Schoenberg, Unfolding, and "Composing With Twelve Tones": A Case Study (Op. 25/I)

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Introduction

"Composition is: *thinking in tones and rhythms*. Every piece of music is *the presentation of a musical idea*."[1]

Two fundamental components of Schoenberg's musical epistemology are present in this quote. On the one hand, we have his notion of the "musical idea," a concept that has received a great deal of attention in the literature devoted to Schoenberg's philosophy of music.[2] Whether the term is understood as an abstract universal (*Einfall*) or as a concrete musical particular (*Gedanke*), the "idea" imparts coherence to a musical

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[1] Arnold Schoenberg, *The Musical Idea and the Logic, Technique, and Art of Its Presentation,* ed. and tr. and with a commentary by Patricia Carpenter and Severine Neff (New York: Columbia University Press, 1995), 15. Emphasis in original.

[2] See, for example, Charlotte Cross, "Three Levels of 'Idea' in Schoenberg's Thoughts and Writings," *Current Musicology* 30 (1980), 24-36; Patricia Carpenter, "Musical Form and Musical Idea: Reflections on a Theme of Schoenberg, Hanslick, and Kant," in *Music and Civilization: Essays in Honor of Paul Henry Lang*, ed. Edmond Strainchamps and Maria Rika Maniates, with Christopher Hatch (New York: Norton, 1984), 394-427; Alexander Goehr, "Schoenberg and Karl Kraus: The Idea behind the Music," in *Finding the Key: Selected Writings of Alexander Goehr*,.ed. Derrick Puffett (London and Boston: Faber and Faber, 1998), 124-141; idem, "Musical Ideas and Ideas About Music," in *Finding the Key*, 142-156. See also the "Commentary" by Patricia Carpenter and Severine Neff in Schoenberg, *The Musical Idea*, especially pages 15-21.

artwork.[3] In the same passage, on the other hand, we have "presentation," a concept just as important to Schoenberg but one that has not been given the same intensive and critical attention that it surely deserves. In many respects, it is presentation that enables us to talk about the musical idea at all. For Schoenberg, presentation (*Darstellung*) is an act of conscientious composition by which the formal/functional properties of motives and *Gestalten*, along with any possible development or variation, are realized in the creation of a coherent musical artwork. Presentation, then, is the manner in which a musical idea is made comprehensible.[4] It is the responsibility of the composer to adequately present these relationships in a manner that is both logical and clear in an attempt to make comprehensible a purely musical idea.

Like the "musical idea," the concept of presentation assumes a variety of forms and functions in Schoenberg's theories. In its most general sense, presentation describes abstract musico-compositional practices deduced from a wide range of composers and works from a variety of musical styles and historical periods. More specifically,

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[3] There is no reason to believe that Schoenberg conceived of the "metaphysical" aspect of the "idea" separate or distinct from its ontological realization in tones and rhythms. Goehr recognizes this interdependence noting that "the conclusion we must draw is that the Idea is not of the tones themselves, in any particular order or combination, and yet the tones cannot exist meaningfully without the hidden presence of the Idea." ("Schoenberg and Karl Kraus," 128.)

[4] On Schoenberg's conception of the "musical idea" and its relation to comprehensibility, see Patricia Carpenter and Severine Neff, "Schoenberg's Philosophy of Composition: Thoughts on the 'Musical Idea and Its Presentation'," in *Constructive Dissonance: Arnold Schoenberg and the Transformations of Twentieth-Century Culture*, ed. Julianne Brand and Christopher Hailey (Berkeley: University of California Press, 1997), 146-159. See also their "Commentary" in Schoenberg, *The Musical Idea*, especially pages 15-43.

Schoenberg distinguishes three forms of presentation in his theoretical writings: "stringing-together" or "juxtaposition" in more popular musical forms, developing variation in homophonic music generally associated with the "Viennese Classicist" period, and "unfolding" or "envelopment" (*Abwicklung*), a form used to describe the polyphonic/contrapuntal practices of the Baroque as exemplified by the music of J.S. Bach.[5] In "juxtaposition," unvaried motive forms are simply (and literally) repeated ("strung- together") with little, if any, development. Developing variation is understood as the process by which the "variation of a motive by either pitch or rhythm accounts for its 'development' or 'developing variation'."[6] The final form, "unfolding" or "envelopment" is a non-developmental form of presentation in which any variation occurs through the shifting and/or re-aligning of a basic contrapuntal combination.

Given the emphasis Schoenberg placed on the comprehensibility of the musical idea, it is worth examining his own compositions from these presentational standpoints. As we might expect from a composer who continually emphasized the importance of

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[5] A detailed account of Schoenberg's presentational forms can be found in Severine Neff, "Schoenberg as Theorist," in *Schoenberg and His World*, ed. Walter Frisch (Princeton: Princeton University Press), 55-84. In her essay, Neff uses the phrase contrapuntal combination to refer to the same method. In my paper, I will use *unfolding* to refer to the general presentational method and "contrapuntal combination" to refer to the particular musical structure that is to be "unfolded," a point that will become clear below. The term "envelopment" was coined by Patricia Carpenter to describe the actual combining of a subject with countersubjects, i.e. the process of "constructing" a contrapuntal combination (see P. Murray Dineen, "The Contrapuntal Combination: Schoenberg's Old Hat," in *Music Theory and the Exploration of the Past*, ed. Christopher Hatch and David W. Bernstein (Chicago: University of Chicago Press, 1993), 436 and 447 n. 4).

[6] Neff, "Schoenberg as Theorist," 59.

development and variation, "juxtaposition" does not figure prominently in Schoenberg's compositional output.[7] In contrast to juxtaposition, many of Schoenberg's compositions have been viewed from the perspective of developing variation and its presentational principles.[8] So much attention has been directed towards developing variation in the analytical literature on Schoenberg that one can be easily led to believe that this was his

[7] Except for, possibly, in his early *Brettl Lieder*. It is worth pointing out that, although the method of "stringing-together" or "juxtaposition" is a relatively simple way of presenting musical material, Schoenberg never speaks of this form of presentation – nor popular music in general – disparagingly. In fact, Schoenberg admits his admiration for "people who can write in a popular and generally comprehensible way…" (Arnold Schoenberg, "For a Treatise on Composition," in *Style and Idea*, ed. Leonard Stein, tr. Leo Black (Berkeley and Los Angeles: University of California Press, 1984), 268. See also his comments in *The Musical Idea*, 300-301.

[8] On the role played by developing variation in Schoenberg's tonal music, see Walter Frisch, *The Early Works of Arnold Schoenberg, 1893-1908* (Berkeley and Los Angeles: University of California Press, 1993); in Schoenberg's atonal music see Bryan R. Simms, *The Atonal Music of Arnold Schoenberg, 1908-1923* (Oxford: Oxford University Press, 2000) and Jack Boss, "Schoenberg's Op. 22 Radio Talk and Developing Variation in Atonal Music," *Music Theory Spectrum* 14/2 (1992), 125-149. In regards to Schoenberg's twelve-tone music, see Ethan Haimo, *Schoenberg's Serial Odyssey: The Evolution of His Twelve-Tone Method, 1914-1928* (Oxford, Clarendon Press, 1992), idem, "Developing Variation and Schoenberg's Serial Music," *Music Analysis* 16/3 (1997), 349-365, Andrew Mead, " 'Tonal' Forms in Arnold Schoenberg's Twelve-Tone Music," *Music Theory and Spectrum* 9 (1987), 67-92; idem, "Large-Scale Strategy in Arnold Schoenberg's Twelve-Tone Music," *Perspectives of New Music* 24/1 (1985), 120-157, Richard B. Kurth, "Mosaic Polyphony: Formal Balance, Imbalance, and Phrase Formation in the Prelude of Schoenberg's Suite, Op. 25," *Music Theory Spectrum* 14/2 (1992), 188-208; John Covach, "Schoenberg's 'Poetics of Music' and the twelve-tone idea," in *Schoenberg and Words*, ed. Charlotte Cross and Russell A. Berman (New York: Garland Publishers, 2000), 309-346.

preferred mode of presentation. To my knowledge, however, none of Schoenberg's compositions have been explicitly examined from the perspective of unfolding. In fact, the basic principles of unfolding have only recently been given extended and detailed treatments. [9] In the present essay, I will focus on unfolding by examining this particular method of presentation within the context of Schoenberg's twelve-tone compositional practices using the Prelude from the Suite for Piano, Op. 25 as a case study. As I hope to show, principles associated with unfolding can, with some slight modifications, serve as a viable method of presenting musical ideas in a twelve-tone context. Before turning to the music of the Prelude, however, we must first be clear on the fundamental presentational principles associated with unfolding.

I

In Schoenberg's large body of theoretical writings, there is no single statement describing all aspects of unfolding. As a result, we must try to reconstruct his concept from the numerous (and somewhat scattered) written remarks that address certain aspects or basic principles unique to this particular presentational form.[10] The most concise formulation of unfolding appears in a manuscript dating from 1925. "Unfolding," Schoenberg tells us,

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[9] In addition to Neff, "Schoenberg as Theorist," see Dineen, "The Contrapuntal Combination."

[10] Schoenberg employs the terms *unravelling*, *unfolding*, *shifting*, or *combination* when describing a contrapuntal form of presentation in "Bach," in *Style and Idea*, 393-397; "Linear Counterpoint," *Style and Idea*, 289-295; *Theory of Harmony*, tr. Roy E. Carter (Berkeley and Los Angeles: University of California Press, 1978),13; *The Musical Idea*, 90-91, 110-113, 156-157; 400.

> is the method appropriate for the contrapuntal-polyphonic style. For the essence of this *style* is based upon the fact that a number of tones are brought into a mutual relationship of successiveness and simultaneity (counterpointed), such that all configurations appearing in the course of the piece are already contained, formed, or present in this grundgestalt, or are partially determined by its possibility. The resulting piece simply rolls off like a film, picture by picture, gestalt by gestalt, for even the sequence of events here is logically almost completely provided.[11]

Elsewhere, Schoenberg explains how:

> In a contrapuntal piece the idea is compressed in the form of a theme whose constituent elements, sounding together, form a kind of "point of departure." …This "point of departure," this theme, contains all of the possibilities for future redeployment of the elementary material…In the course of the piece, the new shapes formed by rearrangements (varied forms of the new theme, new ways for its elements to sound) are unfolded, rather as a film is unrolled. And the way the pictures follow each other (like the "cutting" in film) produces the "form."[12]

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[11] Arnold Schoenberg, *The Musical Idea*, 400.

[12] Schoenberg, "Linear Counterpoint," *Style and Idea*, 290. Schoenberg's analogy between the form of a work composed according to the principles of unfolding and the temporal unfolding of a film echoes the visual component of presentation itself: "*Darstellung* signifies the presentation of an object to a *spectator* in such a way that he perceives its composite parts as if in functional motion." (From a letter of 1931 cited by Bryan R. Simms, "Review of Arnold Schoenberg, *Theory of Harmony*, tr. Roy E. Carter," *Music Theory Spectrum* 4 (1982), 160. Emphasis added.)

In a contrapuntal-polyphonic style of composition, what Schoenberg considers the *Grundgestalt* is a contrapuntal combination formed from a subject and its multiple counterpoints or countersubjects. Through the course of a piece, this basic combination (theme or "point of departure") is "...taken asunder and reassembled in a different order [and] contains everything which will later produce a different sound than that of the original formulation."[13] The form of a contrapuntal composition temporally unfolds as various aspects of the basic contrapuntal combination are varied.

This basic combination (usually in the form of a subject and a countersubject in the case of a fugue or other forms of imitative polyphony) can be varied in a number of ways. Schoenberg uses the genre of the canon to illustrate the variational techniques employed in unfolding:

> …a canon of two or more voices can be written in one single line, yet furnishes various sounds. If multiple counterpoints are applied, a combination of three voices, invertible in the octave, tenth, and twelfth, offers so many combinations that even longer pieces can be derived from it.[14]

Schoenberg describes additional methods of varying a contrapuntal combination. These include "shifting the position of the various constituents (themes, gestalten, voices) in a kaleidoscopic manner, whereby under certain circumstances augmentation and diminution, and the symmetrical (or mirror) transformations can be used at the same

[13] Schoenberg, "Bach," in *Style and Idea*, 397.

[14] Schoenberg, "Bach," in *Style and Idea*, 397.

time."[15]

> Consequently, the basic motive [the contrapuntal combination] produces two or more voices that are so constructed…that besides double, triple, quadruple, and x-multiple counterpoints on various scale-degrees, even the horizontal shifts and (as stated) augmentation, diminution, and the mirror transformations are made possible.[16]

Transformations such as these ensure that the individual *gestalten* or voices that form the basic contrapuntal combination are never developed through the course of a piece. Schoenberg makes it clear that the method of unfolding is a *non-developmental*

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[15] Arnold Schoenberg, *The Musical Idea*, 111. The underlined words in this excerpt reflect Schoenberg's original emphases and the editorial procedures employed by Carpenter and Neff in their edition of the "Gedanke Manuscript." For analyses of works by Bach according to the principles of unfolding, see Severine Neff's analysis of the C major Two-Part Invention in "Schoenberg as Theorist," 74-78, and Dineen's analysis of the G minor Fugue from Book 2 of the *Well-Tempered Clavier* in "The Contrapuntal Combination," 438-444. A related account of the compositional properties of triple counterpoint, particularly the counterpoint of Bach, can be found in Daniel Harrison, "Some Group Properties of Triple Counterpoint and Their Influence on Compositions by J.S. Bach," *Journal of Music Theory* 32/I (Spring 1988), 23-49.

[16] Schoenberg, *The Musical Idea*, 111.

form of variation, a fact that distinguishes unfolding from "developing variation:" [17]

> [T]he contrapuntal idea is distinguished from the homophonic idea by its predisposition toward a different kind of image production. In homophonic (main- or upper-voiced) music images arise through "developing variation," whereby the variation, even if it alters the harmony, still affects the main (or upper) voice almost exclusively; and in spite of this, by this manner of thinking and sounding, something new always has to come into being. These images show the destiny of the motive…. The contrapuntal idea produces images that must differ greatly from one another in the total sound (because the same voices meet each other on different harmonies) but differ very little from one another in thematic content, because the same voices, after all, make up [the harmonies].[18]

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[17] It should be pointed out, however, that Schoenberg does use "developing" and "development" in his writings on contrapuntal and polyphonic composition. In his first essay on "Twelve-Tone Composition" from 1923, Schoenberg explains how

> In polyphonic music, motivic shapes, themes, phrases and the like are…never developed, never split off new shapes and are seldom varied: for (almost all) development takes place through alteration of the mutual relation to each other of the various components of the idea.…And as the mutual relationship of the simultaneous sounds alters, the components not only can remain unaltered but even must, since otherwise there is no assurance that a wholly new relationship…will come about! (Schoenberg, "Twelve-Tone Composition," *Style and Idea*, 208)

The notion of "development" presented in this excerpt could possibly serve as the link Schoenberg perceived between Bach and the method of unfolding and the method of "developing variation" associated with the "Viennese classicists." On this point, see Arnold Schoenberg, "New Music, Outmoded Music, Style and Idea," *Style and Idea*, 117-118.

[18] Arnold Schoenberg, *The Musical Idea*, 111.

According to Schoenberg's theory of unfolding, all of the structural and formal properties of a contrapuntal composition can be traced back to the original combination and its dense web of relationships, both real and potential.

As I have outlined them here, certain methods of varying a basic combination in a contrapuntal setting bear a close resemblance to techniques associated with twelve-tone composition. P. Murray Dineen also recognizes these similarities, noting that "the experience of a musical work as a multifaceted combination holds both for the contrapuntal combination such as a fugue and for twelve-tone composition…."[19] Dineen points out that the similarity between these two compositional styles is a result of a shared notion of musical space. Understood through the lens of unfolding and its relation to a specific conception of musical space, Dineen describes how "a fugue and a twelve-tone work both combine a multitude of spatial perspectives into one absolute unity – in the case of the fugue, the total combination, while in the case of a twelve-tone work, the row matrix."[20] In Baroque polyphony and twelve-tone composition, transformations such as transposition, inversion, and retrogression are variations effecting the spatial aspect of an "absolute unity" instead of, for example, the temporal aspect necessary for the resolution of a "tonal problem" in developing variation.[21]

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[19] Dineen, "The Contrapuntal Combination," 446.

[20] Dineen, "The Contrapuntal Combination," 446.

[21] On the idea of a "tonal problem" as a component of developing variation, see Neff, "Schoenberg as Theorist," 59-63. See also Carpenter's and Neff's discussion of Brahms's Piano Quartet, Op. 60 in their "Commentary" to Schoenberg, *The Musical Idea*, 63-73. See also Severine Neff, "Schoenberg and Analysis: Reworking a Coda of Brahms," *International Journal of Musicology* 3 (1994), 187-201.

Of course, many practical differences distinguish Baroque counterpoint from twelve-tone counterpoint. The most obvious difference, perhaps, involves principles of harmonic combination. In Baroque polyphony, for example, the harmonies formed between independent lines or voices operate according to the general rules predicated on the consonance/dissonance distinction. In twelve-tone counterpoint, however, no such distinction holds. Instead, any "rules" that might exist regarding "acceptable" combinations may vary from piece to piece.[22] A corollary to this basic distinction involves the compositional practices of transposition, retrogression, and inversion. In a twelve-tone work, the specific *intervals* associated with an ordered row are strictly maintained when subjected to these transformations. In a tonal/polyphonic context, the precise intervals associated with, for example, a fugal subject may or may not be maintained when transposed or inverted. Instead, transpositions or inversions are subject to the contemporary rules pertaining to acceptable consonances and the treatment of dissonances.

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[22] Some of the differences between unfolding within a tonal/polyphonic context and a twelve-tone context are briefly addressed in Dineen, "The Contrapuntal Combination," 445 ff. Schoenberg recognizes the difference separating traditional counterpoint from "twelve-tone counterpoint":

> …in twelve-tone composition harmony is no longer in any sense under discussion, nor even is [harmonic] progression, since both are subordinate to a different law….[In twelve-tone composition, only] the relationship of several rows one to another, the vertical aspect of the line, gives them their significance! So this polyphony, polylinery (horrible new word!) is based on a relationship of cohesion between the individual lines, which does not necessarily lie in anything tonal, chordal, or in any other way corresponding to older harmonic theory. In particular the most important thing is missing: the treatment of dissonance and the prohibition of parallels (for the clumsy). (Schoenberg, "Linear Counterpoint: Linear Polyphony," *Style and Idea*, 296.)

Despite the obvious differences between these two practices, the similarities between twelve-tone and contrapuntal composition appear to be – conceptually – quite closely related when viewed from the perspective of unfolding. The rest of this essay will examine the Prelude to the Suite for Piano, Op. 25 from the standpoint of unfolding and its unique principles of variation. By examining this movement in the context of unfolding and its defining properties as a presentational form, I hope to (1) offer new ways of understanding sections of this movement familiar to us from the plethora of analyses that already exist and (2) enhance our perspective of Schoenberg's earliest conception of the twelve-tone technique.

II

A possible clue that Schoenberg may have conceived of portions of his first extended twelve-tone composition in terms of unfolding is suggested by some of his earliest sketch materials, reproduced here as Figure 1.[23]

Figure 1

As seen in Figure 1, Schoenberg organized eight aggregate collections as three stacked tetrachords. Schoenberg identifies "Tonic" and "Dominant" combinational forms with the

[23] See Arnold Schoenberg, *Sämtliche Werke:* II/B/4, ed. Reinhold Brinkmann, Kritischer Bericht (Mainz: Schott, 1975), 77. The sketch materials for Op. 25 show various methods by which Schoenberg divided and organized the complete aggregate. These ways include a 5-4-3 division of the aggregate, a 4-4-4 division of the aggregate organized as stacked tetrachords (Figure 1), and the same division organized successively as twelve-tone rows.

labels "T" and "D" along with their inversions ("U"), retrogrades ("K"), and retrograde inversions ("KU").[24] In the interest of familiarity, I will use standard row nomenclature to identify these collectional forms – P_0, P_6, I_0, I_6 and the corresponding retrograde labels of these four forms. It should be made clear, however, that these shorthand labels represent the tetrachordally stacked collectional forms and not linearly ordered twelve-tone rows.

In structuring the aggregate in this fashion, Schoenberg has, to a large effect, created a twelve-tone contrapuntal combination composed of three linear tetrachords and four vertical trichords. Thus, the vertical and linear relationships present in each of the

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[24] Schoenberg's "U" and "KU" labels should be "DU" and DuK", respectively while the "DU" and DuK" labels should read "U" and "KU", respectively. The tetrachordal division of the aggregate has long been recognized as an important aspect of many of Schoenberg's choices in the pitch domain. See, for example, Kurth, "Mosaic Polyphony," Martha M. Hyde, "Musical Form and the Development of Schoenberg's Twelve-Tone Method," *Journal of Music Theory* 29/1 (1985), 85-143; idem, "The Format and Function of Schoenberg's Twelve-Tone Sketches," *Journal of the American Musicological Society* 36 (1983), 453-480; Ethan Haimo, *Schoenberg's Serial Odyssey*, 85-89; David Lewin, "A Theory of Segmental Association in Twelve-Tone Music," *Perspectives of New Music* I (1962), 89-116. One of the earliest and most detailed accounts of Op. 25 that recognizes the tetrachordal division of the aggregate and various invariant relationships is Erwin Stein's "Neue Formprinzipien," in *Arnold Schönberg zum funfzigsten Geburtstag*, Sonderheft des *Musikblätter des Anbruch* 6 (1924), reprinted in his *Orpheus in New Guises* (London: Rockliff, 1953), 57-77.

The particular aggregate structure – three linear tetrachords and four vertical trichords – forms a two-dimensional array described by Brian Alegant as a "cross-partition." See his "Cross-Partitions as Harmony and Voice-Leading in Twelve-Tone Music," *Music Theory Spectrum* 23/1 (2001), 1-40. Alegant's essay greatly expands upon an idea first described by Donald Martino in his "The Source Set and its Aggregate Formations," *Journal of Music Theory* 5 (1961), 224-273. See also David Lewin, "On Certain Techniques of Re-Ordering in Serial Music," *Journal of Music Theory* 10 (1966), 276-287.

eight combinational forms serve as the referential basis for many of Schoenberg's compositional choices on the musical surface of the Prelude. The four vertical trichords and three linear trichords, then, are key components for viewing this movement from the perspective of unfolding. In my analysis, I will refer to the tetrachords (from top to bottom) as A, B, and C, and the trichords (from left to right) as 1, 2, 3, and 4. These relationships comprise the contextual grammar that informs many passages of the Prelude – a grammar that replaces the traditional rules of organization (consonance and dissonance) presupposed within Schoenberg's original notion of unfolding.

An example of the contrapuntal combination in its most "pure" form (that is, most resembling the structure seen in Schoenberg's sketches) can be seen in measure 5 (Example 1):[25]

(Example 1)

Here, Schoenberg presents RP_6 in a manner that highlights the trichordal component of the basic combination by maintaining three of the four vertical sonorities from the original combination. Only trichord 1 of RP_6 occurs as a true vertical sonority where individual tetrachordal strands share a common metric attack point. The vertical harmonies of trichords 2 and 3 are present as a result of the sixteenth-note simultaneities ({E♭, D} and {F♯, A}) from tetrachords B and C and the sustained pitches from tetrachord

[25] In many of the examples that follow, I will first provide a "normative structure" (using capital letters) relating the specific variation enacted on the contrapuntal combination followed by a similar schematization representing the musical surface of the passage in question (using pitch names). In these diagrams, dashed boxes will be used to indicate linear presentations of pitch relationships traceable to the source combination while solid boxes will indicate harmonic presentations of pitch relationships derived from the original combination. The normative diagrams are to be understood as intermediate steps between the background structure (the contrapuntal combination) and the musical surface. The inclusion of normative diagrams assists in visually situating a particular passage in relation to the background contrapuntal combination. Differences or deviations between the musical surface and the normative diagrams (usually accomplished by Schoenberg's rhythmic presentation) should not be understood in a negative sense. These deviations are positively necessary – they are the elements that make the Prelude *music* and not simply a series of "Rubics-cube-like" boxes with pitch names attached to each individual cube.

A (eighth note {D♭} and eighth note {C♭}). Schoenberg deviates from the basic structure of the combination by sustaining the F♯ in tetrachord C by a sixteenth note. Because of this sustained F♯, the dyad formed from tetrachords A and B {B♭, C} in trichord 4 is maintained as the F from tetrachord C is heard as a solitary pitch (circled in the diagram above). Not only does Schoenberg draw our attention to the structure of the basic combination in this measure (by highlighting the vertical sonorities present in the original combination), but he also shows how the basic structure can be manipulated.

The close resemblance between the original source combinations and the musical surface can also be seen in measure 20 (Example 2). In this measure P_0 is combined with RP_0 by overlapping two trichords; that is, trichords 3 and 4 of P_0 become trichords 1 and 2 of RP_0 (re-ordered because of the overlap). Trichords 1 and 3 of P_0 and trichord 2 of RP_0 appear on the surface as harmonies while trichords 2 and 4 of P_0 and trichords 1 and 4 of RP_0 are presented in an arpeggio-like manner. By repeating the pitch A in tetrachord C of RP_0 (circled in Example 2), Schoenberg disrupts the clear symmetry shown in the accompanying normative structure. This repeated pitch-class does have the effect, however, of producing a true retrograde of tetrachord C of RP_0.

Example 2

If the stacked tetrachordal structure of the aggregate as it appears in the sketch materials for Op. 25 is understood as the basic contrapuntal combination, Figure 2 abstracts some possible ways of varying the combination according to a twelve-tone version of unfolding. The procedures detailed in Figure 2 reflect only those methods of varying the basic combination as employed by Schoenberg in the Prelude.

Figure 2

Next to simply retrograding the individual tetrachords of a basic combination, the simplest way to vary a combination is by inverting the three tetrachords – a form of twelve-tone invertible counterpoint. An example of the tetrachords of the basic combination subjected to invertible counterpoint occurs in measure 21 (Example 3). Here, like measure 20, Schoenberg presents two overlapping retrograde-related collectional forms – I_6 and RI_6 –in invertible counterpoint:

Example 3

Unlike measures 5 and 20 where Schoenberg retains entire harmonic trichords from the basic combination on the musical surface, many of the vertical relationships present in the stacked structure of the basic combination are absent in measure 21. This is a direct result of Schoenberg's rhythmic presentation of these two collectional forms. Although a few dyadic relationships between the three tetrachords are maintained (shown by solid boxes in Example 3), the harmonies present in this measure do not retain much of the harmonic sense of the background combinations. The basic combination, while conceptually operative in this measure, is stripped of most of its distinctive harmonic properties.

In the passages examined thus far, the registral disposition of linear tetrachords unique to a particular collection has resulted in ordered harmonic trichords – ordered

from top to bottom or from bottom to top in reference to a basic combination. Schoenberg also treats the trichords of the basic combination as unordered harmonic collections. This method of variation can be seen in measure 23 (Example 4). At the start of this measure, unordered trichords 1 and 2 from RI_6 are followed by unordered trichords 1 and 2 from RP_0.[26] On the musical surface, trichord 2 of RI_6 and RP_0 are presented in a "2+1" fashion, that is as a dyad followed by a single pitch. Under the heading "Disposition of Trichords in Measure 23" at the end of Example 4, I have simplified these 2+1 structures as pure harmonic trichords. The measure concludes by alternating between the two remaining unordered trichords from each collection.

Example 4

Within a twelve-tone context, Schoenberg's theory of unfolding can be extended to include methods of variation that treat the vertical relationships present in the contrapuntal combination as linear configurations on the musical surface. Returning to Figure 2, I have termed this method of varying the basic combination "Flattening-Out." Literally, flattening-out involves transforming what is a horizontal formation in the basic combination into a vertical formation, and, vice versa – a method entirely compatible with Schoenberg's notion of the "Unity of Musical Space." Referring to Figure 2, it can be seen how the three linear tetrachords of the combination can be flattened-out to form

[26] The vertical re-ordering of trichords in this measure is a nice example of a "slot-machine" transformation on a 4x3 cross-partition. See Alegant, "Cross-Partitions as Harmony and Voice-Leading in Twelve-Tone Music."

twelve-tone rows with a particular ordering. Understood this way, twelve-tone rows might be considered as a variation of the structure of the basic combination and *not* as the referential norm. In addition, the trichords of the basic combination can be flattened-out to form twelve-tone rows of another ordering. Another form of "flattening-out" involves dyadic structures between stacked tetrachords. Here, the vertical dyadic relations between two linear tetrachords of the basic combination are flattened-out and are combined with the remaining linear tetrachord. Schoenberg employs each of these methods of in the Prelude.

Measures 1-3 contain two collectional forms: P_0 in the right hand and P_6 in the left hand, shown in Example 5. The tetrachords of P_0 are heard successively in a linear (that is, flattened-out) form. All three tetrachords of P_6 appear as linear formations though not successively like P_0: in measure 2, tetrachords B and C are stacked and are registrally and dynamically distinct from tetrachord A. As a result, an interesting harmonic formation appears on the last beat of measure 2. Here, the {F♯,A} dyad formed from tetrachords B and C of P_6 is combined with the B natural from P_0 producing vertical trichord 2 from the stacked tetrachordal form of P_6 (refer back to the "D" form in Figure 1, marked by an asterisk). Both collections produce a trichord whose pitch content exactly reproduces the pitch content of a trichord from the background combination of P_6. This collectional

interrelationship is highlighted by the *sforzando* marking accompanying the B:[27]

Example 5

The other two forms of flattening-out detailed in Figure 3 can be seen in measure 24, Examples 6 and 7. Starting with the right hand in measure 24 (Example 6), the last harmonic trichord in measure 23 (trichord 4 of RP_0) becomes trichord 1 of P_0 on the downbeat of measure 24. Following this harmony, a jagged melodic line comprised of triplet sixteenth-notes is heard. The pitches that make up this highly disjunct melodic line are derived from a flattening-out of trichords 2-4 of P_0. This melody line and the trichordal "pivot chord" in the right hand are reduced as vertical harmonies in Example 6 to show more easily their relation to the source combination. Compared to the score excerpt included with Example 6, we can see how the G in trichord 3 of P_0 is not part of the unfolding sixteenth-note triplet figure in the right hand. Instead, the G is heard as a solitary pitch that is visually distinct from the surrounding pitches (stemmed separately). In fact, this point is true for all of the Gs present in this measure, a point I will return to shortly.

[27] Kurth ("Mosaic Polyphony," 195) views this B as an element that contributes to a sense of imbalance in this opening phrase. More specifically, B disrupts the symmetry created by paired dyads, paired intervals, register and contour. In my reading, this B does not create an imbalance but establishes an integral harmonic relationship specific to the structure of the contrapuntal combination. For another reading of these opening measures – one that attempts to relate the harmonies formed by P_0 and P_6 to linear segements of the basic set – see Hyde, "The Tell-Tale Sketches," 569.

Example 6

Another method of flattening-out elements of the contrapuntal combination takes place in the left hand in measure 24, Example 7. Here, D♭3 heard at the end of measure 23 (shown in Example 4) is followed by G2 on the downbeat of measure 24. Both of these pitches, when combined with the ordered segment <B♭, A> in the left hand, yield the unordered pitch content of tetrachord A of I_6 or RI_6. Disregarding the "floating" Gs in the lower part of measure 24 for the moment, the pitches in the left hand that immediately follow form an eight-note ordered segment, <E♭, A♭, B, D, G♭, F, C, E>. This eight-note segment is produced by flattening-out the vertically adjacent dyads formed by tetrachords B and C in the combinational form of I_6/RI_6.

Example 7

As touched upon above, the pitch G acts erratically throughout measure 24, appearing in the left hand in three different registers and highlighted by Schoenberg's notation. This distinct notation provides a clue regarding possible pitch relationships occurring on or around each appearance of this single pitch-class. These relationships become clear when we notice the harmonies formed with each occurrence of G. As stated above, the G that occurs on the downbeat of the measure is part of tetrachord A of collection I_6/RI_6. The second solitary G (on the fifth sixteenth-note of the measure) is involved in two functions. Not only does this second G complete the flattened-out form of trichord 3 ({A♭, A, G}) of P_0 in the right hand, it also shares an attack point with two

other pitches forming a harmonic trichord on the fifth sixteenth note of the measure {A♭, G, B♭}. On the eighth sixteenth-note of the measure, another harmonic trichord is briefly formed when the G is combined with G♭ and B♭ immediately followed by a tetrachord composed of G, G♭, A, and G♯. The final "rogue" G is combined with E and F forming a segment of tetrachord A of P_0/RP_0 at the conclusion of the movement. G, as a notationally distinct and registrally striking pitch class, is harmonically combined with six other pitch classes in this measure: A♭, A, G♭, F, E, and B♭. In fact, these six pitch-classes are the only pitch-classes that are vertically related to G in any form of the contrapuntal combination: G is vertically adjacent to A♭ and A in P_0, G♭ and F in I_6, A♭ and E in P_6, and F♯ and B♭ in I_0 (see Figure 1 above).

While the principles of unfolding are, I believe, a useful way of viewing and understanding particular passages in the Prelude, the stacked tetrachordal structure of the aggregate – what I have been referring to as the basic combination – should not be understood as a "key" to understanding all of Schoenberg's compositional decisions in the Prelude. Any attempt to relate or trace all of the surface features of the Prelude to the basic combination would prove to be especially difficult and, potentially, misguided. For, as the sketch materials for Op. 25 also show, Schoenberg experimented with a number of ways of organizing the aggregate.

In Figure 2, I suggested that twelve-tone rows that appear on the surface of the Prelude could be viewed as variations of the basic combination as "flattened-out" forms of the stacked tetrachordal structure. As shown in the sketch materials, however, Schoenberg did examine the presentational implications of organizing the individual

tetrachords as twelve-tone rows (Figure 3).[28] As seen in the inner staves of Figure 3, Schoenberg vertically aligns the six tetrachords of P_0 and I_6 to form two twelve-tone rows. The outer staves present RP_0 (highest staff) and RI_6 (lowest staff) where individual tetrachords – and not the entire row – are retrograded.

Figure 3

When these twelve-tone rows are vertically aligned, Schoenberg is able to create new dyadic relationships. In the Prelude, the new dyads formed by extracting vertical adjacencies present in the stacked row forms of P_0 and I_6 are present from the end of measure 17 through measure 19 (Example 8):

Example 8

To explain these measures in relation to the structure of the basic combination would require a "variation of a variation" – flattening-out the original combinations and then aligning the resultant twelve-tone row structures and extracting the vertical dyads. It is much simpler to understand this passage as being comprised of dyads formed by *stacked twelve-tone rows* – the stacked tetrachordal structure need not be invoked at all. The precise *method* of presentation in these two measures, however, can still be understood from the perspective of unfolding.[29]

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[28] Arnold Schoenberg, *Sämtliche Werke:* II/B/4, 77.

[29] See also Richard Kurth's exceptional reading of this particular passage in his "Mosaic Polyphony," 200-206. The information in my Example 8 corresponds to Kurth's *W3* order-number mosiac (M3 pitch-class mosaic).

Conclusions

Schoenberg's presentational theory of unfolding offers a useful way for viewing many melodic and harmonic events in the Prelude to his Suite for Piano, Op. 25. However, I do not believe that the stacked tetrachordal structure of the basic combination plays a significant role in the later movements. Instead, many of Schoenberg's compositional decisions in these later movements appear to derive exclusively from a linear and ordered conception of the complete chromatic, i.e. a twelve-tone row. This is, perhaps, not surprising if we consider the compositional history of Op. 25. Schoenberg began composing what was to become the Prelude and the opening ten measures of the Intermezzo in the summer of 1921. The Intermezzo movement was not completed until February of 1923; the entire work was completed in March of 1923.[30] It is not difficult to imagine that Schoenberg, when writing his earliest strict twelve-tone compositions, might adopt what he considered to be well-established methods for organizing and presenting musical ideas. In the case of the Prelude, this involved the unfolding of twelve-tone ideas. However, as Schoenberg became more confident and familiar with the potentialities inherent in twelve-tone composition, unfolding gave way to another form of presentation.

As Schoenberg points out, new techniques of composition bring about new methods of presentation. Just as unfolding and the polyphonic style of composition gave way to developing variation and the homophonic style of composition, new methods of

[30] On the compositional history of Op. 25, see Jan Maegaard, "A Study in the Chroology of op. 23-26 by Arnold Schoenberg," *dansk aarbog for musikforskning* 2(1962): 93-115. See also Haimo, *Schoenberg's Serial Odyssey*, 85 and 99.

presentation reveal themselves in twelve-tone composition. When working with new and untested compositional techniques, the composer must:

> …try out the new resources independently, to wrest from them possibilities of constructing forms, to produce with them alone all the effects of a clear style, of a compact, lucid and comprehensive presentation of the musical idea.

At the same time, Schoenberg warns against a simple reliance on tried and true methods of presentation instead of exploring any potentialities latent in the new:

> To use here the old resources in the old sense saves trouble – the trouble of cultivating the new – but also means passing up the chance of enjoying whatever can *only* be attained by new resources when the old ones are excluded![31]

Perhaps aspects of unfolding and developing variation were combined within Schoenberg's presentational theory of twelve-tone composition. It is quite possible that this form of presentation is what we now refer to as combinatoriality. What is clear, I believe, is that Schoenberg's twelve-tone output can neither be viewed entirely from the perspective of unfolding or developing variation. Both of these presentational methods, I would argue, are synthesized and, most definitely, modified in Schoenberg's twelve-tone compositions.[32]

In arguing for unfolding, what I am suggesting is a different way of *perceiving* many of the musical features of the Prelude. While unfolding is a method of presentation

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[31] Schoenberg, "Twelve-Tone Composition (1923)", *Style and Idea*, 207.

[32] See Stephen Peles' "Interpretations of Sets in Multiple Dimensions: Notes on the Second Movement of Arnold Schoenberg's *String Quartet* #3," *Perspectives of New Music* 22/1-2 (1983/1984), 303-352 for an excellent discussion that, I believe, hints at what such a synthesis may look like.

in a musical context, it is just as much a visual mode of perception as it is an aural one. Time and again, Schoenberg describes the processes of presentation as being directed towards "spectators" and, in many passages concerning unfolding, he emphasizes its visual qualities. Recall, for example, Schoenberg's comparison of the form of a contrapuntal composition with the unrolling of film and his description of the contrapuntal combination as giving rise to "images" through "image production." A musical work, it seems, is made comprehensible by the interaction of our faculties (seeing and/or hearing) and whatever particular method of presentation with which we wish to view (i.e. understand) a work. Because of the richness of Schoenberg's musical ideas, there is no single "correct" or "appropriate" presentational method for rendering a musical idea comprehensible. Schoenberg's concept of unfolding, when *combined* with our knowledge of standard twelve-tone operations and his own general theory of presentation, creates a richer context for viewing and understanding the early conception and development of the greater twelve-tone idea.

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Schoenberg, Unfolding, and "Composing With Twelve Tones":
A Case Study (Op. 25/I)
Musical Examples

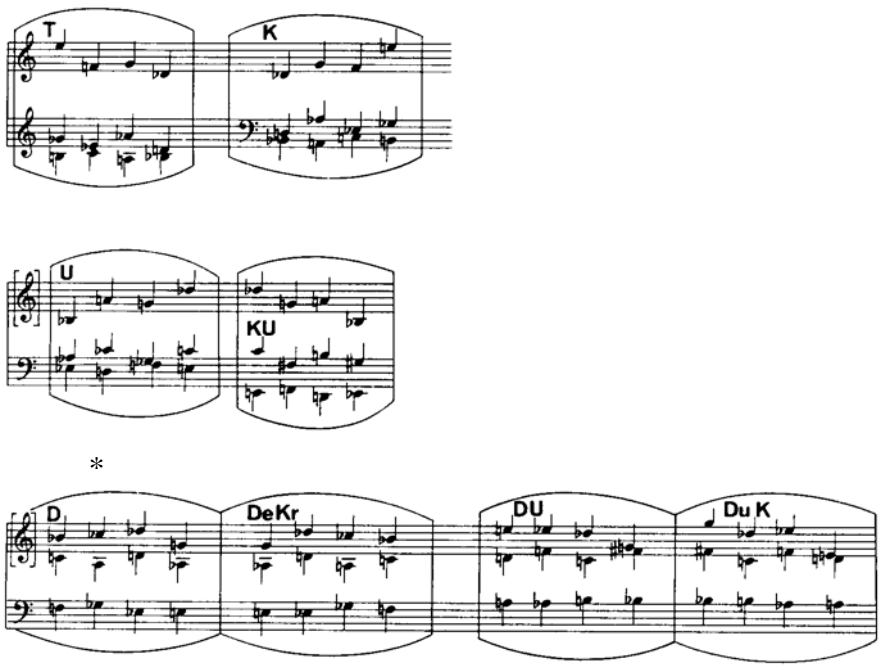
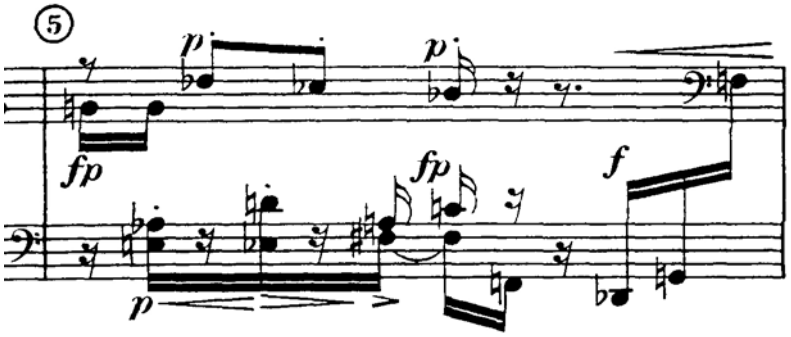


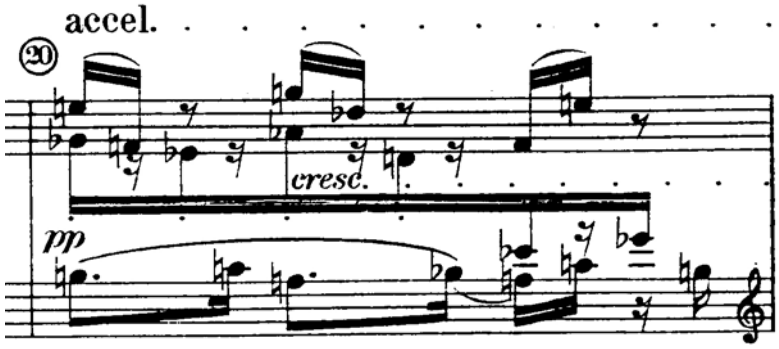
Figure 1: Schoenberg's Set Tables for Opus 25

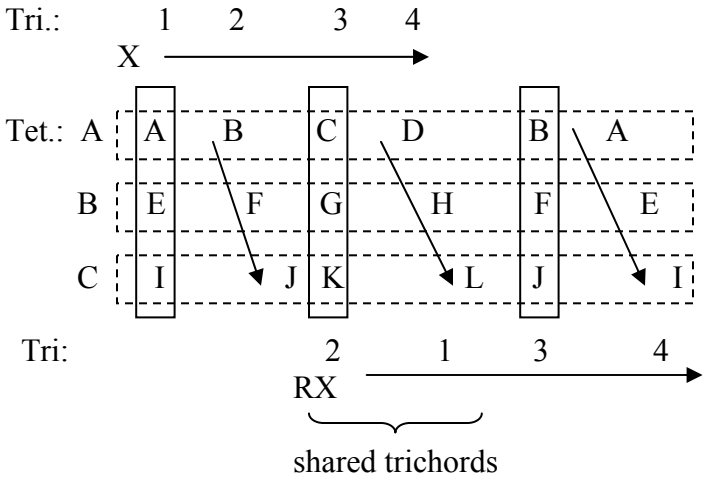


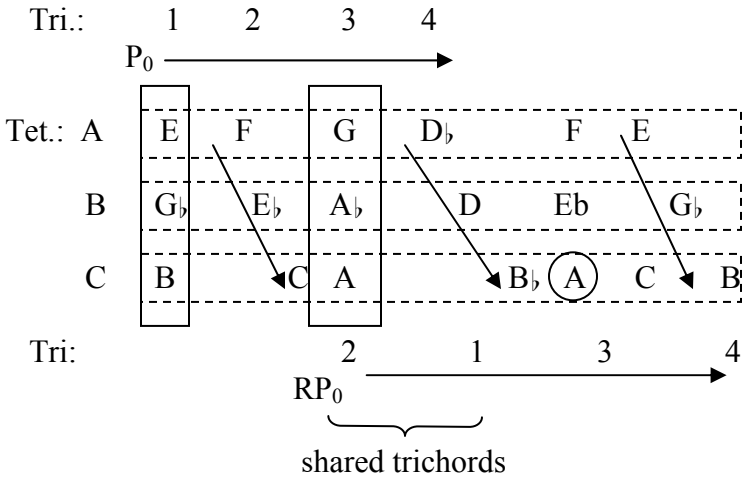
Tri.:	1	2	3	4
Tet.: A	A	B	C	D
B	E	F	G	H
C	I	J	K	L

Tri.:	1	2	3	4	
Tet.: A	G	D♭	C♭	B♭	
B	A♭	D	A	C	
C	E	E♭	F♯	(F♯)	F

Example 1: Structure of RP_6 in measure 5







Example 2: Measure 20

Basic Combination

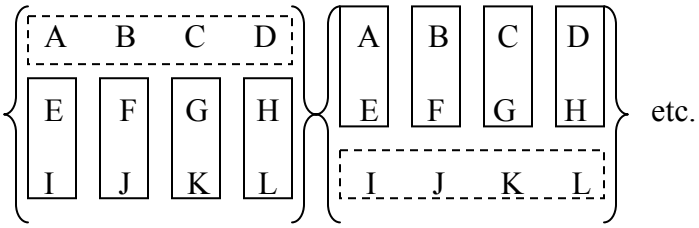
Normal Form	Retrograde	Invertible Counterpoint
A B C D	D C B A	E F G H / I J K L / A B C D — I J K L / A B C D / E F G H — etc.
E F G H	H G F E	
I J K L	L K J I	

Tetrachordal Groupings

Four Harmonic Trichords

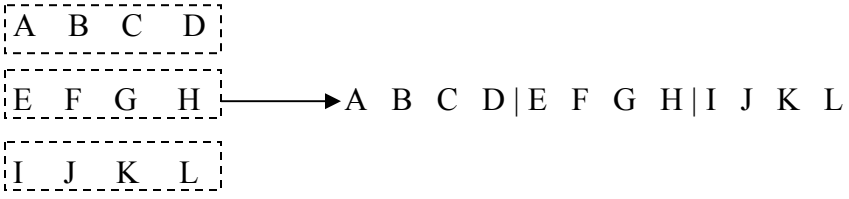
A	B	C	D
E	F	G	H
I	J	K	L

One Linear Tetrachord, Two Tetrachords Combined Harmonically

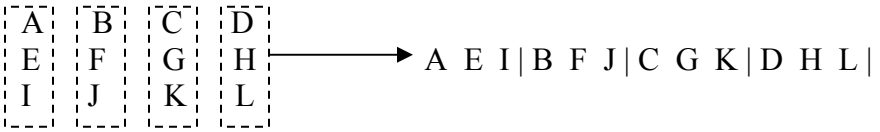


Lines Formed by "Flattening-Out" Elements of the Contrapuntal Combination

Basic Combination (Flattening-Out of tetrachords)



Basic Combination (Flattening-Out of trichords)



Basic Combination (One linear tetrachord, flattening-out of dyads)

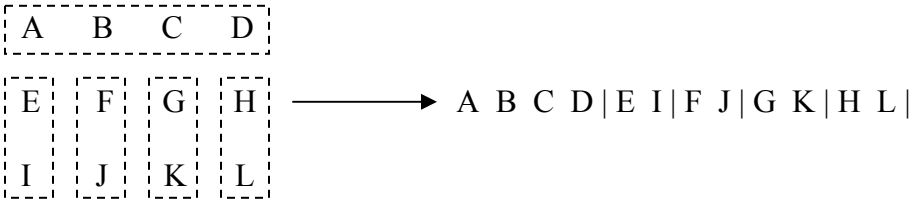
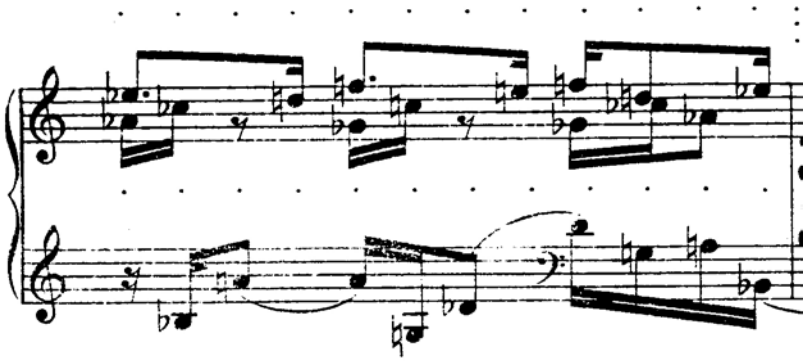
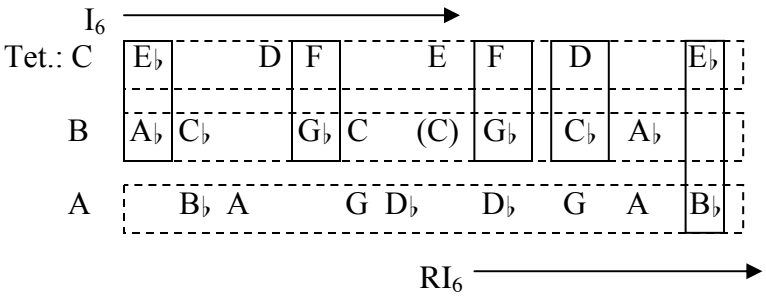
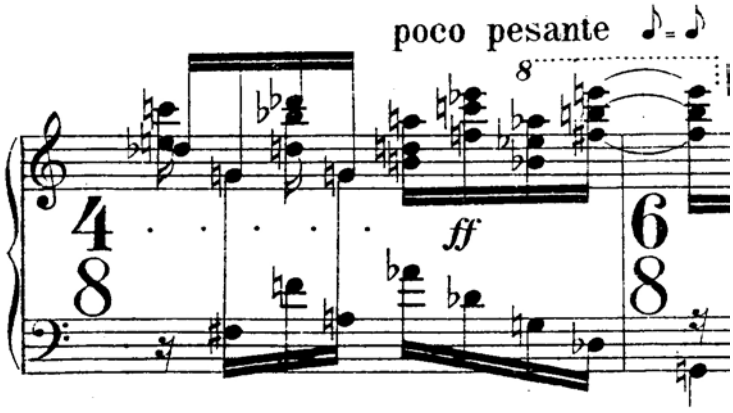


Figure 2: Some Ways of Manipulating a Basic Contrapuntal Combination





Example 3: Measure 21



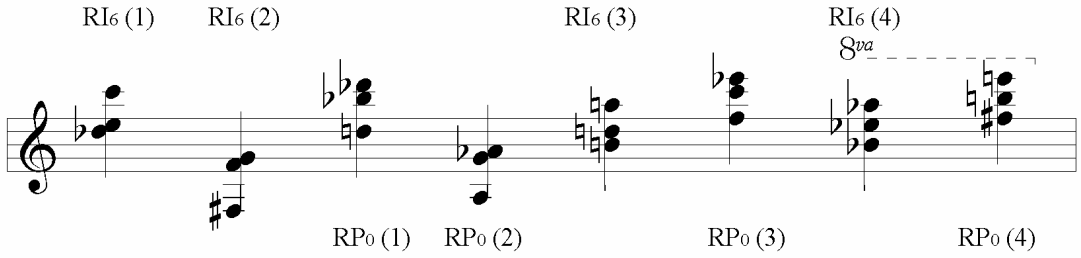
RI_6 -

Tri :	1	2	3	4
Tet: A	D♭	G	A	B♭
B	C	F♯	B	A♭
C	E	F	D	E♭

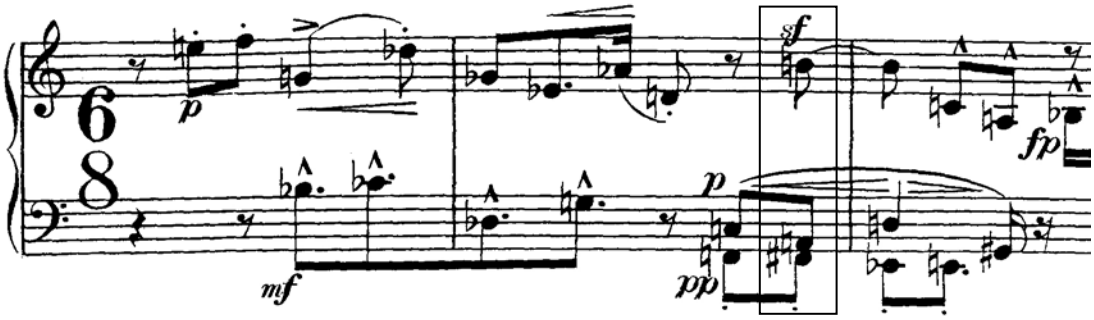
RP_0 –

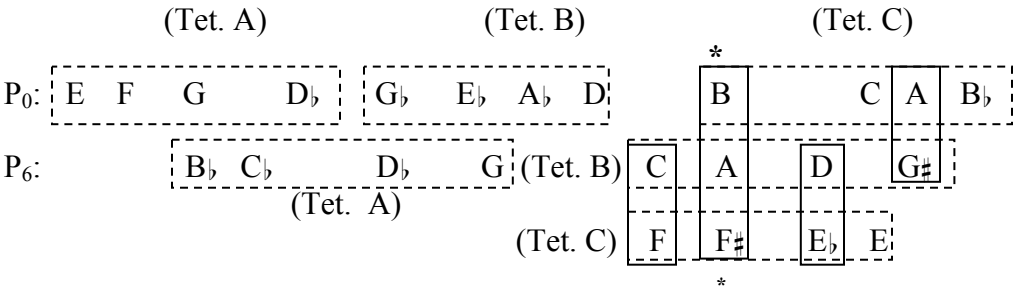
Tri:	1	2	3	4
Tet: A	D♭	G	F	E
B	D	A♭	E♭	F♯
C	B♭	A	C	B

Disposition of Trichords from RI_6 and RP_0 in measure 23

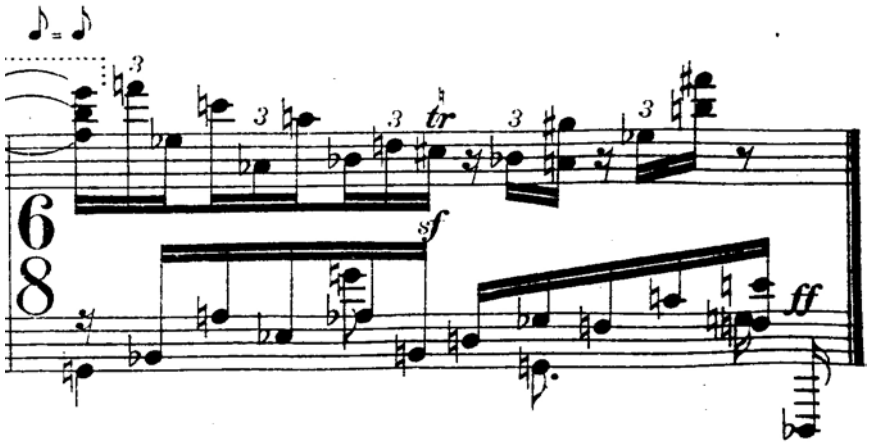


Example 4: Derivation of Trichords in m. 23 from Stacked Tetrachordal Structure





Example 5: Measures 1-3



Tri.:		1	2	3	4
Tet.:	A	A	B	C	D
	B	E	F	G	H
	C	I	J	K	L

becomes,

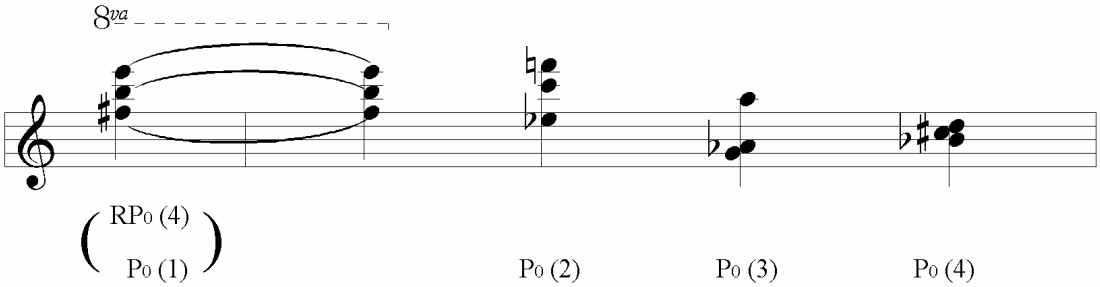
Tri.: 1 2 3 4

A E I	B	F	J	C	G	K	D	H	L		

Tri: 1 2 3 4

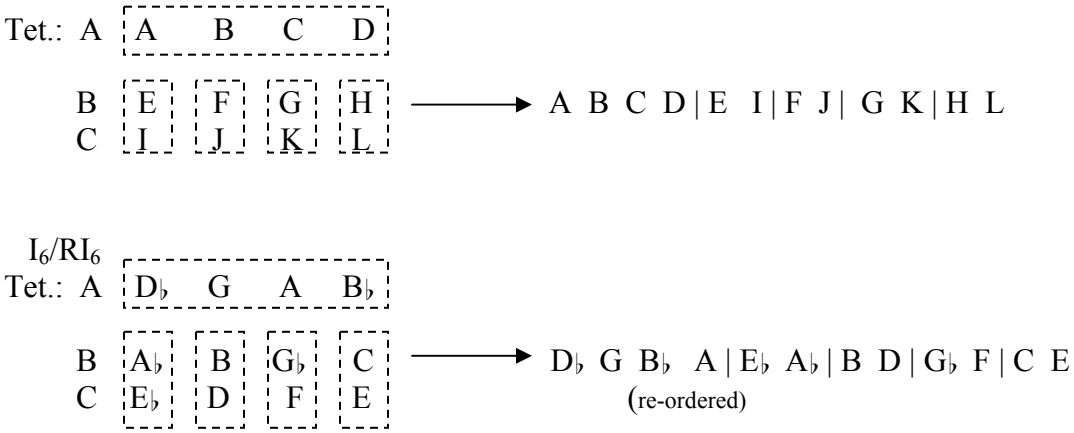
P_0

E B F♯	F	E♭	C	A♭	A	G	B♭	D	C♯		



Trichordal Derivation of Melodic Line in Right Hand of Measure 24

Example 6: Right Hand of Measure 24



Example 7: Left Hand of Measure 24

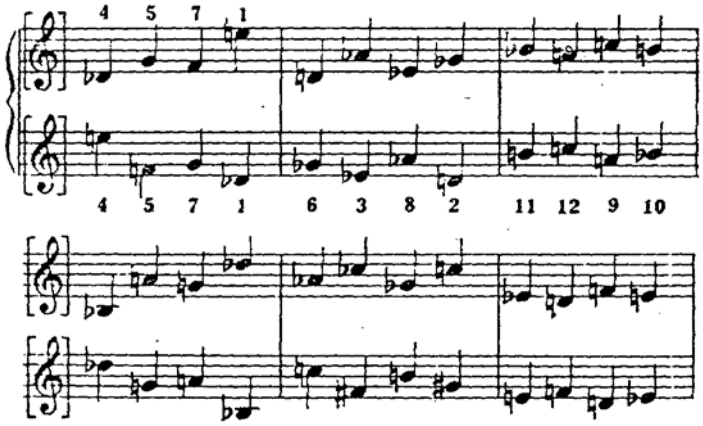
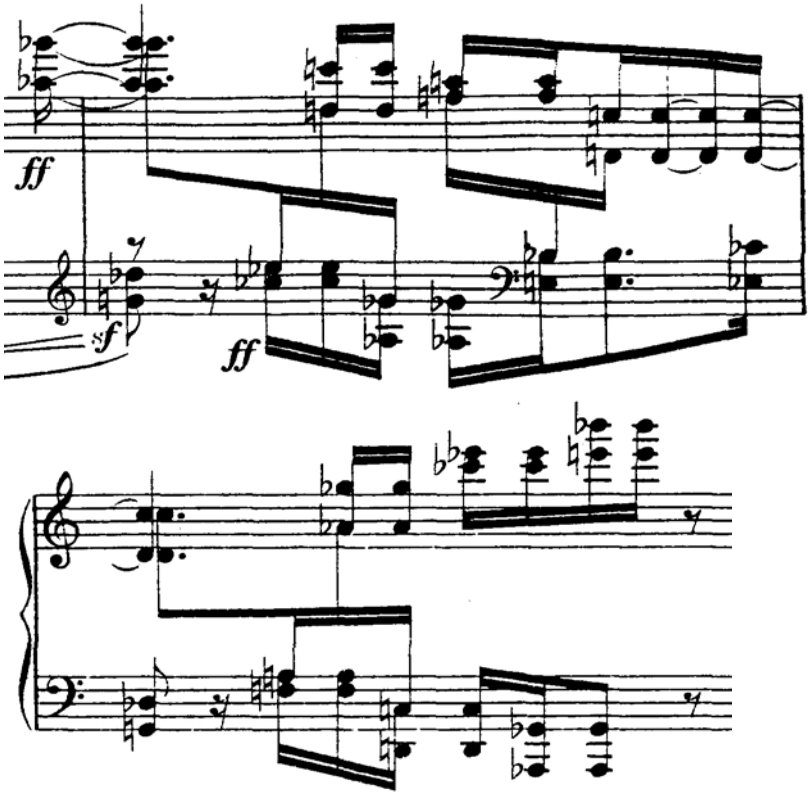


Figure 3: Tetrachords Arranged as "Twelve-Tone Rows" (Sketch Materials)



P_0 –	E	F	G	D♭	G♭	E♭	A♭	D	B	C	A	B♭
I_6 –	B♭	A	G	D♭	A♭	B	G♭	C	E♭	D	F	E

Example 8: Measures 17-19