic design, that results from repetitions of streams from groups 1 and 2. The pc-scale-degree design also suggests a unity of expression in the suite because repetitions of streams from Group 2 occur in all six movements. Most importantly, however, the pc-scale-degree design offers us three separate reasons to understand the ending E tonic as a satisfactory conclusion, and not simply as an arbitrary programmatic device. At the simplest level E is satisfactory as a conclusion because its collection allows a continuation of the focus on pcs D and G that is
begun at R50. These pcs mark the end of a repetition of the <Eb, F, D, D+G> succession of focal pcs that is started at R27A. However, E is also satisfactory as a conclusion for more significant reasons. For example, the transpositional levels among repetitions of streams from the two groups suggests, like the minor-major third complexes between successive tonics, a succession of minor and major thirds that has E as its goal. This succession, which probably represents the first intervals of the "open range" theme itself, is confirmed motivically by the triumphant brass motives that conclude the first and last parts of the suite. The E tonic also generates the simultaneous recapitulation and, therefore, a synthesis of the two groups of streams around which the entire pc-scale-degree design revolves.
5.1 Introduction

In the previous chapter we saw a pc-scale-degree design that offered several important ways in which to hear the final E-tonic of Billy the Kid as resolutive and not simply as a programmatic device, and to hear the suite as a unified whole. In the present chapter we will analyze the first movement of one of Copland's most "serious" pieces – the Short Symphony. In this movement pc connectors are particularly emphasized. This is perhaps due to the nearly complete lack of chord progressions on the surface of the music in this movement. We shall find that the pc-scale-degree design of this movement incorporates one of the features of the pc-scale-degree design of Quiet City – a palindromic structure – in a much more central way. The palindromic structure in the Short Symphony, like that in Quiet City, is permeated by references to another (concurrent) pattern. However, in the Short Symphony this second pattern is a large-scale alternation between focal pcs. These focal pcs are emphasized on the surface of this movement in a way that parallels the emphasis of the fifth scale-degree on the surface of Quiet City. The pc-scale-degree design of the Short Symphony also incorporates one feature of that of Billy the Kid – the order of focal pcs – to make apparent the relationship between large (thematically related) sections.

5.2 Form

The form of the first movement of the Short Symphony is best represented by a tripartite A-B-A1 scheme. Figure 5.1 gives an analysis of the form, showing formal divisions at the top, motivic content in the middle, and local tonics at the bottom. The two major sectional divisions of the form are at R8 and R12. Parts A and A1 have similar
Figure 5.1 Motivic and Tonal Summary of the First Movement of the Short Symphony

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<thead>
<tr>
<th>R:</th>
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<th>1+2</th>
<th>2  +1</th>
<th>4  +6</th>
<th>3  +2</th>
<th>6  -2</th>
<th>7  -3</th>
<th>8  -4</th>
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R: 1161 1171-3 1171-4

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<th>14+1/2</th>
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R: 116 117-3 117+4

| Parts:         | (A1) |      |     |      |     |      |     |        |      |      |     |      |
| Sections:      | a6   |      |     |      |     |      |     |        |      |      |     |      |
| Subsections:   | d    | a9   | a10 | a11 |     |      |     |        |      |      |     |      |
| Motives:       | 3,[1]| 1    | 1   | 1   |     |      |     |        |      |      |     |      |
| Tonics:        | B dir.| B/D | G   | C   |     |      |     |        |      |      |     |      |

Table 5.1 Summary of Tn-Related Passages

<table>
<thead>
<tr>
<th>Sections</th>
<th>Subsections</th>
</tr>
</thead>
<tbody>
<tr>
<td>a2 T7a</td>
<td>a2 T5a1 (bass)</td>
</tr>
<tr>
<td>a5 T2a4</td>
<td>d1 T4d</td>
</tr>
<tr>
<td></td>
<td>d1 [T8d]</td>
</tr>
</tbody>
</table>
internal structures insofar as both present variations of section a. However, the structure of part A1 differs from that of part A because it interpolates an additional section, which does not vary the material of section a, between the last two variations.

Sections a1 and a5 subdivide into two variants of subsection a followed by a contrasting subsection. Part B differs from parts A and A1 in that it divides into only two sections, b and a3 respectively, each of which varies new material, that is, subsections e and f respectively.

5.2.1 Motivic Analysis

A motivic analysis is included in Figure 5.1 because it provides a justification for the tonics in the summary. It recognizes three motives within the first movement. These motives, which will be labeled 1, 2 and 3, are reproduced in their original forms in Example 5.1. Motives 1 and 2 are initially perceived as overlapping members of a single, unified phrase member. As the movement progresses, however, they become more distinct; first, motive 1 is heard without motive 2 (R1+1), then motive 2 is heard without motive 1 (R8).¹

Example 5.1 Summary of Motives in the First Movement of the Short Symphony

Motive 1 (mm.1-2)  
Motive 2 (m.2)  
Motive 3 (l-ff.)

¹The dyads in R8 are nearly identical to those which result from the modifications to motive 2 in R3+3, that is, the succession <{B2, E4}, {C#3, D4}, {A3, A3}, {B3, E5}, {C#4, D5}> in R3+3 to R3+4 is similar to the succession <{B3, F5}, {C#4, D5}, {A3, F#5}, {C#4, D5}> in R8 to R8+1. The only substantive difference between motive 2 in R3+3 and in R8 is the new rhythmic profile of the latter, which is borrowed from motive 3.
In Figure 5.1 special symbols indicate how these motives are combined. A comma between motive labels, as in "1,2", means two motives are active within a section. Square brackets around a motive label, as in "[2]", mean a recognizable fragment of the motive is embedded in the texture. One motive label listed above another, as in "1", means two motives are simultaneously active but one appears in the high register while the other appears in the low register.

The motivic analysis of the movement reveals another way in which part B differs from the framing parts: part B incorporates some kind of interaction between motives 2 and 3 in all but one of its subsections, while parts A and A1 feature an interaction between motives 1 and 2 or motives 3 and 1. Copland subjects all three motives to ongoing variation, which often emphasizes the relationship between tonality and form. The location of special variants of motive 1, in particular, will be seen below to provide important indicators of tonal direction.

The motivic analysis suggests an important reason why this movement should be considered as a ternary form and not a sonata form as Quincy Hilliard suggests. The distinction between the two schemes rests on whether the so-called "second theme" is recapitulated. Hilliard identifies the second theme as the material starting at R9-4. But at the location he identifies as the recapitulation of the second theme (R15), we do not hear a recapitulation of R9-4ff., but of R8, the introduction to that theme. The R9-4 theme itself never reappears.

Even though the material at R8 is recapitulated, there are important motivic reasons not to consider it as the second theme. Motivic contrast to the A section material is provided not by R8, but by R9-4, which presents motive 2, stated within an inner line,

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simultaneously with motive 3, which is embedded in the counterpoint between bass and soprano. The embedding of motive 3 is shown in Example 5.2 by brackets: arrows connect brackets in R6 to R7-2 to their counterparts in R9-3 to R9+2. Further, the motivic content defines the material at R8 and R15 as transitional. Example 5.3 shows that a series of T2 transpositions begins at R5-2. At R8 the restatement of motive 3 at its original pitch level (i.e., a <D, E> motion in the soprano above a <G, A> root movement as in R5-1) terminates this cycle of transpositions. At R15 the soprano moves similarly from pc D to pc E and a specific variant of motive 1 foreshadows the arrival of the original tonic of motive 3. Because this variant is consistently linked in each of its three appearances to a process of transition in which the next tonic gradually emerges, it will be addressed under the section "Motivic Correspondences" (see below, p.195).
The most compelling reason to adopt a ternary interpretation of the form, however, is the tonal structure of the movement. The tonal character of sonata form—that the second theme is recapitulated in a different key (eventually the main key of the movement)—is not apparent here because R15 simply restates material from R8 at the same pitch level.

5.3 Tonality

The following discussion gives a detailed reading of the tonality in each part. Special techniques will be noted. Several of the tonics are clouded by ambiguity; however, unlike the other works studied in this thesis, this ambiguity most often results from the preparation of the next tonic.

5.3.1 Part A

The movement begins with a tonal ambiguity between D and G. The opening melodic motive, partitioned into a D-rooted seventh chord anacrusis and an agogically accented G4, weakly asserts a G tonic. However, this interpretation is contradicted by the harmonization of pc G as a dissonant minor ninth above the bass note of a D-major six-three chord.\(^3\) In the measure before R1 pc G is eliminated, leaving the D-rooted harmony.

\(^3\)Hilliard asserts that this verticality should be considered as a polyharmony of tonic over dominant because he wishes to prove that a G tonic is present. Hilliard, op. cit., p.107. The lack of a fifth above G4, however, makes it unreasonable to hear G as a root, let alone a root of equal strength to D. We would perceive a G root above a D root in the manner asserted by Hilliard only if the sonority of mm.2 and 7
At the end of the section an ascending line from G3 terminates on an accented D5 in R1+1, which subsequently becomes the root of a major third. This directed motion further confirms D as tonic. So the <F♯, D, F, C> anacrustic motive of m.1 takes on, at least retrospectively, a tonic function. In R2+1 we do hear G briefly tonicized, but it is mainly due to the transposition of the initial <D, F, C> motive, which we are predisposed to hear as asserting D, to G. The G-rooted harmony in R2+1, like the D-rooted harmony in m.2, is also clouded by a dissonant pc – Ab. However, Ab contradicts the G tonic not by an implied dominant-tonic progression of a different tonic but by introducing a large variety of possible chord factor interpretations of the pcs in the transposed bass motive that do not support the expression of a G tonic. These include making pc F sound as the root of a minor triad, and pc B as the third of an Ab-rooted harmony.

In R2+4ff. pc A is generated as a tonic by the repetition of the A-rooted verticality {C♯2(3), A3, D4, A4, E5} such that the pitches of the inherent A-major triad are elaborated by neighbor-tone motion – <C♯2, D2, C♯2> in the bass in R2+5, <E5, F5, E5> in the soprano and <A3, G♯2, A3>, <A3, A♯3, A3> in the inner voices in R3-3. This A tonic remains in effect until R4. At R3 the material of mm.1ff. is transposed up a fifth, reinforcing the A tonic. However, the conflict between A and D, which we expect because of the conflict between the D-major six-three chord and pc G in the original passage, is manifested in a different way in R3ff. than in mm.1ff. D as tonic is suggested at R3+1 by the return of the minor ninth {F♯3, G4} familiar from mm.2 and 7, and by the same melodic gesture in R3+3 that suggested G in the first two measures of the movement. Unlike m.2, however, no chord harmonizes the D at R3+3; pc D is not heard clearly as a dissonance until the next measure when it sounds as a seventh above pc E, and it resolves in the normative manner to pc C# (Db). D is also suggested as a tonic in R3ff. when the

included all the pcs of the G-major and D-major triads in a registrally discrete ordering (i.e., {F♯2, D3, A3, G4, B4, D5}) or if it included a significant doubling of the interval of a fifth above G4 (i.e., {F♯2, D3, A3, G4, D5, G5, D6}). Copland uses a similar sonority, {D3, G3, A3, D4, A4, D5, F♯5, A5), at R6 of "Hoe-down* in Rodeo. However, despite the timbral emphasis there on pc G, which results from stating it in the trombones, this sonority also sounds like it has a single root, pc D.
material of R1-1 to R1, including the crucial directed motion line, is recapitulated at the same pitch level in R4-2 to R4-1. These references to D, however, are not sufficient to displace the A tonic of R2+4ff. for several reasons. The A-rooted sonority emphasized in R2+4ff. does not resolve to a strong D-rooted sonority after R3. To the contrary, the only D-rooted sonority around R3, \{F#3(4), G4, A4, D5, A5, E5\} in R3-1, resolves to the A-rooted harmony in R3 as in a plagal cadence (see Example 5.4). Further, in R3+1 the restatement of the minor ninth \{F#, G\}, which implies a return to a D tonic, occurs between two A-rooted harmonies, suggesting again a plagal extension of an A tonic. The final statement of the \{F#, G\} minor ninth (R3+6 to R4-2) is also framed by two A-rooted harmonies (R3+5 and R5-1 respectively). However, the plagal extension here is more obscure because the resolution to A (R5-1) is interrupted by the interpolation of a Bb tonic at R4, and because the root of the minor ninth shifts from D (R3-1 and R3+1) to G (R5-2ff.).

Example 5.4 Minor Ninth \{F#, G\} as "Plagal Extension" of A-rooted Harmonies in \([-1]\)ff.

Bb is melodically generated as a tonic in R4 by the appearance of a transposed variant of motive I (Tg of R1+1ff.) above a pedal Bb3. It is supported as a tonic by the collection \{Bb, Db, Eb, E, Ab\}. A close approximation of the pc collection that Bb interrupted returns in R5-2. The material of R5-2ff. initially recalls the previous A tonic because the root movement <G, A> recalls the <G, A> alternating second of motive 2 in
R3+1 and because the registration of the first chord allows us to hear the minor ninth \{F\#, 
G\} continuing to function as subsidiary to an A-rooted harmony. The persistent intrusion of pc Bb into this progression, which causes an alternation between pcs A and Bb, reflects in a pc microcosm the tonic succession \(<A, Bb, A>\) in R2+4 to R5-2.

Surprisingly, the progression in R5-2ff. is ultimately directed toward a B tonic,\(^4\) causing a retrospective reevaluation of the function of the pcs in the passage and generating what is best described as a tonal overlap. (This is notated at this point in Figure 5.1 by connecting the A and B tonics by overlapping phrase marks.) The shift of the referential pc in the collection from A to B in this passage is alluded to at R5-2 when the root associated with the connective minor ninth \{F\#, G\} changes.

At R6 Copland executes the first of several elisions of tonic. Motive 3, which characterizes the B tonic, is now supplanted by a return of motive 1 in the bass, generating a G tonic. Once again, however, G is undermined as a tonic. Here the G tonic is undermined by dividing the texture into two tonal strands that use different motives (i.e., motive 1 appears in the low strand and motive 3 appears in the high strand). The higher tonal strand is characterized by a transpositional conflict: two different (simultaneous) transpositions, \(T_{11}\) and \(T_{4}\) respectively, generate the soprano line and the parallel five-three chords (see Example 5.5). These different transpositions suggest different tonics. For instance, if we hear the soprano establishing the tonic then the pitch level of motive 3 at R6 implies an A\# tonic. However, if we hear the parallel five-three chordal motion as the basis for establishing the tonic then its pitch level at R6 also implies an Eb tonic. We can not resolve this (transpositional) conflict and assign a tonic to this strand because the final chord of motive 3 at R6ff. is withheld. What is abundantly clear at R6ff. is that the transposition of motive 3 initiates a movement away from the B tonic. This departure is only strengthened at R7-1 when motive 3 returns at its original pitch level (i.e., that of R5-

\(^4\)This cadence was discussed earlier. See Example 1.28, pp.49-51.
2ff.) but is similarly modified so that it creates an unresolvable ambiguity between the implications of different tonics. The omission of the final chord of motive 3 at R7-1ff. results in a conflict between an F# tonic, which is suggested by the pitch level of the soprano, and a B tonic, which is suggested by the pitch level of the parallel five-three chordal motion.

5.3.2 Part B

At R8 the next transposition of motive 3 closes properly to generate the G tonic beginning the second part of the form. Three measures before this close, however, there are references to a Bb tonic: the prominence of the fifth {Bb, F} moving to the triad {F, A, C} in the highest voices of R8-3 suggests Bb; and the pc collection is that of Bb-major. The references to Bb result in a tonal overlap between Bb and G in R8-3ff. which is similar to that earlier heard between A and B in R5-2ff.

When references to Bb are eliminated at R8, however, the G tonic is then challenged to some degree by references to A, effected through the chord {C#4, A4, D5,
E6) in R8+2. This A-rooted sonority is T7 of the opening chord in m.2 and is voiced like the chord that was emphasized when A was a tonic in R2+4 – {C#2(3), A3, D4, A4, E5}.

One reason to hear a major formal articulation at R8 is the subsequent move at R9-3 to a tonic and collection – E – that is very different from the preceding ones. Copland generates the E tonic in R9-3ff. in a characteristic way. An inner melodic voice (First Violin/Heckelphone) repeatedly accents the pitch E4 throughout a melody that ends on pc G# following a repetition of the descending fifth <B4, E4>. E is supported as a tonic by the E-major collection and by an implied dominant-tonic root progression that is repeated twice (see Example 5.6). The chord in R9-4 to R9-1 and R9+1 is the dominant seven-four (or the jazz harmony A/B); it resolves to a first inversion tonic chord in R9 and R9+2.

Example 5.6 Dominant-Tonic Progressions in [9]-4ff.

A C# tonic is melodically generated in the soprano in R9+3ff. by a different rhythmic setting of a transposition (T9) of the motive that melodically generated E in the previous section. Here agogic accents are placed on pcs C#, E#, and G#, and each short phrase ends on pc C#. This C# tonic is anticipated in R9+2 because the two (incomplete) neighbor-tone motions, <B5, C#6> and <E6, F#6> respectively, allow us to (retrospectively) hear the sonorities on beats 1 and 3 of this measure as a C#-minor six-four
chord followed by a G#-rooted minor seventh instead of as a contrapuntal continuation of an E-major six-three chord.

Four measures before R10 the texture divides into two tonal strands. The upper strand contains another variation of motive 2, which melodically generates an A tonic. The lower strand continues the previously established C#/Db tonic. Both strands are supported by their respective pc collections: the upper strand uses a subset of the A-major collection \{E, F#, G#, A, B, C#\}; the lower strand uses the lower pentachord of the Db-major collection \{Db, Eb, F, Gb, Ab\}. At R10 the implications of the A tonic are eliminated and Db again sounds by itself. Here Db is generated as tonic by a statement of motive 1 transposed to C# above a sustained C#-major six-three chord. An F# added to this sonority makes it a transposition of the first chord in m.2 and, therefore, related to the A-rooted chord in R8+2. This establishes a unity of harmonic character between parts A and B.

Underlying R9-3 to R10-1 is a step-progression, like that in the texturally analogous R6ff. (recall Example 5.3), which connects the point of tonal divergence to the stable tonics that frame it. The voice-leading underlying the passage, which is shown in Example 5.7, involves contrary motion between two voices using two different collections: a soprano voice falling by step within the E-major collection; and a bass voice rising by step within the C#-major collection.
The association of E and C# that this model posits is subsequently affirmed when the C# tonic of R10 gradually merges into an E tonic at R10+3. E is generated as tonic in R10+3ff by the alternation of B- and E-rooted chords (see Example 5.8). The transition from C# to E is effected in R10+3 by a subtle reinterpretation of the progression from the A major-major four-two chord to the B-rooted sonority. Initially, this chord progression is reminiscent of the one that harmonizes the first statement of motive 3, because it is similar to T2 of R5-2ff. However, Copland deflects the progression away from the C#-rooted chord that such a transposition leads us to expect by reinterpreting the A- and B-rooted chords as a subdominant-dominant progression in E. This passage illustrates how subtly Copland can alter the fundamental tonal identity of his material, in this case changing a motive from a linear to a functional harmonic progression.
Other elements confirm E as a tonic at R10+3. For instance, the only rhythmically active line in this texture embeds a restatement of motive 2 at the same pitch level that melodically defined E as a tonic back at R9-3 (see Example 5.9). The rhythmic placement of the successive pcs F#, E, G# and E in this line approximate the rhythm that is associated with motive 2 in R8 and R9-2. Further, the soprano line above the dominant-tonic root progression in R10+3 recalls the ending of the previous E tonal area in R9+2: the cadential E-major chord is similarly colored by an added sixth in the soprano that is introduced by an ascent from pc B to C#. E is again supported by the E-major collection.

At R11 the three-chord progression of R10+3ff. is transposed up three semitones to generate a G tonic. The material in R11ff. is similar to the previous passage in its emphasis on tonic-rooted sonorities and the embedding of motive 2.

5.3.3 Part A1

At R12 Copland interrupts the final repetition of the three-chord progression of R11ff. by restating motive 1. Since we expect the first note of R12 to be pc B, completing the last repetition of the <B1, D2, B2> bass gesture, the pc Bb sounds like a substitution.
for B, as the minor third of G. The implied relation of Bb to a G tonic is immediately dispelled, however, when it becomes clear that Bb is the first tone of a transposition of motive 1 that melodically generates a Bb tonic. The fourth scale-degree of the referential collection in this passage – pc Eb – has a lesser role in this tonal area than in previous statements of the opening material of the movement. Pc Eb functions merely as a non-essential dissonant tone within a Bb-major six-three chord; it does not have sufficient strength to induce tonal ambiguity (between Bb and Eb tonics) in the same way as its counterpart pc G did in m.2.

Bb connects to the next tonic, C, by a transitional passage where a series of transpositions (T1) is performed upon pairs of notes in a variant of motive 2.\(^5\) In R13-2 these transpositions result in a restatement of the minor ninth interval between bass and soprano and the leap of a minor sixth in the bass that characterizes the beginning of motive 2. Copland does not, however, confirm the tonal implications of this restatement (i.e., allow it to generate either a B or an E tonic) but treats it simply as an internal point within an ongoing cycle of transpositions. This transitional passage becomes important harmonically in generating the following C tonic because its last verticality, \{D4, G4, B4, C5, D5(6)\}, presents a G root just prior to the statement of a C-rooted minor third on the downbeat of R13. C, generated in this manner by the descending-fifth root motion \(<G, C>\), is confirmed as a tonic melodically by a transposition of motive 1.

The following Ab tonic is not clearly generated until R14, when motive 1 from R13, transposed to \(<Ab3, Ab4, Ab3, Cb4, Gb4>\), emphasizes Ab3 above an Eb2 pedal in the bass. Ab is, however, foreshadowed as a tonic in the three measures before R14 by the

\(^5\)Taking the bass figure in the fourth and seventh measures after R12 – \(<D2, Bb2, Eb3, F4>\) – to be motive 2 and allowing a slight modification in R13-4 – \(<D2, Bh2, Eb3, Bh3, E4, F#5>\) – one can trace a series of transpositions of pairs of notes up a semitone (i.e., transposing the third and fourth notes up a semitone in R13-3; the first, second, fifth, and sixth notes up a semitone in R13-2; and the third and fourth notes up a semitone again in the measure before R13).
continued references to that pc as a root of the minor-major third \{B2, Ab4, C5\} and the major-major four-two chord \{G3, Eb4, Ab4, C5\}.

The first verticality of R14+3, \{Ab2, G3, C4\}, in some senses culminates the preceding Ab tonal area because its lowest tone, which is the root of the verticality, is the goal of an ascending directed motion created by a special registration of the second half of motive 1 (i.e., \{Eb1, Gb1, Db2, Ab2\}). However, because of an elision, this verticality sounds as both an ending point for the Ab tonic and a beginning point for a new C tonic. C is weakly generated as a tonic by the accent placed upon the soprano C4 as the starting, and the most often reiterated pc of a short, repeated phrase that contains pcs from the C-major collection in the high register.

The C tonic is quite severely weakened, however, because an incomplete version of motive 3, similar to that in R6ff. and R7-1ff., engenders two other, non-C, tonal interpretations of the material in R14+3ff. (see Example 5.10). If, as at R6 and R7-1, the soprano melody determines the tonic, then E is the tonic of R14+3ff.; if, however, the parallel five-three chords determine the tonic, then A is the tonic of R14+3ff.
C is further weakened as a tonic by the anticipation of elements from the next tonal area (D). For instance, the dyads \{F2, Bb2\} and \{E2, C#3\} in the low register in R14+4 reappear within full triads in the low register in R15-3ff. Similarly, the A-rooted chord \{E2, C#3, A3, D4\} in R14+3 forecasts the A major-minor four-three chord that is emphasized in the D tonal area by its registration (i.e., it is the only chord where the bass and soprano have the same pc – E). These anticipations of a D tonic are confirmed at R15-3 when a D-rooted sonority – \{D2, B2, D3, A4, C#5, E5\} – terminates the four-measure phrase that began in R14+3. D is subsequently melodically generated as a tonic in the next three measures in the same manner as the preceding C tonic in R14+3. This generation entails a restatement of the soprano of motive 3 at its original pitch level – \<D4, E4\>. D is, however, also confirmed as a tonic in R15-3ff. by two simultaneous root progressions, \<D, A, D, A, D, G, D>\ and \<Bb, A, Bb, A, D, Bb, A, Bb, A, D>\, that result from the alternation of multiple rooted chords with A- or D-rooted chords (see Example 5.11).
Example 5.11 Multiple Root Progressions Confirm D as Tonic in 15-3ff.

R15 is a recapitulation of R8 at the same pitch level, so we are predisposed to hear the tonic as G. Indeed, pc G sounds prominently as the lower of two roots in the chord that punctuates the ending of motive 2. However, G has already been foreshadowed as a tonic in the types of verticalities Copland uses in the six measures before R15. The final verticality of R15-1 and the first verticality of R15, \{E2, A2, C#3, G4, B4, D5\} and \{D2, B2, D3, D5, F#5, A5\} respectively, are similar, but not identical, to T9 of the two verticalities in R8-3, so they articulate a G tonic, just as the previous chords articulated Bb.

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6This sonority contains both a G root and a D root because of the registration: G is a root because the lower half of the sonority is characterized by the doubled fifth \{G, D\} and reminds us of the G major-major four-two chord which initiated motive 3 at R5-2; D is a root because the outer pitches – \{F#, D, F#, A, E\} – form a D-ninth chord familiar from the measure before R3. The former is a particularly important reference: because it recalls the process where the root associated with the minor ninth \{F#, G\} gradually shifts from D in m.2 to G in R5-2, and also because it recalls the sonority at R8+2.

7Neither chord is a proper transposition of the chords in R8-3: the first verticality has an extra pc, pc B; the second verticality is missing a pc, pc G. The absence of the latter is important because it allows Copland to maintain a sense of D as a tonic on the downbeat of R15. G only emerges as a tonic after this point because the material is recapitulated at its original pitch level. The transpositional relationship between the chords in R15-1 and R8-3 is anticipated to a degree in the fourth measure after R14: the second verticality of this measure, \{F2, Bb2, C4, E4, G4\}, contains all of the pcs of the first verticality in R8-3 but texturally inverted; the third verticality of this measure, \{E2, C#3, G4, B4, D5\}, is the final sonority of R15-1 and is, therefore, also related, albeit more distantly, to the first chord in R8-3.

8One might conceivably hear the chord on beat 4 of R14+3 (\{E2, C#3, A3, D4\}) as a foreshadowing of the G tonic at R15 because a similar chord (\{C#4, G4, A4, D5, E6\}) was prominent the last time we heard G as a tonic (at R8ff.).
R16 marks the return of material from R5-2ff. at the same pitch level. A B tonic therefore similarly emerges when the same B-rooted sonority appears in R17-3 as the terminal chord of the section. B is foreshadowed in the four measures before R16 in several different ways. For instance, the only chord which has G as its root in this passage – the chord \{A#2(3), B4, D5, F#5, G5, B5, G6\} at R16-4 (an altered G minor-major chord) – is framed by two chords – \{F#3(4), B4(5), D5(6)\} and \{A1(2), B3, D4, F#4, D5\} in R16-4 and R16-3 respectively – that are B-rooted. When pc G is omitted in a repetition of this chord at R16-1 we hear pc B, and not pc G, as the chord root. As a result, all of the sonorities in R16-1 (the measure before we hear a B tonic) have pc B as their root. Further, a move away from G is alluded to in R16-4 because the alternating B- and G-rooted sonorities are accompanied by different transpositions of the first three notes of motive 1 (i.e., <F#5, D6, D5> and <B4, G5, G4> respectively). Finally, the shift away from the G tonic is emphasized by the F#-minor-major tetrachord formed by the pcs F#, A, A# and C# in the bass.

The material at R16ff. shares an important characteristic with that of R5-2ff.: the cadence in R17-3, like that in R6, becomes the beginning of a new tonal area because of elision – at R17-3 the B tonic is supplanted by a D tonic that is melodically generated by motive 1. The tonics following rise by fourth as motive 1 is successively transposed: D moves (at R17) to G; G, in turn, moves (at R17+4) to the C tonic that ends the movement. The starting note of the motive at each new pitch level also has a dual function as the last note of the preceding statement. The elisions in R17-3ff. point out an interesting change

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9Hilliard does not acknowledge the final C tonic of this movement because he hears the corresponding passage as a transition to the second movement and, therefore, as tonally subordinate to the G tonic which precedes it, and because a C tonic at this point in the form contradicts his conception of the movement as hierarchically organized around G. Hilliard, op. cit., p.107. However, such a perspective distorts the manner in which those tonics are generated in the first place; pc C is, in fact, the final pc of motive 1 at the pitch level which melodically generates G. Further, the statement of pc C at R17+4 is as striking as the statement of pc G at R17, although for different reasons: at R17 the statement of pc G is underlined by a change from an imitative polyphonic to a monophonic texture; at R17+4 pc C is accentuated by duration, contour (as the lowest pitch in the movement), dynamics (sff), and a severe registral displacement from F4(5,6,7) to C1(2,3). Pc C at R17 is also where the driving rhythm of motive 1 (the "bounding line") is allowed to disintegrate. My analysis also reveals, however, that the starting tonic of the movement is not
in the nature of motive 1: at the beginning of the movement its last note had a dissonant, disruptive function, but at the end of the movement the last note is stable.

5.3.4 Motivic Correspondences

Motive 1, in fact, is crucial to the tonal form of the movement. Some of the tonic successions and individual tonics in Figure 5.1 are intricately associated with intervallic and rhythmic variants of motive 1. For instance, three important cases of tonal foreshadowing in the movement employ a unique intervallic variant of motive 1 (see Example 5.12a). This variant is initially stated in the first and second measures after R10 where an E tonic is being foreshadowed within a C# tonal area. It reappears in R13 to R14 to foreshadow an Ab tonic within a C tonal area, and within R16-4 to R16 to foreshadow a B tonic in a G tonal area. Associated with this variant in all three cases is the trichord [0,2,5], which is usually associated harmonically with a minor-minor seventh four-two chord.

Example 5.12 Variants of Motive 1

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G, as Hilliard claims, but D. This removes the need for Hilliard's hierarchical tonal explanation of the end of the movement and allows a more consistent approach to its tonality.
A rhythmic variant of motive 1, shown in Example 5.12b, is used only at two crucial points in the form: at R1+2ff. where D is established; and at R17+4ff. where C is established. This reinforces a large-scale change in the scale-degree function of pc C—from the (lowered) seventh scale-degree of D to the first scale-degree of C—over the course of the movement that is emphasized by certain features of the surface of the music in the beginning of the movement. For instance, this pc is emphasized from the outset of the movement in motive 1 as a dissonant seventh that never resolves down by step in a convincing manner (recall Example 1.36, pp.63-65). Further, Copland alludes to this particular transformation of the scale-degree function of pc C in R1+6 when the minor third {C, Eb}, which has a C root, appears in the D tonal area in a rhythm that mimics the closing gesture of the preceding section (R1+1). The shift in mode from major (in R1+1) to minor (in R1+6), which precludes hearing an exact transpositional relationship here, foreshadows the minor mode in which the C tonic is ultimately expressed in the movement (i.e., at R13 and R17+4). Copland also alludes to this transformation of the scale-degree function of pc C in the second tonal area of the movement (G at R2+1ff.) by setting pc F melodically as the (lowered) seventh scale-degree of G and harmonically as the root of a minor triad (a metaphor for F as the first scale-degree). This correspondence suggests a similarity of function between the D and G tonics (i.e., foreshadowing a long-term event) that will be shown to be important later (see below, pp.209-210).

The use of a special variant of motive 3 is also formally significant. The first soprano pc of the motive (i.e., pc G at R6-1) is heard as the first scale-degree only twice in the movement: at R14+3 (C tonic); and at R15-3 (D tonic). We might construe the placement of this variant in successive C and D tonal areas in the final part of the form to allude to the reinterpretation of the scale-degree function of pc C that, occurring over the piece as a whole, was forecasted in the first tonal area.

The functional parallelism I have inferred between pcs C and F is reinforced at R2-1 by the manner in which we first hear pc Ab together with pc F: the rhythmic setting of the minor third {F, Ab}, like that of the minor third {C, Eb}, is clearly modeled after the concluding gesture of R1+1.
5.3.5 Formal Function of Successions of Third-Related Tonics

The tonic succession within individual parts reinforces the thematic design. For example, successive tonics in parts A and A1 are related primarily by the intervals of a perfect fourth or a major second (or their inversions), while successive tonics in part B are solely related by major or minor thirds (or their inversions). This unifies parts A and A1 and clearly differentiates part B. Part A does contain third-related successive tonics at R6ff., when a transition to part B is begun (i.e., the succession <B, 7/G, Bb G>). However, these initiate a large-scale retrograde that guides the successive tonics in R8-4 to R12, that is, the tonic succession in R8-4 to R9+2, <Bb, G, E, C#>, is retrograded in R10 to R12. This retrograde has an important influence on the pc-scale-degree design that will be discussed later.

The third-related tonics at the end of part A are also significant because they can be understood as a composing out of motive 1. We can understand the tonic succession <B, 7/G, Bb> in R6 to R8-4 as another statement of the truncated version of motive 1 (<B#, G#, B>) that occupies the bass line of the C# tonic at R10ff. This suggests that we hear B and Bb as the major and minor third of G, functions that have significance in the pc-scale-degree design.

5.4 Pc Continuity

Figure 5.2 shows how the twelve pcs are given various scale-degree functions within the first movement of the Short Symphony. The pc-scale-degree design in Figure 5.2 is permeated by references to related simultaneous primary streams, that is, streams that result from the recurrence of a specific dyad, or a motive that remains active over a long timespan.
5.4.1 Stream Generation

The pc streams are initiated in a myriad of ways in the first movement. One important way of establishing a pc connection involves continuing motives. Motivic associations of common pcs is most obvious where motive 3 connects the B tonic of R5-2 to the G tonic of R8 and the G tonic in R15 to the B tonic in R16.

A second important technique of generating primary streams in this movement is through an emphasized dyad that recurs in successive tonics. This technique is evident in the first streams generated in the piece—the paired primary streams on pcs Ab and F. Pc Ab, by far the most striking connective pc in R1+2ff., is consistently paired with pc F in the first three tonal areas of the movement; that is, the dyad \{F, Ab\} appears at R2-1 and R2 in the D tonal area, at R2+2 in the G tonal area, and at R3-3 in the A tonal area. The beginning and ending points of this stream in Figure 5.2 is demarcated on the surface by a correspondence between the rhythmic setting of the dyad at R2-1 and R3-3: the rhythm and contour of both versions of \{F, Ab\} are modeled after the closing gesture of the first section (R1+1).\(^{11}\) What is unusual about this particular dyad is that it is a focal point for introducing new, and unexpected, chord factor interpretations. For instance, pc F, emphasized by its incongruity as the melodic (lowered) third scale-degree of D following a cadence on a D-major harmony, sounds like a root when it is repeated in R2-1 because the rhythmic setting of the Ab octave mimics the concluding gesture of the first section (R1+1). Similarly, the sustaining of pc Ab in the G tonal area forces a new chord factor interpretation upon pc F (i.e., as the root of a minor triad) when it is finally stated suggesting that we hear it both melodically as the (lowered) seventh scale-degree of G, and

\(^{11}\)In R3-3 pcs F and Ab are registrally inverted: pc Ab appears in the bass; and pc F appears in the soprano and is given the rhythmic profile and contour that pc Ab had in R2-1.
Figure 5.2 Pc-Scale-Degree Design of the First Movement of the *Short Symphony*

<table>
<thead>
<tr>
<th>R:</th>
<th>1</th>
<th>8</th>
<th>1</th>
<th>+2</th>
<th>2</th>
<th>+1</th>
<th>+4</th>
<th>3</th>
<th>1</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>2</th>
<th>6</th>
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<th>1</th>
<th>8</th>
<th>4</th>
<th>8</th>
<th>9</th>
<th>3</th>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>a2</td>
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</tr>
<tr>
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<td>b</td>
<td>a1</td>
<td>a2</td>
<td>c</td>
<td>a3</td>
<td>a4</td>
<td>d</td>
<td>d1 (trans.)</td>
<td>e</td>
<td>e1</td>
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</tbody>
</table>

Diagram showing scale degrees with notations for parts, sections, subsections, and tonics.
Figure 5.2 (cont.)

| R:    | 8 | 9  | -3 | 9  | +2 | 10 | -4 | 10 | +3 | 11 | 12 | 13 | 14 | +3 | 15 | -3 | 15 |
|-------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Parts:| B |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Sections: | b | a3 | a4 | a5 | f | f1 | a6 | a7 | a8 | d2 (trans.) | e |    |    |    |    |    |
| Subsections: | e | e1 | e2 | e3 | a5 | f | f1 | a6 | a7 | a8 | d2 (trans.) | e |    |    |    |    |    |
| Tonics: | G | E | C# | A | C# | E | G | Bb | C | Ab | Ab/C | D | G |    |    |    |    |

Diagram:

- Ab
- G
- F#
- F
- E
- Eb
- D
- C#
- C
- B
- Bb
- A

- P^2\hat{3}^5
- S^1\hat{3}^2^2
- S^+b^6\hat{-1}
- P\hat{4}\hat{-b}\hat{3}^\hat{-b}\hat{3}^\hat{-c}\hat{3}^\hat{-I}
- P\hat{1}\hat{-3}\hat{-2}\hat{6}
- P\hat{4}\hat{-b}\hat{3}^\hat{-b}\hat{3}^\hat{-c}\hat{3}^\hat{-I}
- P\hat{2}\hat{-2}\hat{-1}\hat{5}
- P\hat{3}\hat{-1}\hat{3}\hat{1}
- P\hat{7}\hat{-b}\hat{3}
Figure 5.2 (cont.)

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<tr>
<th>Parts:</th>
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<th>17-4</th>
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<td></td>
<td>b1</td>
<td>a6</td>
<td>d</td>
<td>a9</td>
</tr>
<tr>
<td>Sections:</td>
<td>e</td>
<td>G</td>
<td>all</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>B, B, B, B, B</td>
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<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Tonics:</th>
<th>Ab</th>
<th>F#</th>
<th>G</th>
<th>F</th>
<th>Bb</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>P3\rightarrow G</td>
<td>P5\rightarrow F</td>
<td>G</td>
<td>F</td>
<td>Bb</td>
</tr>
<tr>
<td>F</td>
<td>P3\rightarrow F</td>
<td>P5\rightarrow Bb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bb</td>
<td>P3\rightarrow Bb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- P3 = Perfect 3rd
- P5 = Perfect 5th
- M3 = Major 3rd
- m3 = Minor 3rd
- Bb = B Flat
- Ab = A Flat
harmonically as a root. Finally, the registral inversion of the dyad \{F, Ab\} in R3-3 also generates as host of new chord factor interpretations. These conflict with the implications of the bass line and with the tonic pc itself. For example, pc A# (Bb) tends to shift the \{G#, F\} dyad toward a Bb root and away from the G# root that might be inferred (i.e., hearing \{G#, F\} as an incomplete version of A:vii§7). However, the bass G# also makes a C#-minor triad sound in the lowest voice of this measure, allowing a fragment of motive 1 – \{C#2(3), E2(3), B2(3), F#3(4)\} – to become more prominent in the following two measures (R3-2 to R3-1).\(^{12}\)

There is one unique set of primary streams in Figure 5.2 that are simultaneously related by both of the techniques described above. Pcs E and D, which connect the D and G tonics of R15-3 and R15, are related both by a continuing motive – E and D are the soprano pcs of motive 3, which continues in an attenuated form in the soprano when the tonic changes to G – and by a recurrent dyad, \{D, E\}, which is prominent in each tonal area (i.e., R15-3, R15+1, R15+3, and R15+5).\(^{13}\)

Another important technique of establishing a pc stream in this movement is by consistently sustaining the same pc in the soprano at the endings of phrases and sections. This method establishes the primary stream on pc E which runs from R2+4 to R8. For instance, pc E, first heard as the soprano pitch of the repeated A-rooted sonority in R2+4, is the final soprano pc of the section a1. The D-rooted chord which ends this section gives pc E a new chord factor meaning as a ninth. The timbre of the harmonics in the high strings emphasizes pc E in its next appearance in the soprano in R4-1, at the end of

\(^{12}\)This reference is important in tonal foreshadowing because the same transposition (i.e., T11(M1)) later interrupts motive 3 in R5+2ff., and eventually generates a tonic in R10.

\(^{13}\)In her analysis of this movement Smith points to the repeated dominant four-three chord in R15-3ff. as a "lapse of style" and a "poor choice of harmony" because it is "at variance with the harmonic language of the rest of the movement." Smith, op. cit., p.151. The striking context of this familiar chord, however, serves an important function in my analysis because it emphasizes pc E (as its outer pitches) in a passage where that pc is a primary connector between the collections of successive tonics. Thus, the "out of place" dominant seventh chord represents a deliberate compositional emphasis upon a structurally important pc.
subsection a3, drawing our attention to the way it is sustained over into the interrupting Bb tonic. Following this interruption, pc E is the soprano note on which the music pauses when the tonic of motive 3 is emerging (R5-2ff.), and when that tonic is subsequently denied (R7-3ff.). E is the soprano pc that ends the short, repeated phrase in R8+2 and R8+4. The continuation of the stream on E past this point involves a change of character, because pc E is no longer emphasized as the ending pc in the soprano but as the starting, ending, and most repeated pc in the short melodic cells of an inner line.

Soprano pcs in cadential sonorities are frequently involved in streams of continuity in this movement. For instance, the primary stream on pc B in R8 is initiated because of the emphasis placed upon the terminal sonority of motive 3. The soprano pc B here is unexpected because the collection which prepares G has pc Bb and not B as its third scale-degree. Further, the severe change in texture at this cadence gives the \{G, B\} third a distinct profile. In the next tonal area (E), pc B is both the most prominent pc in the soprano, and the most accented pc of all.

Some pcs in the bass gain prominence as primary connectors because of their changing meaning within different, but temporally proximate, harmonic entities. For instance, in R10+1 pc B sounds as the bass note of a C#-minor-minor four-two chord. It is emphasized by an agogic accent and a chromatic opposition (pc B#, the other representative of the seventh-scale degree of C#, precedes pc B). At the next statement of pc B in the bass (R10+3) it sounds as the root, and not the seventh, of the chord \{B1(2), A3, E4, F#4, B4\}; B is emphasized as the outer voices of this chord. The change in scale-degree function of pc B is underlined motivically because both statements of B in the bass conclude the motive 1 fragment \<B#1(2), G#2(3), B1(2)\>. In R11+2ff. pc B returns in the bass under a third, G-rooted, chord in the G tonal area. This chord begins and ends a three-chord gesture that, through repetition, becomes the motivic basis of the rest of the G tonal area.
A similar process establishes the primary stream on pc D at R12-1. Because the final chord of the bass gesture emphasizing pc B is removed, pc D sounds as the bass note of the final chord in the G tonal area. The next chord, which begins the Bb tonal area (R12+1), also has pc D in the bass. However, the repetition in the bass, like the earlier repetition at R10+3, is not the only way pc D is emphasized as a common tone between the collections of the G and Bb tonics. D is also emphasized within the G tonic as the goal of neighbor-tone motions in the soprano at R11+2, when pc B was being emphasized in the bass, and within the Bb tonic as the starting pc of a variant of motive 2 at R12+3, R12+5, R12+8, and R13-4.

5.4.2 Suspended Streams

Figure 5.2 includes a very striking example of suspended streams in the paired primary streams on pcs E and D that are initiated at R5-2. These streams, which are generated by the striking restatement of the (parallel five-three) chordal motion of motive 3 at its original pitch level in R7-1ff. and R8ff., create a large-scale shift in the scale-degree functions of pcs E and D respectively from 4 and 5 to 6 and 5. The continuation of motive 3 is interrupted twice, at R6 and R8-4, by interpolated tonics (?/G and Bb) that generate their own streams. At R7-3 when the phrase repetition in the bitonal texture ?/G is itself interrupted at R7-3 by a restatement of motive 3 at its original pitch level. The sense of a larger continuity from R5-2 to R8 is also reinforced motivically because the thematic material of the interpolated passages is derived from motive 3. The streams on pcs E and D are temporarily suspended at R6 because neither pc is stated in a strand of the bitonal ?/G texture. The return of motive 3 at its original pitch level in R7-1 is unusual in the pc-scale-degree design because there is no recognizable tonic. Indeed, all we can specify about the passage in R7-1ff. is that B is no longer the tonic. (For this reason the streams on pcs E and D show the symbol "?" at R7-1 instead of their scale-degree functions at R5-2.) However, in the second interpolated tonal area at R8-4 only the stream on pc E is
suspended, because pc D belongs to the new referential collection, and is also strongly accented in the bass.

5.4.3 Pc-Scale-Degree Design

The pc-scale-degree design in Figure 5.2 corresponds roughly to the thematic design. Part A begins in R1+2 with motivically paired primary connective pcs then shifts to non-related primary and secondary streams, the latter of which is suspended at R4. The pc-scale-degree design of part A gradually becomes more complex starting in R5-2. This complexity first arises from the addition of secondary streams to the primary connective stream on E. The stream on pc E is then paired with a second primary stream on D. These two streams connect the B tonic at R5-2 and the G tonic at R8. But this connection is interrupted by two other connections involving primary and secondary streams on IC5-related pcs (R6 and R8-4 respectively). The second of these interruptions forces a reinterpretation of the scale-degree function of pc D in the primary stream, a reinterpretation which will be shown below to be crucial to the form.

The pc-scale-degree design of part B differs from that of part A: the pc-scale-degree design of part A increases gradually in complexity in a manner that mimics a crescendo; the pc-scale-degree design of part B incorporates several important symmetries, most noticeably the paired primary and secondary streams on pcs F# and G# at R9-3 and R10+3 respectively. Simultaneous primary streams at the beginning of part B (on pc E and pc B) are not paired together (by membership in a recurrent dyad or a continuing motive) and part B ends with a primary stream (<5,3>) on pc B (R10+3) that is repeated on pc D (R11).

Part A1 incorporates elements of the pc-scale-degree design of part B. For instance, the beginning and ending of part A1, like the ending of part B (R10ff.), is characterized by a single primary connective pc (i.e., R12 to R14+3, and R17-3ff.). Similarly, at R13ff., like R10+3ff., two secondary streams of connection accompany a
primary stream that ends on (b)\( \hat{3} \) followed by an arrow. Further, both parts B and A1 end with a repeated stream in successive primary streams: part B ends with the successive statement of the stream \(<\hat{5}, \hat{3}>\) on pcs B and D respectively; and part A1 ends with the successive statement of the stream \(<\hat{b}(b)\hat{3}, \hat{b}(b)\hat{7}>\) on pcs F and Bb. That is, at R11 we hear pc B change scale-degree function from \( \hat{5} \) to \( \hat{3} \); and at R12 we hear pc D change scale-degree function from \( \hat{5} \) to \( \hat{3} \). Similarly, at R17 we hear pc F change scale-degree function from \( \hat{b}3 \) to \( \hat{b}7 \); and at R17+4 we hear pc Bb change scale-degree function from \( b\hat{3} \) to \( b\hat{7} \).

The pc-scale-degree design in part A1 at first appears to be only superficially related to that of part A because it begins with different primary streams that are stated on different pcs. Part A focuses on pcs Ab and F (R1+2ff.) as they change scale-degree functions respectively from b\( \hat{5} \) and b\( \hat{3} \) to b\( \hat{2} \) and b\( \hat{7} \) and to \( \hat{7} \) and b\( \hat{6} \), and on pc E (R2+4ff.) as it changes scale-degree function from \( \hat{5} \) to \( \hat{4} \) to \( \hat{5} \) to \( \hat{4} \). But part A1 focuses first on pc Eb (R12ff.) as it changes scale-degree function from \( \hat{4} \) to \( \hat{3} \), then on pc B as it changes scale-degree function from \( \hat{7} \) to \( \hat{3} \), and finally on pc C as it changes scale-degree function from \( \hat{3} \) to \( \hat{1} \). Despite this initial difference, however, the second halves of parts A and A1 are closely related. For example, both parts use motive 3 near their end to generate streams on the pcs E and D. Further, the order of successive primary streams at the end of part A1 resembles the order in which interpolated streams interrupted the primary streams on pcs E and D in part A (i.e., \(<E+D, F^\#+B, F+Bb>\)). The respective endings of parts A and A1 both inherently contain the succession of focal pcs \(<E+D, F^\#, F, Bb>\): in part A we hear the paired primary streams on pcs E and D (R5-2ff.) to be interrupted by streams on pcs F\( \# \) and B at R6 and by streams on pcs F and Bb at R8-4; and in part A1 we hear the paired primary streams on E and D (R14+3ff.) to be followed by successive streams on pcs F\( \# \) (R17-3), F (R17) and Bb (R17+4).

---

14 The secondary streams on pcs Ab and Eb at R10+3ff. and R13ff. (i.e., \( \hat{\hat{3}}, \hat{b}\hat{\hat{3}} \) and \( \hat{b}\hat{\hat{3}}, \hat{\hat{7}} \)) share this characteristic: both streams begin on (b)\( \hat{3} \).
The similar ordering of focal pcs in the endings of parts A and A1 is reinforced thematically in R16ff. by the recapitulation of R5-2ff. at its original pitch level. The stream on pc F# at R17-3 of part A1, which is heard to follow the streams on pcs E and D, also begins on 5 as did the stream on pc F# at R6 of part A. That is, at R6 we hear pc F# change scale-degree function from 5 to an unknown quantity (?) and at R17-3 we hear pc F# change scale-degree function from 5 to 3. Further, the pc-scale-degree design of part A1 ends with two statements of the stream <b(b)2, b(b)2>, the first of which occurs on the same pc, F, that occurred at the outset of part A. That is, in both R1+2ff. and R17-3ff. we hear pc F change scale-degree function from 3 to 7.

5.4.4 Motive 1 as the Basis of the Pc-Scale-Degree Design

The analysis reveals the important role that motive 1 plays with respect to the pc structure of the movement. Often when the third scale-degree, 3 or b3, is emphasized as a pc of connection there is modal mixture – a strong reference to the opposite representative of the same scale-degree function, b3 or 3 respectively. The perception of this chromatic opposition is particularly strong when a stream of pc continuity either begins or ends with a statement of the third scale-degree. A stream starting from 3 manifests itself from the outset of Figure 5.2: pc F, asserted as a primary pc of continuity in the shift from a D to a G tonic in R2+1, is preceded by statements of pc F#. A stream featuring a chromatic opposition between different representatives of the third scale-degree can be seen most clearly at R12. Pc D, asserted as the primary pc of continuity when the tonic shifts from G to Bb, is similarly challenged by the initial association of the tonic pc Bb with pc Db, the minor third scale-degree. Only three streams of continuity beginning with the third scale-degree in the movement are prefaced by a different primary stream ending on the opposite representative of the same scale-degree. These pcs are pc B at R8, pc C at R14+3, and pc F at R17-3. The first and last of these pcs relate to an ongoing dialogue of alternation.

15The implicit competition between pcs F and F# to become the unchallenged third scale-degree of D is inherent within motive 1. The emphasis on this competition in R14+2ff. has already been discussed.
between pcs F and F# and pcs B and Bb, a dialogue that informs the pc structure of the movement. The use of the pattern on pc C is another allusion to the importance of pc C in the movement.

5.4.5 Focal Pcs

The succession of primary pcs in Figure 5.2 can be characterized as a series of alternations between members of the focal sets \{F, F#\} and \{B, Bb\} that culminates in the statement of \(\langle \hat{b} \rangle ^{3} \hat{b} \hat{f} \rangle \) in successive streams on pcs F and Bb; that is, we hear streams on pcs F and Bb to alternate with streams on pcs F# and B. These alternations are often punctuated by streams on pcs E and D. Pcs F and F# are first incorporated into the pc-scale-degree design by two different chromatic oppositions that are embodied in the primary stream on pc F (R1+2ff), and in the following secondary stream on pc F# (R2+4ff.). That is, when F is the connective pc we hear pcs F and F# as different representatives of the third scale-degree; and when F# is the connective pc we hear pcs F and F# as different representatives of the sixth scale-degree. The shift from pc F to pc F# at the end of the second section of part A is marked by a concurrent primary stream on pc E. This primary stream eventually incorporates the same chromatic opposition that colors the stream on pc F# (i.e., at R8-4 pc Eb will temporarily displace pc E as the sixth scale-degree of G). At R5-2 pcs E and D become focal pcs before a primary stream on pc B is initiated (R6). The shift in focus away from the chromatically opposed pcs F and F#, however, introduces a new conflict of scale-degree function in the pc-scale-degree design between pcs Bb and B. This conflict becomes apparent in primary streams on pcs B and Bb in R6 and R8-4 respectively. The primary streams on pcs B and Bb are accompanied by secondary streams on their respective counterparts within the other focal set – pcs F# and F.

The pc-scale-degree design of part B focuses primarily on pcs B and F#: streams on pc B first alternate, and then sound simultaneously with streams on pc F#. In some ways
the simultaneous sounding of streams on pcs F# and B in part B can be said to "resolve" the curious lack of definition of pc F# at R6 (where F# becomes an unknown quantity) that makes the secondary stream on that pc so striking. We can hear the first primary stream on pc F# (R9-3ff.) as clearly related to the first primary stream on pc F (R1+2ff.) because both of these streams are paired (by a recurrent dyad) with a stream on pc Ab (G#). The primary stream on pc B near the end of part B is followed by a primary stream on pc D.

The last part, A1, focuses first on pc D, and then moves briefly to focus on pc B again before pcs E and D are reasserted as paired primary streams. But instead of leading to a focus on pc B as at R6, the E-D pairing is first expanded at R15 by an additional stream on pc F#. The stream on pc F# is then redefined as the sole primary stream at R16 prior to the final assertion of pc F as primary in R17-3.

The direct progression between \{F, F\#\} and \{Bb, B\}, is suggested in three ways in the pc-scale-degree design: by the simultaneous use of streams on pcs F# and B in R6, and F and Bb in R8-4; by the alternation of primary streams on pcs F# and B in part B; and by the succession of the stream <<(b)3, (b)7>> on pcs F and Bb. The broader movement of the entire pc-scale-degree design also suggests motion between the focal sets \{F, F\#\} and \{B, Bb\} because it begins with a focus on pc F and ends with a focus on pc Bb.

The analogy between the focal sets \{F, F\#\} and \{Bb, B\} in the pc-scale-degree design is reinforced by some important surface features of the movement. For instance, the statement of a variant of motive 1 at two different pitch levels, D and G (R2-4 to R2+3), results in precisely the same kind of pc alternation in the bass where pcs F and Bb respectively are heard to prevail. Motive 1 in D results in the alternation <F, F\#, F> in the bass; motive 1 in G results in the alternation <Bb, B, Bb> in the bass. These alternations are also reinforced by other contextual means such as the immediate substitution of one pc for another. For example, pc F is substituted for pc F# in section a1; pc Bb is perceived as
substituting for pc B at R4 because both pcs sound in relation to pc E; and pc Bb similarly
sounds initially as a substitution for pc B at R12 for reasons discussed earlier.16

The analogy of function between pcs F# and B and pcs F and Bb can be traced by
the repetition of particular streams on these pcs in the pc-scale-degree design. For instance,
the stream \langle(\hat{1}\hat{5}\hat{3})\rangle appears on pcs B (R10 to R12-1) and F# (R15 to R17-3). That is,
at R10ff. we hear pc B change scale-degree function from \hat{7} to \hat{5} to \hat{3}; and at R15ff. we
hear pc F# change scale-degree function from \hat{7} to \hat{5} to \hat{3}. Similarly, as discussed above
the stream \langle(\hat{b}\hat{3},\hat{b}\hat{7})\rangle occurs in successive streams on pcs F and Bb at the end of the
movement. A strong relationship is also implied by the two sets of streams that interrupt
the connecting streams on pcs E and D at the end of the first part. These sets pair nearly
identical primary streams on B and Bb (i.e., \langle1,\hat{3}/\hat{5}\rangle on pc B and \langle\hat{1},b\hat{3}\rangle on pc Bb) with
similar secondary streams on their analogous counterparts F# and F respectively (i.e.,
\langle\hat{5},\hat{3}/\hat{7}\rangle on pc F# and \langle\hat{5}\hat{3},\hat{7}\rangle on pc F). That is, at R6 we hear pcs B and F# change
scale-degree functions respectively from \hat{1} to \hat{3} and \hat{5} to \hat{3} and an unknown quantity (\hat{?}/\hat{3});
and at R8-4 we hear pcs Bb and F change scale-degree functions respectively from \hat{1} and \hat{5}
to b\hat{3} and b\hat{7}. Such an analogy of function is also manifested in R15-3 when the paired
streams on E and D occur between the stream \langle\hat{3},\hat{1}\rangle on pc B (R14+3) and the stream
\langle\hat{5},\hat{3}\rangle on pc F# (R17-3). This is explicitly suggested at R15-3 on the surface of the music
when the beginning and ending chords of the repeated gesture, \{F2, Bb2, D3, A3, D4\}
and \{D2, B2, D3, D5, F#5, A5\}, create an alternation between pcs Bb and F and pcs B
and F# in the context of the same tonic, D, that opened the movement. The analogy is
again explicitly suggested in R17-3 when the cadence of the nearly pitch-identical
recapitulation of subsection d does not result in a reinterpretation of the scale-degree
function of the bass pc, B, but instead that of the soprano pc, F#. The differing treatments
of these identical cadences underlines the relation between pcs B and F# immediately before
the final repetition of the stream \langle(\hat{b}\hat{3},\hat{b}\hat{7})\rangle makes apparent the analogous relation

16See pp.189-190.
between pcs F and Bb. The cadence at R17-3 is also important in that the resulting stream $<5,3>$ on pc F#, like the stream $<\hat{5},\hat{7}>$ on pc F at R8-4, also offers an interpretation of the undefined $<\hat{5},?/|>$ stream on pc F# at R6. The two ending functions of these streams, $\hat{3}$ and $\hat{7}$, are the two functions in the following stream which ends the pc-scale-degree design in the movement.

The pc-scale-degree design suggests that the pairs {F, F#} and {Bb, B} are analogues in other ways such as, for example, by the variations on the stream $<\hat{2},\hat{7}>$. The stream $<b2,\hat{7}>$ on pc Ab (R2+1ff.) reappears on pc Bb (R5-2). (Pc Ab has already been identified as important to this analogy because it is paired with the primary streams on pcs F and F# (mm.1ff. and R9-3ff.) in the first two parts of the movement.) A similar stream, $<\hat{2},\hat{7}>$, is heard in the primary stream on pc B (R10-4), which sounds simultaneously with a primary stream on pc F#. That is, at R5-2 we hear pc Bb change scale-degree function from $b\hat{2}$ to $\hat{7}$; and at R10 we hear pc B change scale-degree function from $\hat{2}$ to $\hat{7}$. The stream $<\hat{2},\hat{7}>$ then appears in a secondary stream on pc F# (R10+3). This anticipates the long term connection between pcs B and F#, which is implied by the $<(\hat{4},\hat{5},\hat{3})>$ correspondence.

5.4.6 Palindromic Structure

The pc-scale-degree design of the movement presents a structure that is palindromic around R10 within the second part. Arrows in Figure 5.3 show this palindromic structure. The F# sustained at R10 is framed locally by four different patterns. The first of these patterns involves the return of a focus on specific pcs, but not the actual retrograde of scale-degree functions within those streams. For example, paired streams on pcs F# and G# occur before and after R10, but these involve different scale-degree functions: the primary
Figure 5.3 Palindromic Structure in the P2-Scale-Degree Design of Figure 5.2

center of symmetry
The second of these patterns involves the order of successive primary and secondary streams on a given pc. Only twice in the movement are a primary and a secondary stream presented successively on the same pc -- the stream on C# in R9-3 to R10-4 (S to P), and the stream on Eb in R12 to R14 (P to S) -- and both respective primary streams sound by themselves (i.e., are not accompanied by other primary or secondary streams). The other two patterns, however, involve exact retrogrades of the changes in scale-degree function in specific pc streams. For example, the secondary stream <6, 1> on pc C# before R10 is stated in retrograde (<1, 6>) in a secondary stream on the same pc after R10. Similarly, the primary stream <3, 5> on pc B before R10 is stated in retrograde (<5, 3>) in a primary stream on the same pc after R10. That is, at R8 we hear pc B change scale-degree function from 3 to 5; and at R10+3 we hear pc B change scale-degree function from 5 to 3. The retrograde of this particular stream also affects both major articulations of the form through primary streams on pc D -- the primary stream <3, 5> into R8 and the primary stream <5, 3> into R12. That is, at R8+4 we hear pc D change scale-degree function from 3 to 5; and at R11ff. we hear pc D change scale-degree function from 5 to 3. Thus, the palindromic structure within part B is reinforced by a larger process of retrograde of two statements of the primary stream <3, 5> successively on pcs D and B, which begins in part A and ends in part A1.

The pc-scale-degree design in parts A and A1 also reinforces palindromic structure. For example, the streams resulting from the E-D pairing in part A, the streams <4, 6> and <4, 6>, are reversed in A1 by the final two scale-degree functions in the E-D pairing at R16. That is, in R5-2 to R8 we hear pcs E and D change scale-degree functions respectively from 4 and 6 to 5 and 6; and in R15 to R16 we hear pcs E and D change

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17This correspondence confirms a relationship between the C# tonic of R9+2 and the C tonic of R13 that is suggested by the use of a variant of motive 1 and, more generally, by the use of an imitative texture. See the discussion of Example 5.11 on p. 192.
scale-degree functions respectively from 6 and 5 to 4 and 3. Similarly, the primary stream <1, 3> on pc B at R6 is retrograded in the primary stream <3, 1> on pc C at R14+3. The palindromic structure established by all of the above correspondences is framed in R17-3 by the recapitulation of one of the pc streams, <4, 1> on pc F, which began the movement in R1+2.

5.5 Summary

Let us summarize the main features of the above analysis and focus on the central question of this study: what function do tonics serve—how do tonics and their successions relate to form. Figure 5.1 clearly shows that most of the divisions in the thematic design—the two major divisions (R8 and R12), and all of the lowest level divisions in parts B and A1—are supported by a change in tonic. Indeed, the only divisions in the form that are not consistently reinforced by changes in the tonic occur in part A at sections a1 and a2, and subsection b. This suggests a contrast between parts A and B that is also established motivically. The only two subsections in the form that contain more than one tonic—subsections d1 and d2 in parts A and A1 respectively—are thematically related and function as a transition to the material of section b. This reinforces the thematic unity between parts A and A1. The intervals between successive tonic pcs also reinforces the form. Successive tonics in parts A and A1 are related primarily by perfect fourth and major second. However, successive tonics in part B are related exclusively by major or minor third.

Tonics in this movement are quite often obscured or ambiguous. A characteristic type of ambiguity arises between IC5-related tonic pcs (i.e., in the first tonal area). Another type of ambiguity between successive tonics is that caused by tonal foreshadowing (i.e., when B is foreshadowed at R16-4 at the end of the G tonal area). Foreshadowing is consistently associated thematically with a particular variant of motive 1. The ending of part A, however, is marked by an ambiguity that, created by simultaneous transpositions
with different tonal implications, can not be resolved. This helps to further differentiate part A from part B, because the tonics of the latter are not inflected by ambiguity.

The interaction of the motivic materials in this movement generate a pc-scale-degree design that reinforces the form. This design establishes the similarity between the endings of parts A and A1 in terms of successive focal pcs, and it emphasizes the difference between parts A and B by using different structures, which are respectively crescendo-like and symmetric. The pc-scale-degree design incorporates a palindromic structure that, although centered on the middle of part B, clearly links parts A and A1. The beginning and ending of the movement is signaled by the statement of the same stream (\(<^3,^7\>) on pc F. However, the pc-scale-degree design can also be understood as a working out of motive 1.\(^{18}\) It contains numerous references to streams that incorporate different representatives of the third scale-degree, and uses \{F, F#\} and \{B, Bb\} as analogous sets of opposed pcs that are alternately focused upon. Both of these characteristics are emphasized on the surface of the music around R2+1 when the tonic changes for the first time in the movement.

\(^{18}\)Copland alluded to this feature in his statement that all "melodic figures (in the first movement of the Short Symphony) result from a nine-note sequence — a kind of row — from the opening two bars." He also alludes to it by his alternate choice of a title for this piece — "The Bounding Line." Aaron Copland and Vivian Perlis, Copland: 1900 Through 1942 (New York: St. Martin's/Marek, 1984), 209.
Chapter 6

Piano Sonata, First Movement

6.1 Introduction

In the previous chapter we saw how a large-scale retrograde became one of the central ideas behind the pc-scale-degree design of the first movement of the Short Symphony. In the present chapter we will discuss the first movement of the Piano Sonata, which is another characteristic example of Copland's "serious" music. We shall see that the pc-scale-degree design of this movement, like that of Billy the Kid, features the repetition of streams on different pcs and, like that of Quiet City, imbues certain streams with a formal (recapitulative) function.

6.2 Form

Copland has described this movement as a "regular sonata form with two themes, a development section characterized by disjunct rhythms and a playful mood, and a clear recapitulation in which the opening idea is dramatically restated."1 Neil Butterworth goes so far as to claim that this movement has "a basically classical sonata form."2 Authors such as Julia Smith and Neil Butterworth, have fleshed out Copland's terse summary of the form by making the location of the second theme explicit (i.e., mm.58ff.), by adding a few cursory references to tonality and by defining the thematic structure in more detail.3 Taking these analyses as a point of departure the top four lines of Figure 6.1 analyze the first movement of the Piano Sonata as a modified sonata form. Although the large-scale thematic design of a traditional sonata (i.e., Exposition-Development-Recapitulation-Coda)

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is discernible, there is a different and unexpected character to the overall form. At the most basic level, there is an unusually high degree of similarity between the thematic materials. For example, Smith, among several other authors, notes that the second theme is an embellishment of the first and that the recapitulation of the second theme acts as an accompaniment to a theme which is derived from the original idea.\(^4\) The different sections of the form, however, also acquire unexpected characters. For example, an unusual allusion to a rondo form is made in mm.33 and 50 by the dramatic restatement of the opening chordal gesture. These measures are identified in Figure 6.1 by the bracketed term "motto." Similarly, the development section, which usually divides into several shorter sections in a traditional sonata form, is strikingly divided into two very disparate halves at m.123 by changes in texture and tempo. From the perspective of thematic development this division is logical because these two parts focus respectively on the first and second themes and are connected by a transitional passage whose material is derived from both the earlier transition (i.e., mm.44-47) and the second theme. However, the second part is unusual because its emphasis on rhythm is manifested in a dance-like character that is more representative of the second movement than of the first, in which it never recurs. As a result, this passage sounds within the sonata form more like an interlude or hiatus that foreshadows the next movement than like the continuation of the development section begun at m.96.

Other departures from traditional sonata practice, which are reinforced by the tonic succession, include highlighting the variations of the second theme in the Exposition by the unconventional technique of giving each variation a different tonic. (The transpositional relationships between second theme subsections in Figure 6.1 are identified in Table 6.1.) This gives the second theme a far different character from that which is expected. In a traditional sonata the second theme prolongs a single tonic as a contrast to the fluctuating

\(^4\)Smith, op. cit., p.232.
Figure 6.1 Summary of Thematic and Tonal Designs in the First Movement of the Piano Sonata

<table>
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<tr>
<th>Mm.:</th>
<th>1</th>
<th>11</th>
<th>26</th>
<th>33</th>
<th>35</th>
<th>38</th>
<th>44</th>
<th>50</th>
<th>53</th>
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<td></td>
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</tr>
<tr>
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<td>trans.1</td>
<td>(motto)</td>
<td>Second Thematic Area</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Subsections:</td>
<td>a</td>
<td>a1</td>
<td>b</td>
<td>a2</td>
<td>c</td>
<td>d</td>
<td>a3</td>
<td>e</td>
<td>e1</td>
<td>e2</td>
<td>e3</td>
<td>e4</td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>Bb</td>
<td>Bb</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>C dir.</td>
<td>C</td>
<td>G</td>
<td>D</td>
<td>F</td>
<td>C</td>
<td>E</td>
<td>G dir.</td>
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<tr>
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<td>a5</td>
<td>a6</td>
<td>c1</td>
<td>e5</td>
<td>e6</td>
<td>e7</td>
<td>e8</td>
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<td>e10</td>
<td>f</td>
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<td>Ab</td>
<td>Eb dir.</td>
<td>Eb</td>
<td>B</td>
<td>Bb</td>
<td>D</td>
<td>F#</td>
<td>F#</td>
<td>D</td>
<td>A</td>
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<td>a8</td>
<td>a9</td>
<td>e11</td>
<td>a10</td>
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<tr>
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<td>Db</td>
<td>Bb dir.</td>
<td>Bb</td>
<td></td>
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</tbody>
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Table 6.1 Summary of Tn-Related Subsections

- c1 T7c
- c1 T3c
- e2 T3e1
- e9 T4e7
- e3 T7e2
- a9 T3a1
- e4 T4e3
- e11 T9e4
- a5 T1a4
tonality of the transition. However, in the first movement of the *Piano Sonata* the second theme assimilates tonal fluctuation into its character. Since inherent characteristics of the first theme are explored in the second thematic area, one might hear the latter as a development section.

The recapitulation also differs from that in a traditional sonata form because, as indicated by Smith, it places more emphasis upon the first theme than upon the second. For example, the first theme is recapitulated with a new thematic and tonal structure: the two halves of the first theme (mm. 1 and 11) have different tonics and are connected by an interpolated transition. The omission of the original transition which connected the first and second themes make the arrival of the second theme in the recapitulation more subtle, and reinforces the dramatic predominance of the first theme. Thus, the recapitulation of the second thematic area is uncharacteristically understated and sounds more like another variation of the first theme.

The recapitulation of the second theme in a tonic other than that which begins and ends the movement is not unusual in itself, especially in light of the sonata forms in late Romantic and early twentieth-century music. However, this recapitulation is logical because it concludes an intervallic series that is derived from a descending minor third in the first theme, and permeates the tonic succession in the movement. Only a few of the elements of this process are indicated in Table 6.1, by the various transpositional relationships which are shown between corresponding subsections. The full scope of its effect will be apparent only when we comprehend the tonic succession of the entire movement. Therefore, this process will be discussed only at the end of the section on tonality below.
6.3 Tonality

6.3.1 Exposition – First Thematic Area

A Bb tonic is generated in mm.1ff. by the opening chordal gesture. This gesture emphasizes pc Bb as the root of three different sonorities and presents the Bb-minor triad in the soprano and an incomplete Bb-major triad in the bass. In mm.3-5 Bb continues to be supported weakly by the modified Bb-Aeolian collection {Bb, C, Db, D, Eb, F, Gb, Ab} but more clearly by an underlying voice-leading pattern that is shown in Example 6.1. The last Bb-rooted chord in Example 6.1 is what would result if the contrary motion established in m.3 between the outer voices were maintained. The gesture notated in Example 6.1 would also support a Bb tonic as it contains a directed motion in the bass that terminates on Bb3, which is the root of the final chord. The last three pcs in the soprano of this gesture create an intervallic motive, <-2, -1>, that will be reflected in the tonic succession of the movement, as we shall see. Copland obscures the "resolution" to Bb at m.5, however, by subposing pc G beneath Bb and withholding pc Db thereby transforming the held chord into a transposition (T11) of the chord which preceded it. This challenges our expectation of the Bb root because not only is the characteristic contrary motion disrupted but also the resulting accent on pc G in the bass raises the possibility of a new G root. The "wrong note" quality to G is enhanced by the fact that it does not even belong to the underlying referential collection of Bb.

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5 This is a version of the "diatonic octad" (i.e., a modified diatonic collection with two representatives of the third scale-degree) similar to that discussed earlier with regard to Example 1.1. See pp.8-9.

6 The resultant chord, {G2, Bb2, C4, F4}, is similar to other jazz-related (four-two) chords used by Copland where the bass tone is, in fact, the root. See, for example, the sonority {B2, A3, D4, E4} at R3+1 of Quiet City where the bass pc sounds like the root.
Our hearing is directed toward the arrival of the Bb-rooted sonority in m.12 because the soprano line of mm.3-5 – <F, Ab, Gb, F> – reappears in mm.11-12 transposed (up five semitones) so that pc Bb is the melodic goal. However, the removal of Bb in the bass when this two-measure phrase is repeated (mm.13-14) reduces the strength of the Bb root and allows other tonal implications to emerge. The first of these occurs when the same melodic cell is again transposed up five semitones in m.16, making Eb the terminal pc. However, an Eb tonic is denied when the concluding note of the cell is relegated to an inner voice, so that pc Eb is not the root or lowest tone of the supporting chord. Instead, the harmonization of this cell with parallel five-three chords emphasizes Ab as the final root. The resultant voice leading in the bass, which is very similar to the directed motion shown in Example 6.1, suggests an Ab tonic. Ab does receive some further support as a tonic by the presence of the pcs Cb and Fb, which are foreign to the established Bb referential collection.

Ultimately, we do not hear Ab as a tonic because of the continued presence of the melodic cell <Bb, Db, Cb, Bb> and because the return of the opening chordal gesture in m.23 makes us hear the bass line of mm.13-23 as a step ascent from F to Bb (see Example 6.2). The fourfold repetition of the ascent <F, G, Ab> is marked by the gradual accretion of parts from a three- to a five-voice texture. The completion of this ascent to Bb is obscured by placing Bb in a higher register in m.23.
Example 6.2 Bass Step-Progression in mm.13ff.

We expect a Bb tonic to emerge from the minor third \{Bb, Db\} at m.26 because this would allow us to hear a more satisfactory conclusion of the bass ascent from pc F which begins in m.13. The first two chords of m.26 seem to support Bb as a tonic because they are familiar as the first and last sonorities respectively of the opening phrase of the movement. However, it is F, and not Bb, which emerges as the tonic of the chordal texture at mm.26ff. This ambiguity is acknowledged in Figure 6.1 by a tonal overlap between Bb and F tonics.

In mm.26-27, F is generated by a chord progression that resembles <iv, [i], i7, V6, i> in F minor.\(^7\) This relatively traditional progression, however, is obscured because an unconventional registration moulds the gesture into the shape of a directed motion. The resulting bass line contains a directed motion which similarly predicts an F tonic: a descending motion from Bb2 terminates on an accented Fl, which is the bass pitch of the minor third \{F, Ab\}. The unusual registration becomes particularly important in the repetition of this gesture in the following three measures when the insertion of a Bb-major six-three chord between the two last chords obscures the crucial dominant-tonic progression. Although confusing to the underlying conventional harmonic progression,

\(^7\)I do not hear G as the root of the second chord in m.26 because pc G behaves, like the G in m.10, as a neighbor tone to pc F. For this reason I hear the second chord as having an F root which is delayed.
this change actually helps in the generation of an F tonic by directed motion because the change of the penultimate chord when the gesture is repeated allows us to hear the \{F, Ab\} dyad as the most accented chord in the passage. As a result, the F tonic suggested by the root succession in mm.26-27 is most clearly generated by directed motion in mm.26-30.

The proximity of a Bb tonic in this passage is suggested by the ease in which the motto of the first theme resurfaces at m.33. The tonal impetus of this motto, however, is negated at m.34 when F, and not Bb, is heard as the final root. This arrival is prepared, albeit abstractly, by the phrase structure and voice-leading of mm.26-32. The phrase structure in this passage is based on a double repetition of the two-measure phrase in mm.26-27. Each repetition of this phrase is extended by adding one chord after the penultimate chord of the previous phrase. That is, mm.28-30 adds a Bb-major six-three chord after the C-major six-three chord of the previous phrase; mm.31-32 adds a C-major five-three chord after the Bb-major six-three chord of the previous phrase. The metrical and dynamic accents on the penultimate chords of the first and second phrases of the passage, in mm.27 and 30 respectively, suggests a step-progression that is explicitly stated in the voice-leading of the third phrase in m.32 (see Example 6.3a). However, the juxtaposition of the accented C- and Bb-major six-three chords to the crucial \{F, Ab\} dyad suggests that we hear a similar step-progression over a much longer timespan – mm.26-34 – between the accented sonorities (see Example 6.3b). Example 6.3c presents a tonal interpretation of the step-progressions in Examples 6.3a-b. It posits a progression in F, <V6, IV6, V, IV> – supporting a linear inner-voice motion above the sustained tonic pedal tones \{F, Ab\}. The gradual registral expansion of the original two-measure phrase into this step-progression recalls the gradual accretion of voices around the incomplete ascent <F, G, Ab> in the preceding step-progression in mm.13-26. Although attractive theoretically the tonal interpretation in Example 6.3c is very difficult to hear because the

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8 I hear pc Gb in the chord on the downbeat of m.33 as a neighbor tone to F, and not as a root, because the recapitulation of the first theme makes me expect a Bb root here and because Gb sounds as a dissonance against pc F in the next chord, which does have a Bb root.
ending of the step-progression is obscured in the context. For example, the bass of the third phrase (mm.31-32) does not terminate on pc F like the earlier phrases of this passage. Further, when F finally does arrive in the bass (m.34) it is stated in the wrong register (i.e., two octaves higher). This breaks the most fundamental aspect of the step-progression in Example 6.3 — the fixed register of pc F in the bass — which is established by the directed motions in mm.26-30.

Example 6.3 Bass Step-progression Between Metrically Accented Sonorities in mm.27-34

a) Successive chords in mm.32ff.  

In the following repetition of the motto at m.36, however, the crucial ending chord is obscured by the neighbor tones {Gb, Db}. The subsequent denial of repose which this creates extends this repetition into an ascending directed motion which has C4 in m.38, the accented bass pitch of a C-minor triad, as its goal. The tonic succession in Figure 6.1 reflects this transformation by showing the passage as an overlap between the F and C tonics.

C is confirmed as a tonic in mm.38-40 by the harmonic progression <i, iv, v, i>. The parallel voicing of these chords results in the linear intervallic pattern 5-5-5-5. The harmonic progression in mm.38-40, like that in mm.33-34, is also transformed upon repetition into a directed motion (mm.40ff.) that similarly treats C as a goal.
The return of the first theme in m.50, which so forcefully directs our attention away from C, initiates a passage of tonal ambiguity. By the simple recapitulation itself we are predisposed, as in m.33, to hear a Bb tonic. The nearness of Bb is suggested by the way in which the C tonic dissipates: the Bb-major triad, which is so prominent at mm.44ff., is followed by an implied F-root in m.49, suggesting that F is Bb:5 and needs to resolve to a Bb-rooted sonority in m.50. However, an F tonic is equally near because the bass pcs C, Bb and D in mm.48 and 50 respectively are identical to those which prepared the F-rooted tonic chord in mm.32-33.

Copland avoids both Bb and F by the simple expedient of substituting a new chord at the end of m.50, which is a pitch transposition up two semitones of the F-rooted chord in m.34, for the expected Bb-rooted concluding chord. The resulting G root, which initially sounds strikingly out of place, recalls the unexpected chord in m.5 with G in the bass. Like the earlier treatment of m.34, the root of this final chord eventually proves to be an accurate indicator of the forthcoming tonality. However, the new G tonic, unlike the F tonic at m.34, is introduced very abruptly and largely without preparation. Only retrospectively can we hear how the motto at mm.50-51 incorporates the melodic presentation of the G-minor triad in the bass and perhaps implies a dominant-tonic progression in G between its second and third sonorities.9

6.3.2 Exposition – Second Thematic Area

The apprehension of G is further obscured when it becomes apparent that all of the material in mm.36-38 has been similarly transposed up a tone in mm.52-57. This results in a directed motion toward D where the terminal D-minor triad is placed under a fermata. Unlike the C tonic at m.38, however, D is not confirmed as a tonic by another technique at mm.58ff. and so we tend to hear the D-minor chord, at least from mm.58-63, as the

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9When interpreted in G the second chord in m.50 is not heard as the Bb-major six-three chord with added minor sixth that we are preconditioned to expect but as an altered dominant of G that has a raised fifth and both minor and major thirds.
dominant of a G tonic. A G tonic is suggested in these measures by the melodic presentation of the G-major triad in the bass. This bass line contradicts and overshadows the orientation of the melody which, when taken by itself, suggests Bb as a tonic.\(^{10}\) This recalls mm.33ff. and 50ff. where Bb was similarly hovering. G is reinforced as a tonic in mm.58ff. by giving pc G a metrical accent each time it is stated in the bass in mm.58-62 and by associating the corresponding dyad, \{G, Bb\}, with G-rooted sonorities.\(^{11}\) G is weakly supported by the modified G-Aeolian collection \{G, A, Bb, B, C, D, Eb, F\}, which is a transposition of the Bb referential collection in mm.1ff.

The implication of G as tonic is, however, weak because G is not established by a directed motion or a chordal progression unlike all of the other tonics so far in the movement. Indeed, a G tonic is contradicted by references to a D tonic starting as early as m.63. For example, in mm.63 and 66 it is D and not G which is metrically accented as a root in the bass. These D-rooted chords are not heard as subordinate to the G-rooted chords because the only time D and G appear in successive root position triads (mm.66-67) the progression sounds like the beginning of a \langle i, iv, i \rangle progression in D. Copland emphasizes the relative weakness of the G root in m.66 by the intervallic structures of the chords: the D-rooted sonority is a complete minor triad but the G-rooted sonority is only a doubled minor third. This suggests that we retrospectively hear a similar (hierarchical) relationship between the root position D-minor triad and the doubled minor third \{G, Bb\} in mm.57-58. The implication of D in the opening of the second thematic area is also strengthened retrospectively at m.67 when T7 of the theme generates the D tonic which was foreshadowed by the directed motion into m.57.

It is possible to hear D as a tonic throughout mm.58-73 because the G tonic is relatively weakly generated when compared to the (transposed) directed motion which

\(^{10}\) The nearness of a Bb tonic in the material of the right hand is demonstrated by the way a simple pitch substitution in the harmony voice – substituting either D5 or Bb4 for G5 in m.66 – results in a much stronger sense of that tonic.

\(^{11}\) Some of these sonorities, like the chord on the downbeat of m.61, are obscured by neighbor tones.
preconditions us to hear D. However, to analyze this passage simply as a D tonic would be to risk inconsistency in the analysis. For example, if we take mm.67-73 outside of the context, as we did mm.58-66, we find that D is established as a tonic by the same elements which earlier suggested G. It does not make sense to place such an emphasis on the directed motion into m.57, which, at any rate is not immediately confirmed, because the transposition of the actual theme itself proves to be what guides the tonic succession in the second thematic area. That is, successive transpositions of this theme result in F, C and E tonics at mm.74, 80 and 86 respectively. Figure 6.1 therefore represents mm.53-66 as a tonal overlap between G and D tonics.

The G and D tonics become the first "leg" of a larger sequence of tonics. The motion from G to D is replicated down a tone, thus creating a second "leg," when F (mm.74ff.) is succeeded in m.80 by C. The sequence is broken in the next "leg" because the E tonic at m.86 is never succeeded by a B tonic. The "legs" of this sequential tonic succession begin on G, F and E respectively. This series of transpositions corresponds to the interval series <-2, -1>, which spans the soprano line <Ab, Gb, F> in mm.3-5.

One of the more interesting aspects of this sequence is that it underlines the dependency of the second theme on the first theme, which was already noted with regard to the thematic materials. The tonic succession is modeled after a central intervallic motive – <-2, -1> – and adopts the single tonal principle – the motion to tonics that are a perfect fourth lower – that was explored in the transition.

The perception of this sequence is enhanced by the manner in which these tonics are connected. For example, the use of metrical accent in mm.66-67 to announce the first sonority of the D tonal area at the end of the preceding G tonal area is paralleled in mm.79-80 where the first chord of the C tonal area, {C, Eb}, also appears on the downbeat of the last bar of the preceding F tonal area. Similarly, the linear ascent of a third in mm.73-74, when D is succeeded by F as the tonic, is paralleled by a similar ascent in mm.85-86 when
C is succeeded by E as the tonic. However, these connections are parallels in only a
superficial sense because each omits the expected functional harmonic connection between
tonics. For example, the functional <i, iv, i> progression that connects the G and D tonics
at mm.66-67 is wholly lacking at the corresponding place (mm.79-80) when F is
succeeded by C as the tonic. Similarly, the functional progression which connects the D
and F tonics at mm.73-74, the <vi7, IV6, viiø7, i> progression in F minor, is absent at the
corresponding place (mm.85-86) when C is succeeded by E as the tonic.

The lack of functional harmonic connection between parallel tonic successions is
important because it underlines the emphasis on the relative major in the soprano. This
emphasis becomes particularly noticeable when the melody is no longer harmonized in
thirds at the beginning of the second "leg" of the sequence (mm.74ff.). By the time that the
E tonic arrives the implication of the relative major is so strong that we can almost hear a
texture that has been divided into two separate tonal strands: a lower strand in E and a
higher strand in G.

6.3.3 Development, Part I

This emphasis on pc G in the melody of the E tonic is largely responsible for the
ease in which the expected B tonic, which is suggested in m.93 by the doubled minor third
{B, D}, is transformed, by a different incorporation of the triadic bass line of the second
theme, into a G tonic. However, this tonic does not become clear until at least m.97.
Example 6.4 provides a sketch of mm.93-103. Initially, we are predisposed to hear the
tonic as C, at least in mm.93-96, because preconditioning suggests that the bass
arpeggiation of a C-major triad is tonic-defining. A C tonic even seems to be confirmed in
m.96 when the opening measure of the development section appears to introduce T_2 of the
first theme. However, m.97 does not continue this transposition because the goal of this
three-chord gesture is a strongly accented root position G-ninth chord. Thus, m.96
actually introduces T_2 of mm.33-34 where the soprano has been modified and, therefore,
suggests a G tonic. The extremely wide leaps in the lowest sounding voice of mm.96-97 – the line <C4, E2, G1> – confirm G as a tonic by making it the goal of a descending directed motion. This small-scale directed motion is nested within a larger-scale directed motion from B3 in m.93 that also terminates on G1 in m.97. The motto of the first theme at m.96 obscures but does not negate the tonic-defining effect of the larger-scale directed motion. This motion from m.93 also contains the germinal plagal progression which constitutes the harmonic basis of mm.96-103.

Example 6.4 Nested Directed Motions and Plagal Progressions Define G as Tonic in mm.92-103

The G tonic at mm.96ff. is much stronger than the previous G tonic at m.58. Although both are obscured by references to another tonic pc – C at mm.96ff. and D at mm.58ff. – there is no doubt in m.97 that G, which seemed to be hovering over mm.50-66, has solidly arrived. A relationship between these two instances of G is alluded to in mm.94-95 when the only G-rooted sonority is the same minor third – {G, Bb} – which begins the second thematic area proper (i.e., m.58).\textsuperscript{12} The G tonal area at mm.97ff. is also interesting because it reprises the plagal harmonic setting that was introduced at mm.33-34 and thereby suggests a long-term T2 relationship between the transition (mm.33ff.) and the

\textsuperscript{12}I will not address the possibility of a prolongation of G over the entire second thematic area because it is not germane to the present discussion.
Development (mm.97ff.). This presents a macrocosmic version of the microcosmic $T_2$ relationship between the terminal chords of the first theme motto at mm.33 and 50. The most curious aspect of this long-term connection is that it further minimizes any leftover independence we perceive in the "second theme," suggesting rather that the entire second thematic area is an extension of the first thematic area.

The two-measure phrase in mm.102-103 is transposed up a semitone in the following two measures. Instead of an exact transposition of the bass, however, Copland interpolates a transposition of the bass line from the directed motion that is shown in Example 6.1. The resulting bass ascent from Bb to Db recalls a similar ascent from F to Ab in mm.11ff. The bass ascent in mm.104-105, like that in mm.11ff., does not represent a directed motion (which generates a Db tonic): the $T_1$ transposition makes us hear the Db-ninth chord in m.105 as Ab:iv9. The harmonic basis of mm.104-115, like that of mm.93-103, is also an extended plagal cadence (see Example 6.5). The last subdominant chord (m.114) resolves to a root position Ab-minor triad that is inflected by two neighbor tones (Bbb and Fb). Like m.35, these neighbor tones transform what would otherwise be a gesture of harmonic resolution (i.e., Ab:<"IV6", i>) into a directed motion which is a transposition (up a minor third) of the material in mm.36-43. This striking use of neighbor tones makes the parallel between the first two tonal areas of the Development section and mm.33ff. even more apparent and thus confirms the Ab tonic retrospectively.

Example 6.5 Plagal Progressions Define Ab as Tonic in mm.104-115

\[
\begin{array}{c}
\text{Ab:} \quad \text{iv6} & \text{iv9} & \text{ib7[iv4]} & \text{ib7[iv4]} & \text{iv9} & \text{"iv6" iv "IV6" iv9 "IV6" i} \\
\end{array}
\]
The arrival of G and Ab as tonics at the beginning of the Development also suggests retrospectively that the second thematic area is a development of the first thematic area because they are the second and third members of an inversion of the \(<-2,-1>\) intervallic series (i.e., \(<+2,+1>\)) that is formed by successive transpositions of the first theme. That is, a \(<+2,+1>\) series is generated by the F, G and Ab tonics that result from the transposition of the first theme in mm.33ff., mm.97ff., and mm.104ff. respectively. The continuity of this series is reinforced on the surface of the music by the harmonic setting of the motto of the first theme: in all three passages the underlying harmonic progression of the motto is a plagal cadence. This series links the transition to the Development.

The directed motion which is initiated in m.115 generates an Eb tonic from Ab in m.117 in the same manner in which a C tonic was generated from F in m.38. Like the earlier passage, the second diverted tonic points strongly toward an accented Eb tonic at m.123. This impression is a result of preconditioning: we expect a continuation of the large-scale transposition such that m.123 will be the transposition of m.44. However, the expected Eb-minor triad with pc Eb in the bass does not materialize in m.123 and we get a new passage and a new tonal area where there is a significant amount of ambiguity.

At least four different tonics – pcs Eb, G#, F# or B – could be ascribed to the material of mm.123ff. Although the last of these – pc B – is eventually heard as the tonic of the entire passage, B is by no means clear as a tonic at the beginning of the passage. Therefore, let us discuss the evidence for each possible tonic in turn. Pc Eb is suggested in m.123 because of the preconditioning invoked by the large-scale transposition (as discussed above) and because the highest voice of the first two dyads in this measure – \{D#2, B5\} and \{F#2, A#5\} respectively – sounds like a b6-5 neighbor-tone motion over an Eb root. Pc G# is also, however, suggested as a tonic in mm.123-124 because the melody is T1-related to the original melody in the second theme (i.e., mm.58ff.). We can also hear references to an F# tonic in mm.123ff. because the step-related parallel fifths in
m.123 – {B2, F#5} and {C#3, G#5} respectively – recall the subdominant and dominant chords within the linear intervallic pattern of the preceding Eb tonic (i.e., in mm.117-119). The referential collection at mm.123ff. helps in evaluating these first three possibilities for the tonic. For example, the collection makes Eb unlikely as a tonic because it contains pcs A and E, which are not members of the established Eb referential collection (mm.117ff.). Similarly, the collection of mm.123ff. makes G# unlikely as a tonic because it is not T1-related to the collection at mm.58ff. However, the collection could support an F# tonic because an ordering from F# results in a collection with two different representatives of the third scale-degree, which is familiar from the first and second themes. Ultimately, we do not hear F# but B as the tonic of this passage. We hear B as a tonic primarily because a B-major triad begins the ascending line in the bass and the pcs B and F# are the beginning and ending notes of the melodic line repeated in mm.124-126. If one accepts the pcs E, A, B and C# as constituting a single A-rooted harmony then the bass line could be construed to melodically realize a neighbor-tone motion around the pcs of the B-major triad. (This motion becomes more obvious if we place all the pcs of the bass line into the same register.) B is also suggested as a tonic by the new concordances that result when the bass and soprano motives shift their relative metrical positions. For example, the first and only statement of an octave in the passage, which occurs on the second beat of m.124, results in a sonority – {B1(2), A4, B5(6)} – that has a B root. Similarly, the succession of three dyads in mm.125-126, <{B3, F#5}, {C#4, B5}, {E4, A#5}>., is suggestive of the harmonic progression <I, ii7, V4/2> in the key of B major. This leads us to expect the dyad {D#4, B5} on beat 2 of m.126. The direction of this progression, however, is confused because the leading tone, pc A#, is immediately contradicted in the bass by accenting the other representative of the seventh scale degree, pc A.

On the downbeat of m.127, like that of m.123, Copland similarly retains pc D# in the bass but again substitutes an entirely new collection. Initially, it seems that D will emerge as the tonic of this collection for three reasons: pc D receives three successive
agogic accents in the two highest voices (mm.127-128); the agogic accent on D5 in m.128 suggests that the dyad \{F2, D5\} is a goal and pcs F and D, which are prominent in the bass, are emphasized by a double voice exchange in m.129. A C tonic is also weakly suggested because of the agogic accents on pc C in the bass and because the bass motive <F, D, G, C> is a restatement of a (soprano) motive that was introduced at mm.44-47 when C was a tonic. However, the tonic of this passage is eventually defined as Bb.13

Example 6.6, which gives a verticalization of the melodic texture, posits an underlying dominant-directed progression in Bb. This interpretation is suggested most strongly by the curious dyads at the end of m.129 and the beginning of m.130 which, when juxtaposed to the bass \{F, D\} sixth, sound like a variation of Bb:ii6/5. The bass sixth, which represents an incomplete version of a Bb six-four chord, never resolves. Bb is supported as a tonic by a subset of the Bb-major collection – \{Bb, C, D, Eb, F, G\}.14

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13 This is a very unusual transitional passage in Copland's music because the relatively clear change in collection at m.127 is not accompanied by a clear change in tonic. We might easily posit Eb instead of Bb as the tonic for this same passage, or even hear the passage as based on an underlying chromatic step-progression with descending lines in the soprano and bass (i.e., <B (m.123), Bb (m.132), A (m.133)> in the soprano, and <D# (m.123), Eb (m.127), D (m.132)> in the bass). Either an Eb or Bb interpretation does not produce a significant change in the pc-scale-degree design and following analysis.

14 Pc E is heard as a non-collectional tone because it is constrained to the repeated neighbor-tone gesture in mm.127-128 and occurs in less registers than the collectional pc Eb (i.e., pc E occurs in two registers while pc Eb occurs in four).
6.3.4 Development, Part II

We are predisposed to hear an A tonic at mm.133ff. for three reasons: the familiarity of the opening melodic cell, <A5, E5, F#5, A5>, as a jazz gesture in A major; the emphatic accentuation of pc A throughout the first eight-measure phrase; and the transpositional relationship (T2) between these same four notes and the first, third, fourth and fifth notes respectively of the second theme (mm.58ff.). However, the third of these reasons is weak because the tonal ambiguity of the second theme could also suggest an E tonic. Despite the predisposition toward A we hear the passage as, ultimately, generating a D tonic even though this is delayed at least until m.140. D is generated as the tonic because the melody as a whole tends to revolve around notes from the D-major triad: both statements of pc F# are punctuated by rests and pc A is associated with pc D on three different occasions.

The ambiguity between the A and D tonics, which is suggested from the outset of this section, recalls the ambiguity between G and D tonics at mm.58-66 and the ambiguity between G and C tonics at mm.93-103. One of the more striking aspects of this part of the Development is how the later repetition at mm.170ff. of the material of mm.133ff. weights the ambiguity between D and A heavily toward A just before A becomes the final tonic of this section (mm.175ff.).

The return at m.141 of the eighth-note motive of mm.131-132 as an introduction for the repeat of the opening phrase presents a pared down retake of the material in the Bb tonal area at mm.127-133. This suggests that we hear a similar change in tonic to Bb at m.141 followed by a return to D in mm.146ff.

The recasting of the material from Bb in mm.141ff. suggests a further reason why we should hear a D tonic at mm.133ff. and also at mm.146ff. This repetition reinforces the sense that the soprano line of the preceding transition, particularly mm.127-129, is
interwoven into the melody of mm.133-140. This is shown in Example 6.7. If this is the case, the prominent accent on pc D in mm.127-128, in a passage ostensibly generating a Bb tonic, can be perceived as another example of tonal foreshadowing.

Example 6.7 Embedding of a Motive in mm.133ff.

The D tonic becomes more substantial in mm.151-161 when pc D starts to become more accented than pc A in the high register and a second voice, which gradually emerges from the large leaps between the notes of a single melodic line, gives us grounds to infer a harmonic progression that revolves around a D-major six-four chord (see Example 6.8). If we posit a final chord that has D as its root at m.162 then the resulting <V, I> cadence receives a conventional metrical setting with the dominant in a weak position (i.e., at the end of m.161) and the tonic in a strong position (i.e., on the downbeat of m.162).

However, in m.162 the expected "resolution" of this progression – the return of the melody of mm.133ff. at its original pitch level – is denied when that melody is transposed (up a major third) to begin on pc C#. This substitution allows the A root at the end of m.161 to sound over into the following measure suggesting, briefly, that pc C# is its major third.
This passage recalls similar uses of substitution elsewhere in the movement within transitional sections (i.e., mm.33 and 50). It also parallels the most recent substitution, m.123, because it similarly results in a shift between tonics related by a major third. Because of its transpositional relationship to mm.133ff. the melody in mm.162ff. also generates an ambiguity between pcs a fourth apart. However, our tendency to focus on pc C#, which results from the lingering A root of m.161, does not expand into a sense of a C# tonic because the opening cell is twice punctuated by an F# minor-major six-three chord. The lack of a C#-rooted chord to counteract and "resolve" the accented F#-rooted chord reorients our hearing away from C# toward an F# tonic. F# is supported by the pc collection \{F#, G#, A, A#, B, C#, D#, E\}, which is familiar from the first and second themes.

In m.169, pc C# again initiates a change in tonic because it marks the return of the initial collection from mm.133ff. We are predisposed to hear a D tonic here because a truncated version of the original melody is prefaced (mm.171-174) by a D minor-major six-

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15One might also hear a B tonic for this passage for two reasons: B is emphasized as a chord root in mm.158-160 near the end of the D tonal area (recall Example 6.8); and the F#-rooted sonority in m.163 has the same pitches in the lowest register – A2 and F#3 respectively – as the D-major six-four chord that prepares the B-rooted sonorities in mm.158ff. The pc collection – \{B, C#, D#, E, F#, G#, A, A#\} – might also be construed as support for a B tonic because it is identical to that in mm.127ff. when B was last a tonic.
three harmony. However, the D tonic is almost overshadowed by an A tonic that is implied in the first two measures. The A-major triad which introduces the original collection of this section makes F# sound like a neighbor tone to pc E, as in the jazz melodic gesture <A, E, F#, A>, and consequently suggests that the D minor-major six-three chord is not a tonic but, in fact, a subdominant harmony.

The increasingly strong references to A in the thematic material of the D tonic foreshadows the arrival of an A tonic at mm.175ff. The sense of flow from D to A here is strengthened motivically in m.174 when the final two-note motive of the original melody, <B5, A5>, is transformed into an ostinato in the highest voice in the next eight measures. The progression is also satisfying motivically because the respective materials of mm.133ff. and mm.175ff. explore a different, but complementary, aspect of the second theme: the material in mm.133ff. explores the pc relationships within the melody of the second theme while that in mm.175 explores the pc relationships within the bass of the second theme.

The A tonic of this passage is generated by the melodic presentation of an A-minor triad as a descending line in the bass below the rearticulated pitches C5, E5, A5, and B5.16 At mm.183-187 this texture is subtly altered: the bass line changes directions and adds pc G while the re-articulated pcs in the right hand are melodically combined to form a longer, ascending line – <C4, E4, B4, A4, C5, G5, D5, E5, B5>. The underlying repetition of melodic cell <C, E, B, A> in this line is obscured by interpolating two additional notes, pcs G and D, and omitting the final tone. A is supported as a tonic by the A-Mixolydian collection.

At mm.189ff. the D minor-major six-three harmony, which was implied earlier in m.170, becomes the harmonic basis for an entire phrase through simple repetition. A D

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16Not all of these pcs are present in every measure because the trichords {C5, E5, B5} and {C5, A5, B5} alternate in mm.175-178.
tonic is weakly suggested in these measures because the pcs used in the passage – \{D, E, F, F\#, G, A, B, C\} – form a collection that contains, like the referential collections of both the first and second themes, two representatives of the third scale-degree. D is also implicated as a tonic because the composite soprano line, which results from successively superimposing a trichord and two different dyads (i.e., the verticalities \{E5, F\#5, A5\}, \{G5, C6\} and \{B5, E6\} respectively) above a sustained D-minor chord, associates pc A with pc D and states D-tonic motivic gestures that are familiar from jazz. Example 6.9a contains all the pcs of mm.189ff. and shows the soprano line by upward stems; Example 6.9b extracts the composite soprano line to show the pc association between A and D and the D-tonic motivic jazz gestures. The latter, which are related to the \langle A, E, F\#, A \rangle\ melodic cell in mm.133-134, are other familiar figures from jazz. They are slightly obscured in the context because pc D appears in the wrong register.

Example 6.9 Composite Melodic Line in mm.189-194

\[\text{Example 6.9 Composite Melodic Line in mm.189-194}\]

However, the lack of a harmonic progression supporting D suggests that the A tonic of mm.175ff. is not displaced and that the D-rooted sonority sustained in mm.189ff. is A:iv6 (cf. m.178). An A tonic is also suggested by conventional practice – it is more typical for a D-minor chord to function as A:iv than for an A-minor sonority to function as D:v.\footnote{In typical fashion, however, Copland does use precisely this progression – \langle v, i \rangle – in the cadence that defines Bb as the tonic in the Coda. This cadence was discussed on p.33.} Because there is no tonicizing technique at mm.189ff., outside of the relatively minor consideration of pc collection, which supports D as a tonic Figure 6.1 shows an A
tonic for the passage. This casts a new perspective on the chromatic opposition between pcs F and F# as thirds of a D harmony by shifting our understanding of these pitches from the third to the sixth scale-degree.

6.3.5 Recapitulation – First Thematic Area

At mm.196ff. the first theme is recapitulated beginning with the motto at its original pitch level. The framing chords of the motto are reasserted as tonic-rooted sonorities. This results in a Bb tonic for the same reasons as in mm.1ff (see pp.220-221). However, a different emphasis is cast upon this familiar material because pcs F and Ab are added as pedal tones below the final chord. This makes the final chord sound like a variation of the sonority which was heard on the first two beats of m.11. A summary of this passage is shown below in Examples 6.10a and b. These examples, unlike Salzer's, do not attempt to show prolongation but merely to summarize the voice leading.

The way these pedal tones are introduced mimics the directed motions which were so prominent in establishing the F tonic in the beginning of the expositional transition. For example, mm.196-197 parallels mm.26-27 in that both begin on the dyad {Bb, Db} and end with an emphasis on the dyad {F, Ab}. Similarly, the cadence upon C-major and Bb-major six-three chords in mm.199 and 201 respectively, which are linked to the original Bb-rooted sonority in m.197 by the {F, Ab} pedal tones in the bass, parallels the relationship between the same chords in the transition in mm.27 and 30 respectively. Ultimately, these references facilitate the emergence of a transition to a second recapitulation of the first theme which has a tonic other than Bb. However, this role does not become apparent until much later in the passage.

The growing implication of an F tonic, which is suggested by the parallel to the transition of the Exposition, is negated in the next repetition of this gesture (mm.203-204).

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Here the transposition of the second and third chords down a tone results in an unexpected cadence on an Db-major six-three chord in m.203 beneath which is placed the equally unexpected trichord \{A, C, Db\}. As the second half of the first theme emerges in mm.204ff. this bass A descends by step to F. The resulting definition of pc F as a goal in the bass suggests that we hear the entire passage as a series of chords above the sustained dyad \{F, Ab\}. This is shown in Example 6.10a.

Example 6.10 Summary of Voice-Leading in mm.196-210

The voice-leading model in Example 6.10b suggests that the purpose of the harmonies which successively end the repetitions of the motto is to bring out the central chromatic opposition between pcs D and Db. This is achieved in two ways: by alternating pcs Db and D within different harmonies above the F pedal – Db (m.197)-D (m.201)-Db (m.203)-D (m.208) – and by framing the entire passage by two Bb-rooted chords such that pc Db is replaced by pc D as the third. Only the harmony in m.199, which functions as a
neighbor chord to the framing Bb-rooted sonorities in Example 6.10b, does not contain either pc Db or D.

The ultimate definition of the \{F, Ab\} pedal tones in terms of a Bb root (mm.208-209) is important because it suggests the continuation of the Bb tonic. However, this Bb root, paradoxically, seems to be directed not to a Bb but to an Eb tonic. Our predisposition to hear this chord as a dominant seventh of Eb, because of the presence of pc D, is reinforced in the context because it is prepared by a chord – \{F, Ab, Cb, Eb\} – that could be understood as ii<sup>7</sup> in Eb minor. The resulting ambiguity between Bb and Eb tonics recalls the similar tonal ambiguity between IC5-related tonic pcs that was introduced in the second thematic area.

However, Copland avoids an Eb tonic when the expected ending of the motive in mm.207 (beat 3)-208 is transposed up a minor third upon being repeated in mm.209 (beat 3)-210. This results in a major-minor seventh chord built above Db. A Db tonic is then generated in the following measures by recapitulating the second half of the first theme – mm.11ff. – in a transposition up a minor third. This transposition also, however, makes references to a Cb tonic for the same reasons as it did an Ab tonic in mm.16ff. (see p.221). Cb does not become the tonic essentially for the same reasons as those regarding Ab: the continued presence of the transposed melodic cell <Db, Fb, Ebb, Db>; and the return of the motto of the first theme in m.221.

6.3.6 Recapitulation – Second Thematic Area

The step-progression in the bass line of this transposed passage, the ascent from pc Ab to Db corresponding to that of mm.13-23, is concluded when the first theme is followed in m.223 by a similar transposition of the second theme to Db. Db is generated as a tonic in mm.223ff. in the same manner as those tonics in mm.58-86. The transposition of the second theme to Db emphasizes how the original third scale-degree of Db, pc Fb (in
the first theme), is challenged at m.223 when pc F appears in the bass and at m.230 when F6 becomes the melodic climax of the first crescendo in this passage. The inherent motion from Fb to F as the third scale-degree of Db mimics the underlying motion between different representatives of the third scale-degree of Bb (i.e., a motion from pc Db to pc D) that was shown in Examples 6.10a-b (see p.240).

At m.223 Copland superimposes what appears to be a new melody above the second theme. However, this melody is really a compilation of fragments from the first theme (mm.3-5), the transitional material (mm.36-44) and the second theme (mm.58-73).

We return to the original Bb tonic by a directed motion that begins in m.234 and incorporates in mm.235-236 a transposition (down a tone) of the directed motion which ended the second thematic area in the Exposition (mm.93-95). This is shown in Example 6.11. Like the earlier directed motion there is a delay in reaching the terminal chord; the goal pitch, Bb0, does not arrive until m.239. However, the root movement underlying mm.235-236 mimics a <V, I> progression (as shown in Example 6.11) and not a <IV, I> progression like that of mm.93-95 (cf. Example 6.4). Because m.234 is ostensibly the origin of the directed motion to Bb, we can posit two harmonic interpretations of this measure. It is not only understood as a clear continuation of the Db tonic (i.e., a neighboring motion around a Db six-three chord) but also as the embryo of a <v, i, v> progression in Bb. In fact, the transition from Db to Bb is dependent upon our hearing the change in the function of the pcs F and Ab. The emphasis on these pcs in mm.231-238 recalls a similar emphasis on F and Ab at the beginning of the transition in the Exposition.
Example 6.11 Directed Motion Defines Bb as Tonic in mm.234-239

The intrusive {F, Ab} pedal tones, which so characterized the recapitulation of the first theme, are resolved in the final section of the movement when F and Ab appear as a separate sonority that progresses to a Bb octave in m.239. This results in a descending-fifth root motion that recalls the implied progression in beats 1 and 2 of m.234. The movement ends, appropriately enough, with the recapitulation of the element that symbolizes the first shift in tonics, the motto of the first theme. The final chord of this motto, which was transformed in the expositional transition and the first part of the Development section, now becomes a held chord below which is repeated the resolutive gesture of m.239.\(^{19}\)

\(^{19}\) The fermata on this particular chord is significant because it can be understood as a metaphor for the chromatic opposition between pcs D and Db that is inherent in the referential collection of the Bb tonic and that informs several important points in the form. For example, the only time a fermata is used on a non-Bb-rooted sonority in the movement is in m.57 on the D-minor chord. This chord follows a section (mm.50ff. when the tonal direction shifts unexpectedly from Bb to G) in which Db and D are heard in a striking chromatic juxtaposition. The D-minor chord emphasized in m.57 plays a central role in a characteristic ambiguity between A and D tonics at mm.189ff. This passage of ambiguity is followed by a Recapitulation of first theme material that is modified to accentuate the alternation between pcs Db and D (cf. Example 6.10a-b).
6.3.8 Tonal-Thematic Interrelationships

The tonic succession of the first movement is unusual in Copland's works in that it represents a significant layering of smaller successions that follow the pattern <-2, -1>, its inversion <+2, +1>, or its retrograde inversion <+1, +2>. This complex of patterns, which are derived from the voice-leading model of mm.3-5 shown in Example 6.1, governs both the tonic succession of an entire individual section and the most significant arrivals in the form including the recapitulation of the second theme in a tonic other than Bb.

Perhaps the most obvious manifestation of one of these patterns is in the tonic succession of the second thematic area. For example, the entire second thematic area is based on the series <-2, -1> because the sequence draws our attention to the large-scale tonic succession <G, F, E>. However, these patterns also occur in much subtler ways in the tonic succession of the movement. For example, the inversion of this series – <+2, +1> – is present in the successive transpositions of specific material over the course of the movement. For example, the series <+2, +1> is implied when the successive transposition of the directed motion in mm.36-38 – first up a tone in mm.53-57 and then up a semitone in mm.115-117 – suggests a connection between the tonics C, D and Eb. This succession is, however, obscured in the context because the striking ambiguity (between D and G) which shrouds the first transposition is removed only after a significant delay. Similarly, the series <+2, +1> also results from transpositions of the subdominant-tonic harmonic version of the motto of the first theme; this links the tonics F (mm.33), G (mm.96ff.) and Ab (mm.104ff.). This occurrence is particularly striking because the first transposition of the series is foreshadowed by the T2 relationship that obtains in the transition between the F- and G-rooted sonorities which are substituted (at mm.33 and 50 respectively) for the final chord of the first theme motto.
Both the Bb and Db tonics of the Recapitulation mark the conclusion of one of these related intervallic series. For example, the Bb tonic concludes the series <+1, +2> because it follows transpositions of the first theme which generated the G and Ab tonics in mm.96ff. and mm.103ff. respectively. The Bb tonic is also, however, predicted by a <+2, +1> series suggested by the transpositions of the second theme that generate the G and A tonics in mm.58ff. and mm.175ff. respectively. This series would account for the special emphasis placed on an A tonic in the characteristic ambiguity at the end of the Development section by identifying it as a preparation for Bb. However, this series is not literally present in the motivic-tonal design because the second theme is never transposed to Bb in the Recapitulation. The Db tonic which replaces Bb in the recapitulation of the second theme also concludes a series: the successive transpositions of the second theme material that generate the tonics E (m.86), D (m.133) and Db (m.223) make Db the goal of the original series <-2, -1>. This particular series gives added significance to the E tonic that ends the second theme: E is simultaneously the ending and beginning points of two separate statements of the <-2, -1> series.20

6.4 Pc Continuity

Figure 6.2 summarizes the pc-scale-degree design of the first movement. This design emphasizes a high degree of connectivity. All of the important articulations of the sonata form, mm.58, 96, 133, 196 and 237 respectively, are marked by at least two primary streams. Indeed, with the single exception of the shift from B to Bb in mm.123-127 every tonic succession in the movement emphasizes two or more primary streams of connection. Most commonly these streams are paired either by a recurrent dyad or, less

20E is also highlighted in a more abstract way by the referential collections associated with the tonics of the second thematic area. Only three collections, those associated with the tonics D (m.67), F (m.74) and E (m.86) respectively, are missing the fourth scale-degree. By changing the order of these tonics we could normalize them into either the series <+2, +1> (i.e., <D, E, F>) or the series <-1, -2> (i.e., <F, E, D>) which are, respectively, the inverse and retrograde of the pattern discussed above. The latter inference is particularly important because the inverse of this pattern, the series <+1, +2>, links the Development section to the recapitulation of the first theme. This suggests that the second theme foreshadows the structure of the rest of the piece in an entirely unexpected and unconventional way.
often, by the continuation of a motive. The strategic use of simultaneous primary streams that are not paired in these ways, such as at the end of the transition and the second part of the development, stands in contrast to the use of paired primary streams in the two thematic areas within the Exposition and Recapitulation.

The pc-scale-degree design in Figure 6.2, like that shown for *Billy the Kid*, shows a fair number of secondary streams. In several cases, these were chosen because they are related to other nearby primary streams. Different secondary streams, which other listeners might hear at some of these points, are not included in Figure 6.2 to prevent its becoming a simple, and highly abstract summary of all the common tones present at any one tonal shift. The numerous streams in Figure 6.2 include many repetitions of streams. Transposition levels between such successive statements give the form an unconventional aspect. This will be discussed below.

6.4.1 Stream Generation

The single most common method of generating primary streams in the first movement is by emphasizing a dyad that is common to the collections of successive tonics. For example, the first primary streams of the movement are generated by stating the dyad \( \{Bb, Db\} \), which is emphasized at the beginning (m.1) and ending (mm.23, 25 and 26) of the initial Bb tonic, as the first sonority in the successive directed motions in the following F tonic. The stream on pc Bb is the most important because the step-progression in the bass in mm.13-26 focuses our attention on this pc. In Figure 6.2 these streams are labeled as also resulting from a reference to the first theme, which is indicated by the label "M1", because of the inclusion of the beginning and ending sonorities from the initial five-measure phrase as the first two sonorities in the directed motions.

The second thematic area is permeated with examples of this type of stream generation in that every primary stream within it except one, the stream \( <\hat{2}, 7\hat{1}> \) on pc D
Figure 6.2 Pc-Scale-Degree Design of the First Movement of the Piano Sonata

<table>
<thead>
<tr>
<th>Mm.:</th>
<th>1</th>
<th>11</th>
<th>26</th>
<th>33</th>
<th>35</th>
<th>38</th>
<th>44</th>
<th>50</th>
<th>53</th>
<th>58</th>
<th>67</th>
<th>74</th>
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<tr>
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<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Sections:</td>
<td>1st T.A.</td>
<td>trans.1</td>
<td>(motto)</td>
<td>(motto)</td>
<td>2nd T.A.</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsections:</td>
<td>a</td>
<td>a1</td>
<td>b</td>
<td>a2</td>
<td>c</td>
<td>d</td>
<td>a3</td>
<td>e</td>
<td>e1</td>
<td>e2</td>
<td>e3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonics:</td>
<td>Bb</td>
<td>Bb</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>C</td>
<td>G</td>
<td>D</td>
<td>F</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

```
B
Bb
M1, I
A
Ab
S1-b7 b7 b3 b3
G
F# 1
S-b6
F 5 1 1
S1-1 4 3
E
Eb
D 3 6 6 6
Db 3 b3 b6 b6
C
S2-5 1 1
```
Figure 6.2 (cont.)

Mm.: (80) 86 93 96 104 106 112 115 118 123 127 133 141 146

Parts: (Exposition) Development

Sections: (2nd T.A.) Part I (on Theme 1) Part II (on Theme 2)

Subsections: (e4) e5 e6 c1 e7 e8 e1 e2 e4

Tonics: (C) E G dir. G Ab Eb dir. Eb Bb D Bb B d --

---

Figure 6.2 (cont.)

Mm.: (80) 86 93 96 104 106 112 115 118 123 127 133 141 146

Parts: (Exposition) (2nd T.A.)

Sections: Part I (on Theme 1) Part II (on Theme 2)

Subsections: (e3) e4 a5 a6 e4 e5 e6 e7 e8

Tonics: (C) E G dir. G Ab Eb dir. Eb Bb D Bb B d --

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<table>
<thead>
<tr>
<th>Mm.:</th>
<th>(146) 162 169 175 189</th>
<th>196 204 211 223 234</th>
<th>237</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts:</td>
<td>(Development)</td>
<td>Recapitulation</td>
<td>Coda</td>
</tr>
<tr>
<td>Sections:</td>
<td>(Part II)</td>
<td>1st T.A.</td>
<td>trans.3</td>
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<tr>
<td>Subsections:</td>
<td>(e8) e9 e10 f</td>
<td>a7 a8 a9 e11</td>
<td>a10</td>
</tr>
<tr>
<td>Tonics:</td>
<td>(D) F# F♯ [F♯] A</td>
<td>Bb.Db (Db) Bb dir. Bb</td>
<td></td>
</tr>
</tbody>
</table>

![Diagram of musical sections and tonics]
connecting the C and E tonics, is based upon a similar redefinition of a minor third. What changes as the second theme is varied is the clarity of the articulation of this interval. In the first tonal shift (mm.65-66) the dyad \{D, F\}, which is common to the collections of the G and D tonics, sounds by itself when it receives successive metrical accents. However, later connections, such as those between the tonics F, C and E in mm.74-86, obscure the placement of the common minor third in the lowest two voices by sounding different notes above it. Because this pattern relies on our perception of the bass, the lowest tone of the third is considered to be the most important primary stream of the pair.

Paired primary streams are crucial in the articulation of the Recapitulation and the Coda. For example, the main sense in which the end of the Development "prepares" the return of the first theme is by anticipating the special sound of the trichord formed by the pcs D, F, and F# (Gb).\textsuperscript{21} This trichord is present as the most important notes of the D minor-major chord, which forms the harmonic basis of mm.189-194, and as the lowest three notes of the second sonority of mm.196. The stream on pc F is considered to be the most important because it is accented in the bass in both the D and Bb tonics (i.e., mm.189-194 and 197, 199, and 201 respectively). The stream on pc D is the second strongest because it is the soprano note of the chord stated on the downbeats of the D tonal area and is the lowest tone of the second sonority of the Bb tonal area. Using this particular sonority to establish a pc connection between the D and Bb tonics recalls the way the second chord of the opening gesture was (retrospectively) reinterpreted in mm.50ff. as an altered dominant in G.

\textsuperscript{21}This demonstrates how different Copland's tonal procedures are from those in earlier tonal music. Here the end of the Development section does not prepare harmonically as V for the following tonic or even thematically for the first theme as expected in a traditional sonata but rather by re-announcing a specific chromatic opposition between two pcs – F and Gb. This recalls how pcs F and Gb were put into strikingly different relationships when the motto of the first theme was stated in the expositional transition. The A tonic makes us consider pcs F and F# as different thirds of a subdominant harmony and, therefore, recalls the G and Ab tonics of mm.96ff. and 104ff. which had a similar emphasis on different thirds in the subdominant harmony. This reminds us of the first theme just before the Recapitulation begins.
This technique is also responsible for generating the two primary streams that end the pc-scale-degree design of the movement. For instance, the connecting dyad \{F, Ab\}, which is emphasized as the lowest two voices of a constantly shifting four-voice chord in the last three measures of the Db tonic, is also accented as a dyad in the bass of the Bb tonal area (m.237). The primary stream on pc F is considered to be the most important because pc F, as the lowest note of the common third, occurs prominently in the bass in both tonal areas. The resolutive force of the reinterpretation of this particular dyad will be discussed later.

The technique of continuing a motive from one tonal area to the next also plays a role in this movement, albeit a much less significant one than the use of a recurrent pc dyad. The motives which are referred to in Figure 6.2 are shown below in Example 6.12. The use of motive 1 (the first theme) in mm.96-114 emphasizes that the pcs E and Eb are common to the collections of the G and Ab tonics. In G they are different representatives of the sixth scale-degree, which are alternately focused on in the bass in mm.96, 99, 100 and 103 respectively; in Ab they are emphasized as the outer tones of the first chord and as members of the sonority \{Db, Fb, Ab, Bb, Eb\} which ends the first gesture. The stream on pc Eb is considered to be the most important in the pair because pc Eb is strongly accented in the bass and soprano voices around the timepoint of transition (i.e., mm.102 and 105 respectively).²² Pcs Eb and E are made more apparent as connectors in m.104 when pc Bb, which is also common to the bass lines <Eb4, Bb3, Eb3> and <Fb3, Bb2>, suggests that we hear pc Fb as a substitution for pc Eb. This mimics the initial chromatic opposition of Eb and E (i.e., as different representatives of the third scale-degree of C in mm.96 and 101) which established primary streams on these pcs in the first place.

²²The T₁ relation between identical chord-types in mm.103-104 partially obscures pc Eb as a connector.
Other techniques which generate separate streams in the first movement of the *Piano Sonata* include agogically accenting a pc in the outer voices and accenting the same pitch in the bass. An example of the former can be seen in mm.33-38 where the primary stream \( \hat{b}_6,\hat{b}_2,7 \) on pc D is generated by agogic accents on that pc in the bass of the F tonal area (mm.33-36) and in the soprano of the following C tonal area (mm.39, 41, 44 and 45 respectively). This stream is important in the immediate context because the substitution of pc G for pc F as the tone which melodically follows pc D foreshadows a similar substitution involving the second and third chords of the first theme at the two statements of the motto. When the F-rooted sonority of m.34 is replaced by a transposition up a tone in m.50, the end of the bass line shifts from \( <D,F> \) to \( <D,G> \).

Generating a primary stream by accenting the same pitch in the bass can be seen in mm.151-165. Here the primary stream \( \hat{b}_6,\hat{b}_2,7 \) on pc A is generated by consistent dynamic and registral accents upon A2 in the D and F# tonal areas (i.e., mm.151, 154, 156, 157, 159 and mm.163 and 165 respectively).

### 6.4.2 Unusual Techniques of Stream Generation

One unusual technique Copland uses in the first movement of the *Piano Sonata* is consistently inflecting a common pc by different chromatic oppositions in successive collections. This is used in only a single stream in the movement, the secondary stream \( <b_6,b_2,7> \) on pc Gb, which spans the first fifty measures of the movement. This stream is
generated because the unusual recapitulation of the opening gesture in mm.33 and 50 makes us concentrate on the shifting function of pc Gb. Each of the three functions in this stream are involved in chromatic oppositions with the other representative of the respective scale-degree. That is, pc Gb is opposed by pc G as the sixth scale-degree of the Bb tonic (mm.1ff.), and the second scale-degree of the F tonic (mm.33ff.) and pc Gb (understood enharmonically as F#) is opposed by pc F as the seventh scale-degree of the G tonic (mm.50ff.). However, the second and third oppositions differ from the first, which is characteristic of the first twenty-five measures of the movement, in that they are constrained to the measures which recapitulate the motto of the first theme.

Another unusual technique Copland uses in this movement is emphasizing a pc common to the collections of adjacent tonics by consistently stating it within the same voice and following it by a rest. For instance, at mm.133-174 the primary stream <3,1,13> on pc F# is generated when the statement of that tone in the soprano is consistently followed by a rest around the two points of tonal shift, mm.162 and 169 respectively (i.e., mm.154, 156, 158, 159, 163, 165, 170, 171 and 173).

6.4.3 Pc-Scale-Degree Design

The majority of streams shown in Figure 6.2 prominently incorporate a chromatic opposition at their beginning and/or ending points. The chromatic opposition in many of these streams involves different representatives of the third scale-degree. The prominence of chromatic oppositions inflecting the third scale-degree functions in Figure 6.2 suggests that we understand the referential collection of the opening Bb tonic, which similarly has two representatives of the third scale-degree, as the ultimate origin. The second theme becomes a development, or working out, of ideas inherent within the first theme when this opposition becomes the single most important focus of the streams in the second thematic area.
6.4.4 Repetitions of Streams

The pc-scale-degree design of the first movement is permeated by repetitions of streams that contain two or (at most) three scale-degree figures. These repetitions often involve a change in the status of the stream from primary to secondary, or vice versa, and a change in the representative of a particular scale-degree (i.e., exchanging 6 for b6 or vice versa). This focus on repetition is made apparent from the beginning of the Exposition. For instance, the primary stream <1, 1, 4, 4> on the pc Bb that opens the piece is immediately restated in an adjacent secondary stream on pc F. That is, at mm.1ff. we hear pc Bb change scale-degree function from 1 to 4; and at mm.33ff. we hear pc F change scale-degree function from 1 to 4. Similarly, the primary stream <2, 5, 1> on pc G (m.33ff.) is overlapped with its own repetition in a primary stream on pc D (mm.38ff.). That is, at mm.33ff. we hear pc G change scale-degree function from 2 to 5 to 1; and at mm.38ff. we hear pc D change scale-degree function from 2 to 5 to 1. Finally, the paired secondary streams <b7, b3> and <5, 1>, on pcs Ab and F respectively (mm.1ff.), become the focus of the pc-scale design in the first half of the thematic area through primary streams on pcs D and F (mm.58ff.) and pcs C and Eb (mm.74ff.). That is, at mm.1ff. we hear pcs F and Ab change scale-degree functions respectively from b7 and 5 to b3 and 1. These changes are replicated in streams at mm.58ff. and 74ff.: at mm.58ff. we hear pcs F and D change scale-degree functions respectively from h7 and 5 to h3 and 1; at mm.74ff. we hear pcs Eb and C change scale-degree functions respectively from b7 and 5 to b3 and 1.

Repetitions of this nature also reinforce particular part and sectional articulations of the form. For example, the paired primary streams that connect the E and G tonics at mm.86-96 (over the beginning of the Development) – the streams <h7, 5> and <5, 3> on pcs D and B respectively – are repetitions of the paired primary streams at mm.67ff. which occur on pcs C and A respectively. That is, at mm.67ff. we hear pcs C and A change scale-degree functions respectively from h7 and 5 to 5 and 3; and at mm.86ff. we hear pcs
D and B change scale-degree functions respectively from $\hat{7}$ and $\hat{5}$ to $\hat{5}$ and $\hat{3}$. Similarly, two of the three primary streams and the single secondary stream which articulate the Recapitulation section – the streams $<\hat{6}, \hat{5}>$, $<\hat{6}, \hat{b}6>$ and $<\hat{3}, \hat{2}>$ on pcs F, F# and C respectively – are repetitions of the three streams which connect the G and Ab tonics in mm.96-104 – the paired primary streams on pcs Eb and E and the secondary stream on pc Bb. That is, at mm.96ff. we hear the pcs Eb, E and Bb change scale-degree functions respectively from b6, 6 and b3 to 5, b6 and 2; and at mm.175ff. we hear pcs F, F# and C change scale-degrees respectively from $\hat{6}$, 6 and $\hat{3}$ to $\hat{5}$, b6 and $\hat{2}$.

The repetition of streams also reinforces the sense that the Development section is divided into two halves which are based on the first and second themes respectively. For example, the streams initiated at mm.106ff. (on pcs Eb, Bb, Ab and F) that connect the Ab and Eb tonics – the streams $<\hat{5}, \hat{1}>$, $<\hat{2}, \hat{5}>$, $<\hat{1}, \hat{4}>$ and $<\hat{6}, \hat{2}>$ – are repetitions of the streams initiated at mm.33ff. (on pcs C, G, F and D) respectively that connect the F and C tonics in mm.33ff. This shows how deeply the first theme material affects the pc-scale-degree design of the first part of the Development. Similarly, the pc-scale-degree design of the second part of the Development reflects the thematic focus on the second theme material by a repetition of streams that were introduced in the second thematic area. For example, the streams $<\hat{7}, \hat{5}>$, $<\hat{5}, \hat{3}>$ and $<\hat{3}, \hat{1}>$, which were first stated on pcs C (mm.67ff.), A (mm.67ff.) and E (mm.80ff.), are prominent in the beginning of Part II of the Development: $<\hat{3}, \hat{1}>$ appears in the primary stream on pc D (mm.127ff.) that articulates Part II of the Development and is immediately repeated in mm.141ff.; $<\hat{7}, \hat{5}>$, $<\hat{5}, \hat{3}>$ and $<\hat{3}, \hat{1}>$ connect the D and F# tonics (at mm.146ff. and mm.162ff.) in primary streams on pcs Db, A and F# respectively. That is, at mm.133 and 146 we hear pc D change scale-degree function from $\hat{3}$ to $\hat{1}$; and at m.162 we hear pcs Db, A and F# change scale-degree functions respectively from $\hat{7}$, $\hat{5}$ and $\hat{3}$ to $\hat{5}$, $\hat{5}$ and $\hat{1}$. 
On the other hand, however, the Development is also made distinct from the Exposition by the initial lack of repetition of previous streams which is caused by the introduction of several new streams. For example, Part I of the Development begins with two primary streams that are new — the streams $<b_6,5>$ and $<6,b_6>$ on pcs Eb and E. A new stream, $<3,4>$ on pc Eb, is also introduced at mm.123-127, which is the only place in the pc-scale-degree design of the movement where only a single stream connects successive tonics. The secondary streams also contain a new stream — the $<4,6>$ on pc Ab (mm.118ff.). Mm.127-169 in the Development is also the first place in the pc-scale-degree design of the movement where streams contain the retrogrades of their beginnings. That is, the second and third functions in the streams $<3,1,3,1>$, $<2,7,2,7>$ on pcs D and C in mm.127ff. are retrogrades of the first and second functions; similarly, the third and fourth functions in the streams $<5,5,5,7>$ on pcs A, F# and Db in mm.141ff. are retrogrades of the first and second functions.

The repetition of streams suggests another important way in which the end of the second part of the Development section prepares for the Recapitulation. For example, the streams $<6,2>$ and $<5,1>$, which occur in mm.33ff. in streams on pcs D and C respectively, are restated in primary streams on pcs B and A near the end of the second part of the Development (mm.169ff.). That is, in mm.33ff. we hear pcs D and C change scale-degree functions respectively from $6$ and $5$ to $2$ and $1$; and at mm.169ff. we hear pcs B and A change scale-degree functions respectively from $6$ and $5$ to $2$ and $1$. At mm.169ff. these primary streams are accompanied by a secondary stream — the stream $<3,6>$ on pc F# — that is also a repetition of a primary stream from the first thematic area, the stream on pc Db in mm.1ff. That is, at mm.1ff. we hear pc Db change scale-degree function from $3$ to $6$; and at mm.169ff. we hear pc F# change scale-degree function from $3$ to $6$. Together these repetitions abstractly suggest the return of the first theme. However, because of the clear association of each respective part of the Development with the pc-scale-degree design of the material on which it is based we can infer a second, more abstract way in which the first
theme is prepared. For example, as mentioned above, the three streams which connect the first two tonics of Part I of the Development – the streams \(b_6, b_3\), \(b_6, b_3\) and \(b_3, b_2\) on pcs Eb, E and Bb respectively – are repeated in the streams on pcs F, F# and C respectively that articulate the Recapitulation. These repetitions confirm the arrival of the first thematic area because they restate the streams the first theme acquires in Part I of the Development. They also suggest one way in which Copland's focus on the transformation of his materials is reflected in the pc continuity structure of the piece. The Recapitulation and Coda also incorporate the process of retrograde that was introduced in the second part of the Development by a repetition of the stream \(\hat{3}, \hat{1}, 3\) on pc F# (mm.141ff.) in the stream \(b_3, 1, b_3\) on pc Db (mm.196ff.).

Repetition of streams in the pc-scale-degree design shown in Figure 6.2 also reinforces some other aspects of the unconventional sonata form used in the movement. For example, the first streams used in the second part of the Exposition are restatements of three of the four streams which open the first part: the primary stream \(b_3, b_6\) on pc Db and the secondary streams \(b_7, b_3\) and \(b_5, b_1\) on the pcs Ab and F respectively. That is, at mm.1ff. we hear the pcs Db, Ab and F change scale-degree functions respectively from \(b_3, b_7\) and \(b_5\) to \(b_6, b_3\) and \(b_1\); and at mm.58ff. we hear the pcs Bb, F and D change scale-degree functions from \(b_3, b_7\) and \(b_5\) to \(b_6, b_3\) and \(b_1\). Even the slight modification of the stream \(b_7, b_3\), which results from including a chromatic opposition on the terminal third scale-degree, is anticipated in the secondary stream on Bb (mm.44-58) which ends the first part. The use of different combinations of these three common streams with new streams within the second part of the Exposition reinforces the sense that the second theme is, in some respects, a development or recasting of the first theme. Similarly, the recapitulation of streams from the first thematic area in mm.133-189 helps us to hear this passage as a continuation of the Development and not as an hiatus in the form, as might be inferred from the similarity of its radically different rhythmic profile to the materials of the second movement. Finally, the repetition of streams suggests that the pc-scale-degree design of
the Recapitulation and Coda function as a kind of analogue to traditional Recapitulations and Codas, which resolve the tonal instability created by the second thematic area and the Development, in several important ways: streams that are associated with either the first or second thematic areas appear in the first thematic area of the Recapitulation; and streams that are associated with both the first and second parts in the Development are repeated to articulate the Coda. For example, three of the streams that articulate the Recapitulation — $\langle \hat{\mathbf{6}}, \mathbf{5} \rangle$, $\langle \hat{\mathbf{6}}, \mathbf{b} \rangle$ and $\langle \hat{\mathbf{3}}, \mathbf{2} \rangle$ on pcs F, Gb and C — are repetitions of the streams on pcs Eb, E and Bb (mm.96ff.) that are introduced at the beginning of the first part of the Development. The introduction of these streams at mm.96ff. makes us associate them with the first thematic area. The primary streams on pcs Db and D which follow — the streams $\langle \hat{\mathbf{5}}, \mathbf{3} \rangle$ and $\langle \hat{\mathbf{3}}, \mathbf{b} \rangle$ in mm.196ff. — are repetitions of two secondary streams on pcs G and Ab (mm.86ff.) that connected the end of the second thematic area of the Exposition to the opening of the first part of the Development. Thus, the streams $\langle \hat{\mathbf{5}}, \mathbf{3} \rangle$ and $\langle \hat{\mathbf{3}}, \mathbf{b} \rangle$ are associated with the second thematic area. However, the immediate (modified) repetition of the stream $\langle \hat{\mathbf{3}}, \mathbf{b} \rangle$ in mm.96ff. (on pc Bb) also associates this stream with the first thematic area. Similarly, the streams which articulate the Coda are associated with both the first and second parts of the Development and, consequently, with the first and second thematic areas. For example, the streams $\langle \hat{\mathbf{3}}, \mathbf{b} \rangle$ and $\langle \hat{\mathbf{1}}, \mathbf{b} \rangle$ on pcs Ab and Db at mm.223ff. are repetitions of streams on pcs Bb and Eb at mm.118ff. of the first part of the Development and all three of the streams at mm.223ff. — $\langle \hat{\mathbf{5}}, \mathbf{b} \rangle$, $\langle \hat{\mathbf{3}}, \mathbf{5} \rangle$ and $\langle \hat{\mathbf{1}}, \mathbf{b} \rangle$ on pcs Ab, F and Db respectively — are present at m.169 in streams on pcs Db, A and Gb. The presence of streams from the Development to articulate the Coda suggests a relationship between these sections that mimics that between Developments and Codas in traditional sonata forms.
6.4.5 Transpositional Relationships Between Stream Repetitions

Because there are so many repetitions of streams in Figure 6.2 it is possible to derive an abstract diagram that shows how different levels of transposition characterize the two sections of the Exposition and the Development (see Figure 6.3). To make these levels clearer Figure 6.3 does not include the transpositional relations between streams that appear in different sections of the Exposition or between the large parts of the form (i.e., between the Exposition and Development or the Development and Recapitulation) except to show recurrences of two special transpositions (T7 and T2) that forecast the arrival of the Recapitulation. Special symbols have been adopted in Figure 6.3 to characterize different functions. Arrows labeled as "Tn" represent the repetition of streams between contiguous or widely separated streams. For the sake of simplicity Figure 6.3 ignores any modifications in the repetitions of streams (i.e., where either one or both of the scale-degrees are replaced by their opposite representative). Two brackets connected by an angled line with the letter "R" indicate streams that contain a retrograde of their beginnings. A circle around the "Tn" qualifier indicates that the transpositionally-related streams occur in different parts of the form.

The abstractions in Figure 6.3 provide us with an unconventional means of perceiving the form of the movement. The two parts of the Exposition are clearly differentiated in that the first is predominated by repetitions that are related by T7 while the second is predominated by repetitions that are related by T10. Both differ from the beginning of the Development section which focuses on the repetition of streams that are variously related by T3, T4, T6 or T11.
Figure 6.3 Transpositional Relationships Between Repetitions of Streams in Figure 6.2

<table>
<thead>
<tr>
<th>Parts:</th>
<th>Exposition</th>
<th>Development</th>
<th>Recapitulation</th>
<th>Coda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sections:</td>
<td>1st T.A.</td>
<td>2nd T.A.</td>
<td>Part I</td>
<td>Part II</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>P1</td>
<td>P2</td>
<td></td>
</tr>
<tr>
<td>Bb</td>
<td>T7</td>
<td>T2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>P1</td>
<td>S</td>
<td>P2</td>
<td>T4</td>
</tr>
<tr>
<td>Ab</td>
<td>T7</td>
<td>T2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>P1</td>
<td>S</td>
<td>P2</td>
<td>T4</td>
</tr>
<tr>
<td>F#</td>
<td>S</td>
<td>T8</td>
<td>P2</td>
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<tr>
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<td>S2</td>
<td>S1</td>
<td>P2</td>
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<tr>
<td>E</td>
<td>T7</td>
<td>T10</td>
<td>P2</td>
<td>T3</td>
</tr>
<tr>
<td>Eb</td>
<td>P1</td>
<td>P1</td>
<td>P2</td>
<td>T3</td>
</tr>
<tr>
<td>D</td>
<td>P1</td>
<td>P1</td>
<td>P2</td>
<td>T3</td>
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<tr>
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<td>P2</td>
<td>T10</td>
<td>T2</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>S2</td>
<td>P1</td>
<td>P2</td>
<td></td>
</tr>
</tbody>
</table>

predominantly T7  predominantly T10  various (T3, T4, T6, T11)  T2 and T7 forecast arrival of First Thematic Area
The Recapitulation and Coda do not contain any stream repetitions within themselves and, thus, can not be characterized by a predominant transposition level like the first and second thematic areas and the Development. However, the transpositional levels of streams that occur between the Development and the Recapitulation can be understood to forecast the arrival of the first thematic area of the Recapitulation in that two transpositional levels present in mm.1-50 – T2 and T7 – obtain between streams stated in the Development and Recapitulation sections. These transpositions account for almost all of the important streams in the Recapitulation and Coda. For example, the streams on pcs F, F# and C which articulate the Recapitulation (\langle4,6,5,5\rangle, \langle5,6,6\rangle, and \langle4,4,5,5\rangle) are T2-related to the streams on pcs Eb, E and Bb that are present at the beginning of the first part of the Development.\(^{23}\) T7-related streams follow these T2-related streams in mm.196ff.: the stream \langle b3,1,1,b3\rangle on pc Db at mm.196ff. is T7-related to the stream on pc Gb at mm.146ff.; and the stream \langle 5,b7\rangle on pc Ab at mm.223ff. is T7-related to the stream on pc Db at m.169.

6.4.6 The First Thematic Area as a Source of Structure

In some ways the pc-scale-degree design of the movement as a whole reflects important characteristics of the first part of the Exposition. On one hand, this design reflects the three oppositions that inflect the referential collection of the opening Bb tonic – the presence of two representatives of the second, third, and sixth scale-degrees in mm.1-25. This is reflected in the pc-scale-degree design by the substitution of the opposite representative of one of the scale-degrees in a stream when it is repeated. For example, the alternation of opposite representatives of the third scale-degree can be seen in the transformation of the stream \langle 5,5\rangle on pc A (m.67) into the stream \langle 5,5\rangle on pcs G (m.80) and A (m.141) and the transformation of the stream \langle 5,5\rangle on pc E (m.80) into the

\(^{23}\) Thus, it is not only the stream repetition itself but also the specific transposition level between statements of these streams that makes that makes them forecast the return of the first thematic area.
stream \( <b^3, b^6> \) on pc Db (m.196). Similarly, the alternation of opposite representatives of
the third and sixth scale-degrees can be seen in the transformation of the stream \( <b^3, b^6> \)
on Db (m.1) into the stream \( <3, 6> \) on pc F# (m.169). Finally, the alternation of opposite
representatives of the second and third scale-degrees can be seen in the successive
transformations of the stream \( <3, b^2> \) on pc Ab (m.86) into the stream \( <b(3), b^2> \) on pcs
Eb (m.96) and C (m.175) and the stream \( <3, b^2> \) on pc D (m.196). It is precisely the
relationship of two of these pairs of pcs, the pcs Db and D, and Gb and G respectively,
which strongly colors the first transition: pcs Db and D are strikingly opposed in the
directed motions of mm.26ff. and at the second statement of the first theme motto
(mm.50ff.); pcs Gb and G are similarly opposed at mm.33ff. and 50ff. However, the
competition between the remaining pair, pcs C and Cb, as the second scale-degree of the
Bb tonic in mm.1-25, becomes explicitly related to the opposition of pcs D and Db in the
Recapitulation because the transposition of the second half of the first theme makes pc D
(Ebb) sound as the lowered second scale-degree of Db.

The pc-scale-degree design also, however, reflects the first part of the Exposition
by the primary pc streams which begin and end the pc continuity structure. For example,
the outer points of this design, like the voice leading of the first phrase, are also demarcated
by a focus upon the dyads \{Bb, Db\} and \{F, Ab\} respectively. The importance of pcs F
and Ab to the broader structure is foreshadowed in the opening of the pc-scale-degree
design because the streams that open the second thematic area occur first on these pcs
(mm.11ff.). The significance of the \{Bb, Db\} and \{F, Ab\} dyads to the larger pc-scale-degree
design is alluded to on the surface of the music in the expositional transition by the
appearance of these particular dyads as the framing sonorities of the successive directed
motions (mm.26 and 28). This motion is explicitly restated in the pc-scale-degree design
when the final two pairs of primary streams that end the movement (those initiated at
mm.196 and 223) involve the pcs Db, Bb, F and Ab. The ultimate emergence of streams
on pcs F and Ab at the end of the movement is strikingly suggested in the Recapitulation
when the dyad \{F, Ab\} uncharacteristically intrudes as a pedal in the lowest two voices at the beginning of the Recapitulation (mm.196ff.) and the Coda (mm.223ff.).

The preeminence of the minor third to the overall design of the movement is also reflected in a more general way on the surface of the music by the emphasis on the interval of a minor third in the two lowest voices. This focus, which is directly responsible for the chromatic opposition between different representatives of the third scale-degree, permeates the texture in the entire Exposition. It dissipates gradually in the beginning of the Development and does not reappear until the Recapitulation. As a result, the interval of a minor third becomes a symbol of resolution. This suggests that we hear the Db tonic in the Recapitulation as a large-scale manifestation of the minor third of the Bb tonic that opens and closes the movement. Essentially, such a consideration brings us full circle because the sonority that opens the movement — the dyad \{Bb, Db\} — proves to be a microcosmic representative of the interval that defines the broader macrocosmic tonal movement.

6.5 Summary

Let us summarize the processes in the first movement of the Piano Sonata to answer the central question of this thesis: how tonics and their successions are related to the form. The tonic succession of this movement supports a thematic design of sonata form in several ways. For example, the most important articulations in the form — the Development and Recapitulation in mm.96 and 196 respectively — are clearly demarcated by tonal shifts. There are also some contrasts between sections in the level of tonal fluctuation, as, for example, between the Development and Recapitulation sections, which mimic traditional practice. The Development has many tonics and tonal changes occur fairly rapidly. However, there are also contrasts expected in a sonata form that are missing. For example, although the expositional transition is marked by the onset of tonal fluctuation as in a classical sonata form, this fluctuation actually continues into the second thematic area. Effectively, this obscures any difference between the ending of the transition and the
beginning of the second thematic area. It also reinforces that the second theme is a
development or recasting of the first theme. The tonic succession in this movement is also
somewhat unusual in Copland's works because of how it is organized. All of the most
important arrivals in the sonata form, including the curious Db tonic in the Recapitulation,
are involved in a statement of one of several related intervalllic series that are derived from
the voice-leading motive <-2,-1>, which is introduced in the first phrase of the movement
(mm.3-5). The widespread use of this series suggests that the first theme is the progenitor
of the structure of the entire movement.

The tonic succession in this movement produces a pc-scale-degree design that has a
significant layering of repetitions of short two- and three-function streams. These
repetitions help to define the form. They show the derivational status of the second theme;
they also define the focus of the disparate parts of the Development (on the first and second
themes respectively) and integrate these parts into a unified whole. Most importantly,
however, these repetitions demonstrate the unconventional manner in which the end of the
Development prepares for the recapitulation of the first theme. This is important because
the Recapitulation is not prepared harmonically by the tonic succession or motivically by
the thematic design.
Chapter 7

Conclusion

We have seen that the analytical literature on Copland's music strongly suggests a dichotomy between "popular" and "serious" works, especially in 1930-1950. Indeed, these two styles are distinguishable by the differing complexity of their thematic materials and harmonic structures. At a more fundamental level, however, Copland's "popular" and "serious" works are consistent. This consistency is revealed by a detailed study of tonality that addresses two central issues: the generation of tonics, and the function of tonics – how tonics and their successions relate to form.

Chapter 1 discussed the most basic consistencies between Copland's "popular" and "serious" works – a common set of tonicizing techniques that are used to establish tonic and to modulate from tonic to tonic. These techniques are: isolated descending- and ascending-fifth motion of roots; triadic melodic structures; arpeggiation of special pc-set classes in the lowest voice; "directed motion;" textural and thematic articulation of a rooted chord: pedal tones; reiteration of a root; and neighbor-tone motion.

Chapters 3-6 demonstrated these consistencies and others by analyzing two "popular" works (Quiet City and Billy the Kid) and two "serious" works (the first movements of the Short Symphony and the Piano Sonata). These analyses focus on the function of tonics – the relationship of tonics and their successions to the thematic design. They demonstrate several important correspondences. Some of these involve obvious surface characteristics of short passages. For example, the "popular" and "serious" works have passages where an overlap obtains between successive tonics. An overlap occurs between F and Ab tonics at R31-3ff. of Billy the Kid, between Bb and G tonics at R8-4ff. of the first movement of the Short Symphony, and between Bb and F tonics at mm.26ff. of the first movement of the Piano Sonata. Similarly, one work in each style – Billy the Kid
and the first movement of the *Short Symphony*—contains a passage having a bitonal texture. These works also use specific motivic materials to foreshadow future tonics and, thereby, to establish both small- and large-scale coherence. Coherence in *Billy the Kid* revolves around the repeated references to a seminal voice-leading model articulated at the single most important place of the suite; coherence in the first movement of the *Short Symphony* is created by the consistent use of motive 1. Consistency between the two styles is also evident within individual tonal areas because of a characteristic ambiguity between ICS-related tonic pcs. This type of ambiguity, which permeates most of the tonal areas in *Quiet City*, is particularly striking in the opening of the first movement of the *Short Symphony* and in the Recapitulation of the first movement of the *Piano Sonata*. In at least one case (motive 7 in *Quiet City* and motive 1 in the first movement of the *Short Symphony*) this characteristic ambiguity arises from the conflict between a melodically generated tonic and those generated by other (contextual) means.

The "popular" and "serious" works studied also contain similar manipulations of important motivic materials, manipulations that change the tonal meaning—the scale-degree function—of those materials. Changes of scale-degree function in motivic materials can easily be traced in *Quiet City* and in the first movements of the *Short Symphony* and the *Piano Sonata*. For example, in part C of *Quiet City* the first note of motive 6 changes function from D:1 to D:2 when the opening phrase is repeated, and the first note of motive 7 shifts from D:3 to D:1 at the end of the D tonal area. Similarly, all three motives in the opening movement of the *Short Symphony* are reinterpreted: the last note of motive 1 changes over the course of the movement from a dissonance at the beginning to a consonance at the ending; the second (accented) soprano pc of motive 2 changes from 4 (m.2) to 5 (R8); the first soprano pc of motive 3 changes from a defined scale-degree at R6-1 (b6) to an unknown quantity at R6ff. (?); and the second bass pc of motive 3 changes from b7 (R6-1) to 5 (R10+3). Finally, the harmonic underpinning of the first theme in the first movement of the *Piano Sonata* is changed from a succession of varied tonic harmonies
(mm. 1ff.) to a <IV, I> harmonic progression (mm. 33ff., and the opening of the Development section).

The placement of tonics within respective forms is also consistent between Copland's "popular" and "serious" works. Virtually all of the important divisions in the thematic designs of the works studied are supported by a change in tonic. Furthermore, tonal change is only withheld at very strategic points and this withholding reinforces the thematic design. For example, the lack of a change in tonic in part A of the first movement of the Short Symphony, and at the recapitulation of the varied theme (part A1) in Quiet City, reinforces the form in each case. In the first movement of the Short Symphony, it establishes the tonal unity of part A, which is thematically diverse, and distinguishes it from part B; in Quiet City, it unifies widely spaced variations (of section b), which have different formal functions, by giving them the same tonic.

The rate of change in the tonic is also of importance in Billy the Kid and the first movement of the Piano Sonata. For example, in Billy the Kid the complete lack of tonal change in "Gun Battle" helps us to distinguish it from the surrounding movements because this makes it the only movement in the suite that maintains a single tonic throughout. Similarly, in the first movement of the Piano Sonata the rate of tonal fluctuation helps to define the sonata form: it delineates the beginning of the transition and it differentiates the Development and Recapitulation sections.

Consistency is also demonstrated between the "popular" and "serious" works studied in that tonic successions in three of the works studied—Billy the Kid, and the first movements of the Short Symphony and the Piano Sonata—are organized by a consistent patterning. For example, the tonic successions in the second to fifth movements of Billy the Kid are guided by minor-major third complexes and these help to define the large-scale movement from C to E. Similarly, the tonic succession in part B of the first movement in the Short Symphony is organized by a palindromic structure and this links parts A and A1.
Finally, all of the important tonal arrivals in the first movement of the *Piano Sonata* participate in some unfolding of the intervallic series $<-2,-1>$ or a related series.

The tonic successions in transitional passages are also treated in similar ways because they are guided by step-progressions in every one of the four works studied above. For example, in *Quiet City* parts A, B and C, which contain the first, second and third variations of section b, are linked by a step-progression employing a linear intervallic pattern of 5-5-5-5. Similarly, in *Billy the Kid* the most crucial passage in the form, R27A, is guided by a step-progression. Step-progressions here also establish a logic behind the large-scale motion from C to E. Step-progressions similarly inform the transitional passages of the two "serious" works studied: they establish the coherence of the most significant transitions in the opening movements of the *Short Symphony* (R5-2 to R8-1), and the *Piano Sonata* (mm.26ff.). Step-progressions also inform individual tonal areas in these works as they do in *Billy the Kid*.

The most immediately recognizable consistency in the tonic successions of Copland's "popular" and "serious" music is the emphasis on pcs that are common to the collections of successive tonics. These common pcs are represented in the analyses by pc streams on graphs; these graphs help us to perceive a consistency between the two apparently distinct styles. At the simplest level we can observe that pc streams are generated in all of the works by similar means. For example, all of the works generate streams by agogic accents in the outer voices and by literally sustaining a pc (or pcs) over the point where one tonic is succeeded by the next. All four works use recurrent dyads and three of the four (Billy the Kid, the first movements of the *Short Symphony* and the *Piano Sonata*) use a continuing motive to generate paired primary streams. All four works also employ suspended streams, albeit at much different levels of prominence.

The larger pc-scale-degree designs that emerge from graphing the individual pc streams of connection also provide us with useful information that confirms and reinforces
the thematic designs. For example, the pc-scale-degree design of *Quiet City* expresses the fundamental unity of the piece because each part is articulated by a primary stream that ends on $\hat{5}$. Further, it reflects the conflict of formal function between variations of section b by showing a palindromic structure that overlaps with a series of streams that begin with $\hat{7}$. The pc-scale-degree design of *Billy the Kid* reinforces the six-movement form, and particularly the unity of the sprawling second movement, by the interactions between two large groups of streams. It also reinforces the unity of the entire suite because streams from Group 2 occur in every movement. The pc-scale-degree design of the first movement of the *Short Symphony* establishes a significant similarity between parts A and A1 (by the order of focal pcs at the end of each part), differentiates part B, and establishes a large-scale retrograde that unfolds over the course of the movement. The pc-scale-degree design of the first movement of the *Piano Sonata* reinforces sonata form by establishing the unity of the Development section, by defining how the end of the Development acts as a preparation for the Recapitulation, and by creating a context in which the Recapitulation and Coda serve a resolutive function. It also reflects the close relationship between the first and second themes by emphasizing that primary streams in the second thematic area are derived from secondary streams in the first thematic area.

There are also more specific correspondences we can observe between specific "popular" and "serious" works on the basis of the pc-scale-degree designs. For example, palindromic structure is important to both *Quiet City* and the first movement of the *Short Symphony*: in *Quiet City*, it unifies the second and third variations; in the first movement of the *Short Symphony* it links parts A and A1. One work in each style — *Billy the Kid* and the first movement of the *Piano Sonata* — have pc-scale-degree designs that are permeated by repetitions of short streams. Further, one work in each style — *Billy the Kid* and the first movement of the *Short Symphony* — has a pc-scale-degree design that uses the repetition of an ordered series of focal pcs to define the form. The pc-scale-degree designs also provide us with compelling reasons to hear certain tonics as resolutions, such as, for
example, the E tonic ending *Billy the Kid* or the Db tonic in the Recapitulation of the first movement of the *Piano Sonata*.

One other significant correspondence that emerges from the four analyses is the manner in which aspects of the opening motive informs the overall structure of a work. Although the motivic basis of form can be traced to varying degrees in all four of the works studied, it is most obvious in the structures of *Quiet City* and the first movement of the *Piano Sonata*. For example, the emphasis on the fifth scale-degree in the first two measures of *Quiet City* can be heard as a microcosmic realization of the most significant characteristics of the rest of the piece: the step-progression that, featuring successive perfect fifths, unifies parts A, B and C; and the succession of primary streams that end on 5. The pc-set type [0,2,5], which is also manifest at the outset of the piece, figures prominently in the pc-scale-degree design through simultaneous primary pc streams and the general succession of focal pcs throughout the work. Similarly, the tonal structure of the first movement of the *Piano Sonata* is informed by aspects of the first theme in several ways. One obvious example is the confirmation of the thematic derivation of the second theme from the first theme in the pc-scale-degree design: streams from the first thematic area are repeated in the second thematic area. But the first theme affects the structure of the movement more fundamentally as well: its opening phrase states an intervallic series, <-2, -1>, that permeates the tonic succession and informs every significant tonal arrival in the form. The same process can be traced in *Billy the Kid* and the first movement of the *Short Symphony*. For example, the opening movement of *Billy the Kid* contains one version of a step-progression that later becomes seminal to the motivic materials of the following movements of the suite. It also contains a pitch-class opposition between pcs Eb and E (as different representatives of the third scale-degree of C) that is reflected by the goals of the two halves defined within the pc-scale-degree design. Similarly, the opposition of the major and minor thirds in the opening motive of the first movement of the *Short Symphony* is manifested in the tonic succession at the transition to part B, and in the pc-scale-degree
design through the conflicts between different representatives of the third scale-degree at the beginning or ending of streams that connect successive tonics.

The concept of tonality and the method of analysis adopted in this thesis would be useful in analyzing Copland's other major works of the 30's and 40's - Appalachian Spring, Rodeo, the Clarinet Concerto, the Piano Concerto and the Piano Variations - because these pieces use the characteristic textural devices of the four works studied in this thesis. That is, in each of these works we can find many passages where Copland uses characteristic techniques - sustaining a pc when the tonics change, or placing agogic accents on a pc in the outer voices of successive tonal areas - to connect successive tonics in the absence of functional harmonic progressions.¹ Step-progressions are also present in the transitional areas, especially in the Clarinet Concerto (I, mm.48-77), the Piano Concerto (I, R10-3 to R10 and R11-2 to R11+6) and "Buckaroo Holiday" from Rodeo (R15-3 to R20). The Piano Concerto also employs other techniques that are found in the four works which were analyzed: the first movement begins with a tonal area that employs the characteristic ambiguity between IC5-related tonic pcs (between B and E tonics), and contains at least one example of a transformation of the tonal meaning of a motive (at R7-2ff. the neighbor-tone motive of R1, which was discussed in Example 1.35, is transformed into a functional <IV, V> progression at the end of an F tonal area). These similarities reinforce the essential unity of Copland's works from 1930-1950.

These analytical techniques would be less useful for works by Copland's most significant American contemporaries - Roger Sessions, Roy Harris and Walter Piston. The music of these composers does not have those characteristic textural phenomena that suggest that specific pcs are used to connect successive tonics. Further, their music does not consistently employ large-scale transpositions of thematic material, which is so

¹Some of these passages were discussed earlier in Chapter 1. See Examples 1.19, 1.33, and 1.37 on pp.39-40, 56 and 68-69.
characteristic of Copland's music from this time period, and they do not use step-progressions in such a prominent role.

This method of analysis is also not very useful for either the music of Copland's two main European contemporaries -- Hindemith or Stravinsky. Hindemith's music, unlike Copland's music, uses all twelve pcs in every tonal area, and connects successive tonal areas with long, contrapuntally-oriented transitions. These characteristics of Hindemith's music make it exceedingly difficult to hear tonal boundaries and to extricate referential diatonic collections. The method of analysis proposed in this thesis is also not successful for Stravinsky's music because Stravinsky's music, like Hindemith's music, is also fundamentally different from Copland's music. In Stravinsky's music we are focused upon the different tonics that a single collection can support.\(^2\) Usually the resulting ambiguity of tonics is of global importance to his pieces. However, in Copland's music a new tonic is characteristically supported by a new referential collection. Tonal centers in Copland's music, therefore, are normally clearly demarcated in a way that is atypical for Stravinsky's music. Further, in the rare passages when Copland does change the tonic but retains the same collection (for example, in the succession <Ab, F, Ab> at R30-1ff. of *Billy the Kid*) this type of invariance results in only an overlapping between successive tonics and not in the polarization of tonal centers, and is always constrained to a small segment of a piece. There are also obvious surface differences between Stravinsky's and Copland's music. For example, Stravinsky's motives are far more fragmented and atomic than Copland's; only on very rare occasions (such as in "Gun Battle" of *Billy the Kid*) is there a strong similarity between Copland's and Stravinsky's motivic practices. Further, many of the changes in tonic in Copland's music of this period are also reinforced by direct

transpositions of thematic material, a characteristic that is noticeably lacking in Stravinsky's music.

There are, however, works of various other American composers where it appears that this type of analysis might be useful. For example, some of the works by Virgil Thomson (i.e., the suite from The Plough that Broke the Plains and parts of the Second Symphony), Leonard Bernstein (e.g., On the Town) and David Diamond (i.e., the Concerto for String Quartet, and the Concerto for Small Orchestra), and some of the early music of Paul Bowles (i.e., Sonatina for Piano, and Music for a Farce) and Irving Fine (e.g., Music for Piano) have a close resemblance to Copland's music suggesting that this type of analysis might be informative. Potentially the largest application of this analytical approach, however, lies in tonal minimalist music. Certain pieces by minimalist such as John Adams (i.e., Fearful Symmetries and "Wild Nights" from Harmonium), and Steve Reich (i.e., Sextet) feature sudden shifts in key and collection that are frequently blurred by common tones. The sudden shifts in these pieces are very reminiscent of similar passages in Copland's music.

Certain aspects of this analytical approach might also be applied to a wide range of composers with regard to specific forms. For example, it is possible that applying this analytical approach to the analysis of sonata forms of various composers would be informative because the recapitulation of this form is predicated upon the listener hearing the repetition of particular scale-degree functions.

The analyses of this dissertation place a very important role upon pitch classes. We might speculate that for Copland this effectively constituted the point of his departure into the twelve-tone method. Instead of simply following a recent trend that had become passé, Copland's adoption of the twelve-tone method can thus be seen as a logical outgrowth of his previous compositional concerns. It continues the focus on the function of pitch classes but defines function in terms of position within the row, rather than intervallic relation to a
tonic. Note also the use of retrograde in the pc-scale-degree designs is consistent with classical twelve-tone operation.\(^3\) Copland believed that the Piano Variations began his interest in serial writing.\(^4\) He stated that the twelve-tone method was attractive because he could hear chords that he "wouldn't have heard otherwise," and because it offered a "new way of moving tones about."\(^5\) One might infer from Copland's statement that serial writing "freshened up one's technique and one's approach"\(^6\) that he also perceived an underlying continuity between his works of the 1930's and his later adoption of the twelve-tone method. One might also speculate a connection between these stylistic periods in Copland's artistic career because of the continuing significance of melody: melodies are crucial for the generation of tonics in both his "popular" and "serious" works and, according to Copland, are the origin of rows in his twelve-tone pieces.\(^7\) The connection of Copland's music in the 1930's to his (much later) use of the twelve-tone method allows us to posit a more fundamental consistency of method in all of Copland's works. His incorporation of tonality, like his incorporation of folk song materials and, much later, of the twelve-tone method, is made on his own artistic terms; Copland transforms and individualizes every style that he assimilates. Thus, although the generation of tonics in Copland's music is clearly based on traditional practice, the clearest function of those tonics is much different from traditional practice.

\(^3\)The relationship between the intervallic series that guide different portions of the first movement of the Piano Sonata is reminiscent of the operations of transposition, inversion, and retrograde in twelve-tone music.

\(^4\)Edward T. Cone, "Conversation with Aaron Copland," Perspectives of New Music 6/2 (1968), p.66. In the same passage Copland refers to a song he wrote in 1927, which was published in the 1960's under the title "Poet's Song," that shows he was thinking in twelve-tone terms.

\(^5\)Ibid., p.67.

\(^6\)Ibid.

\(^7\)Ibid., p.68.
Bibliography

Monographs


**Articles**


