Motive, Meter and Row: Conflicting Imperatives to the Performer in Schoenberg's *Klavierstück* op.33b[1]

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Although it would be convenient to assign a fixed role for analysis in the preparation of performances of Schoenberg's piano music, such a treatment of the subject would fail to do justice to the fluid and complex nature of the interaction between performance and analysis. On the other hand, it would be equally demeaning to the subject to say that all valid analytic observations influence performance one way or another, and proceed to give an analysis of the piece, hoping that a vague osmotic process would intelligently inform the performance. Although the validity of exactly this sort of vague osmotic process is beyond question, this essay will be confined to analytic statements that have a direct and perceptible bearing on a performance of this music. My statements will overlap with but are not necessarily identical to all that could be said in a general analytical discussion of overall structure, harmony or compositional process.

One of the most fruitful forms of interaction between performance and analysis occurs when the performer grasps the structural significance of a dynamic mark, an articulation guideline, a rest or a barline, and is then able to give it life, not merely to render it in a "value-neutral" manner. In absorbing and projecting the instructions on the page, the performer must integrate the dense proliferation of detail into a unified shape. In this integrative process, the delineation of the details will inevitably be subordinated to a presentation of overall continuity. With repeated performance, the tendency to clarify large sections and gestures takes precedence over the articulation of detail, and the effective projection of small gestures is often unwittingly sacrificed. The role of analysis in demonstrating the structural significance of a slur or an accent mark, is to create an association between the performance instruction and the raison d'être which will contribute to its memorability. This will prevent the erosion which often comes with the absorption of the detail into overall continuity.

The cantabile opening of Schoenberg's *Klavierstück*, op. 33b presents the two hexachords of the row in near-exact rhythmic parallelism. (See example 1.) The 32nd rest in the left hand of m. 2, the one asymmetrical element, is of critical importance. It segregates the final C-D dyad of the row, and groups it with the first dyad of the second row form-- E - D. This brings {C - D - E}--a 3-6 type trichord--into symmetrically spaced profile. A chain reaction of serial displacement begins as a result of which the right hand melody in mm. 3-4 is shifted onto the second and fifth dyads of the row, rather than the

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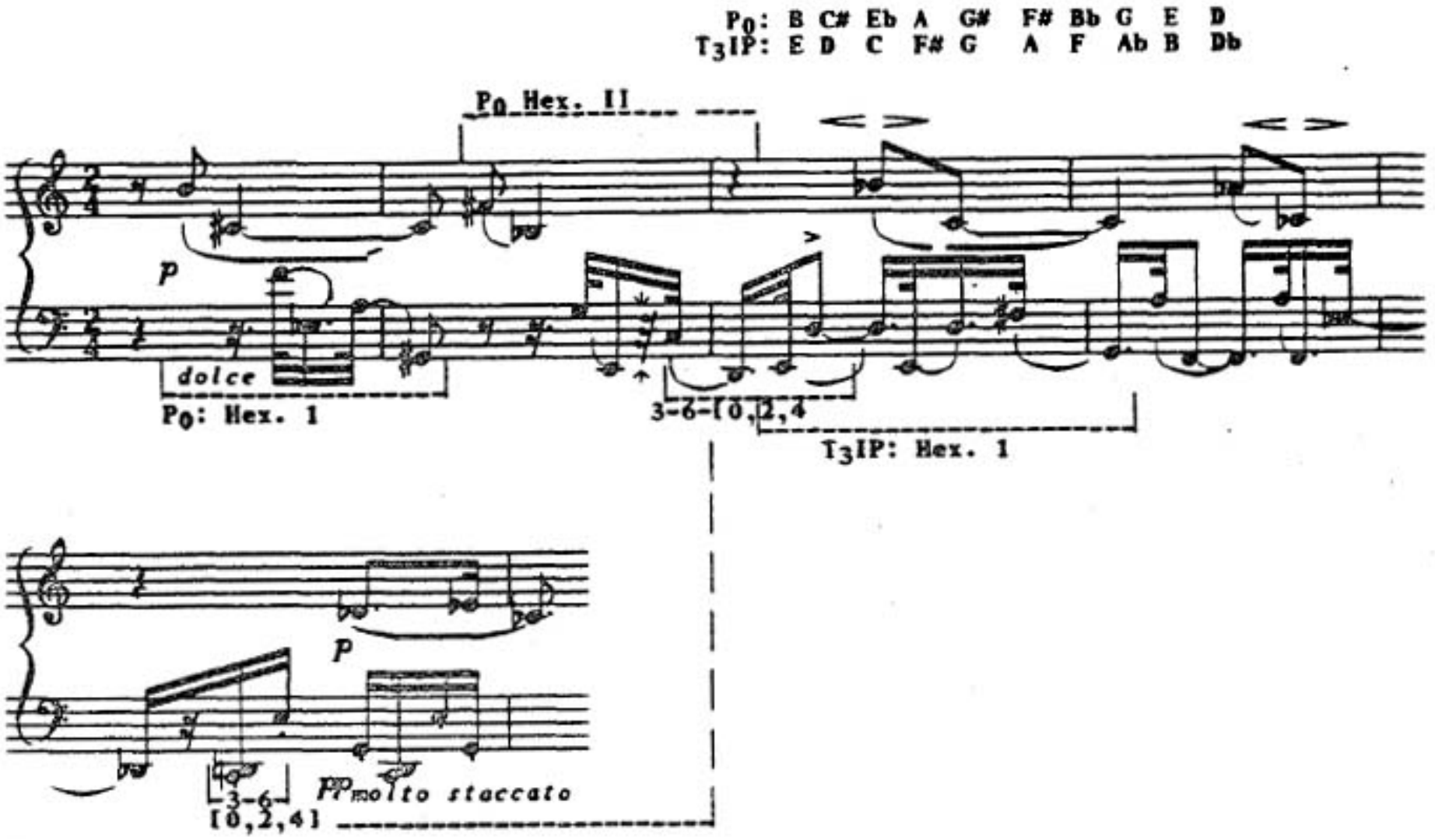
[1] An early version of this paper was presented at the national meeting of the Society for Music Theory in 1983 in New Haven, CT. The paper is read to best advantage with a copy of the score at hand.



	e	1	5	3	9	8		6	t	7	4	0	2	
P_0:	B	C♯	F	Eb	A	G♯		F♯	Bb	G	E	C	D	
T_3IP:	E	D	Bb	C	F♯	G		A	F	Ab	B	Eb	Db	
	4	2	t	0	6	7		9	5	8	e	3	1	
	Hex.1							Hex.2						

Example 1: Op.33b. Opening presentations of the hexachords.

first and fourth dyads, as in mm. 1-2. That displacement is also enhanced by the sideways accent over the D and the hairpin over the right hand's B♭, deflecting attention away from the written barline and toward the B♭. In addition, the C - D - E acts as the *incipit* for the accompaniment at the onset of the next phrase in m. 5. Both the spatially symmetrical treatment of the D in m. 3 and the focus on the whole-tone trichord have important implications for the rest of the piece. The performer's task in this situation is to clarify the elided role of C - D - E, by clear articulation of the rest, and by gestural grouping of the C - D with the second phrase.

Hauptstimme Meter

In the process of integrating this level of detail into a hearing which could result in a compelling performance of the piece, I found, following David Lewin[2], that the concept of *hauptstimme* meter, against the background of the written meter, and,

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[2] See, for example, "Vocal Meter in Schoenberg's Atonal Music, with a Note on a Serial Hauptstimme" in *In Theory Only*, vol. 6 no. 4, pp. 12-36.

with the added counterpoint of the accompaniment or countersubject meter where they are relevant, proved to be a powerful organizing tool in relating expressive instructions to the larger shapes. It is a tool which addresses the particular originality and expressive tensions of Schoenberg's music. The delineation of this *hauptstimme*, or leading melodic line, as traced in figure 1, is vital both for purposes of polyphonic clarification and dynamic balance. In performance, establishing the rhythmic independence of the main line proved to go hand in hand with establishing the structural downbeats and larger sectional articulations of the music.

In determining the identity of the *hauptstimme,* factors of dynamics and rhythmic continuity were often decisive. More often than not, Schoenberg's beaming and dynamic highlighting made the choice an easy one. In making performance-oriented decisions I started with the surface and determined the structural levels articulated on the surface. This proved to be a more valid point of departure than a more linguistically derived analytic mode which might have started from a set of background determinants. In figure 2, (which should be consulted in conjunction with figure 1), two or three submeasures ranging from 3/8 to 9/8 are grouped into measures of 3/4 to 18/8, two or three of which in turn comprise a hypermeasure. The determinants of *hauptstimme* meter are most often durational pattern, dynamic level and accent, registral change, melodic contour, and, in passages where the other voices support the *hauptstimme*, texture. At all metrical levels shown in figures 1 and 2, initiation of impulse is reflected by downbeats more than are cadential arrival or resolution. At higher metrical levels, large-scale formal parallelism and other types of symmetry play a central role. Although linear and vertical harmonic units played helped me make decisions on *hauptstimme* meter, these factors are reflected often more faithfully by the written meter, whose unfailingly regular 2/4 (= 6/8) units usually begin and/or end with the outer limits of the four hexachords of the piece. As illustrated in figure 1, the written bars, indicated by measure numbers, are just as much a source of structure as the *hauptstimme* meter.

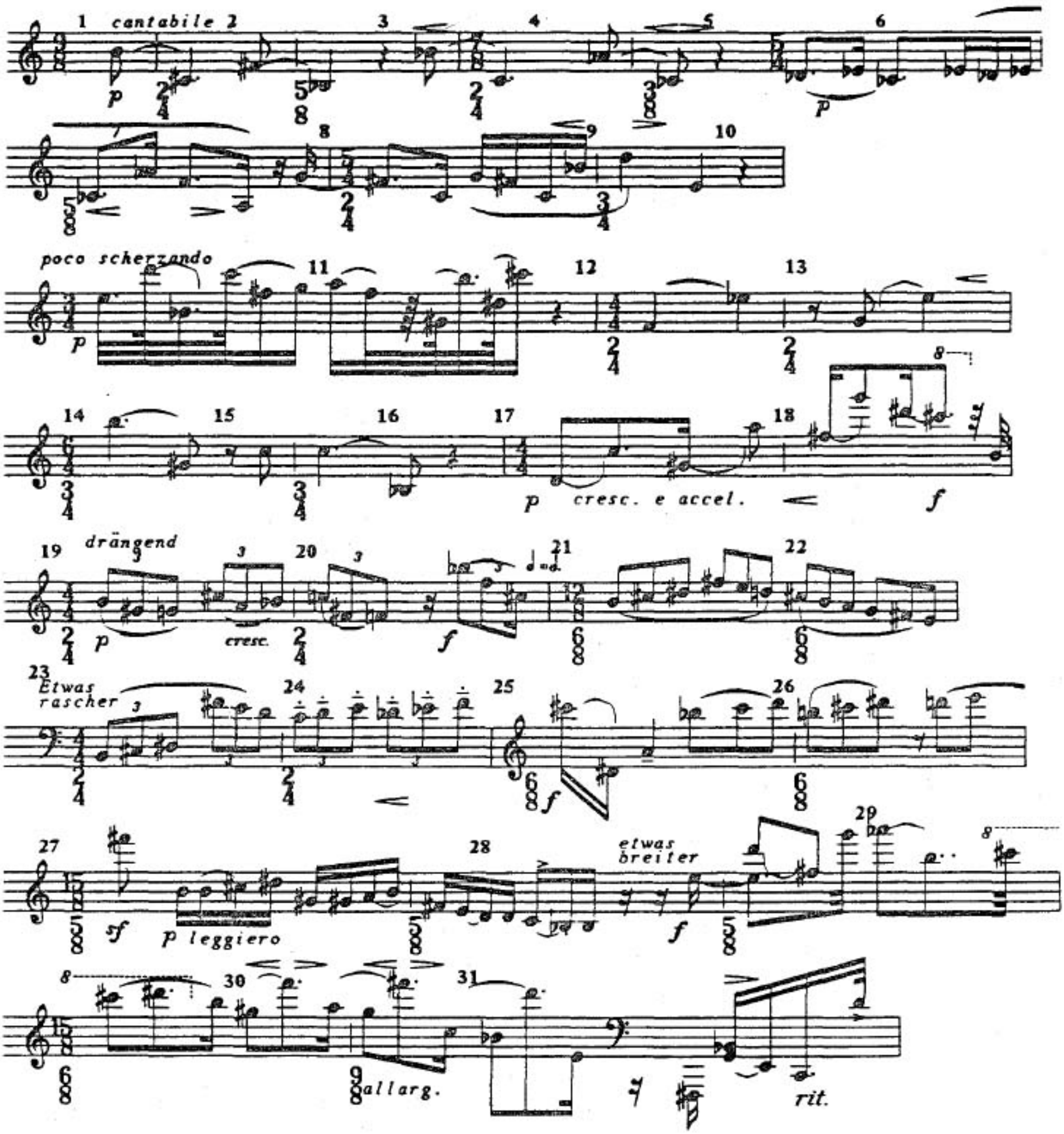


Figure 1: Hauptstimme Meter in Schoenberg's op. 33b.
(n.b. measure numbers signify the beginnings of Schoenberg's written bars.)

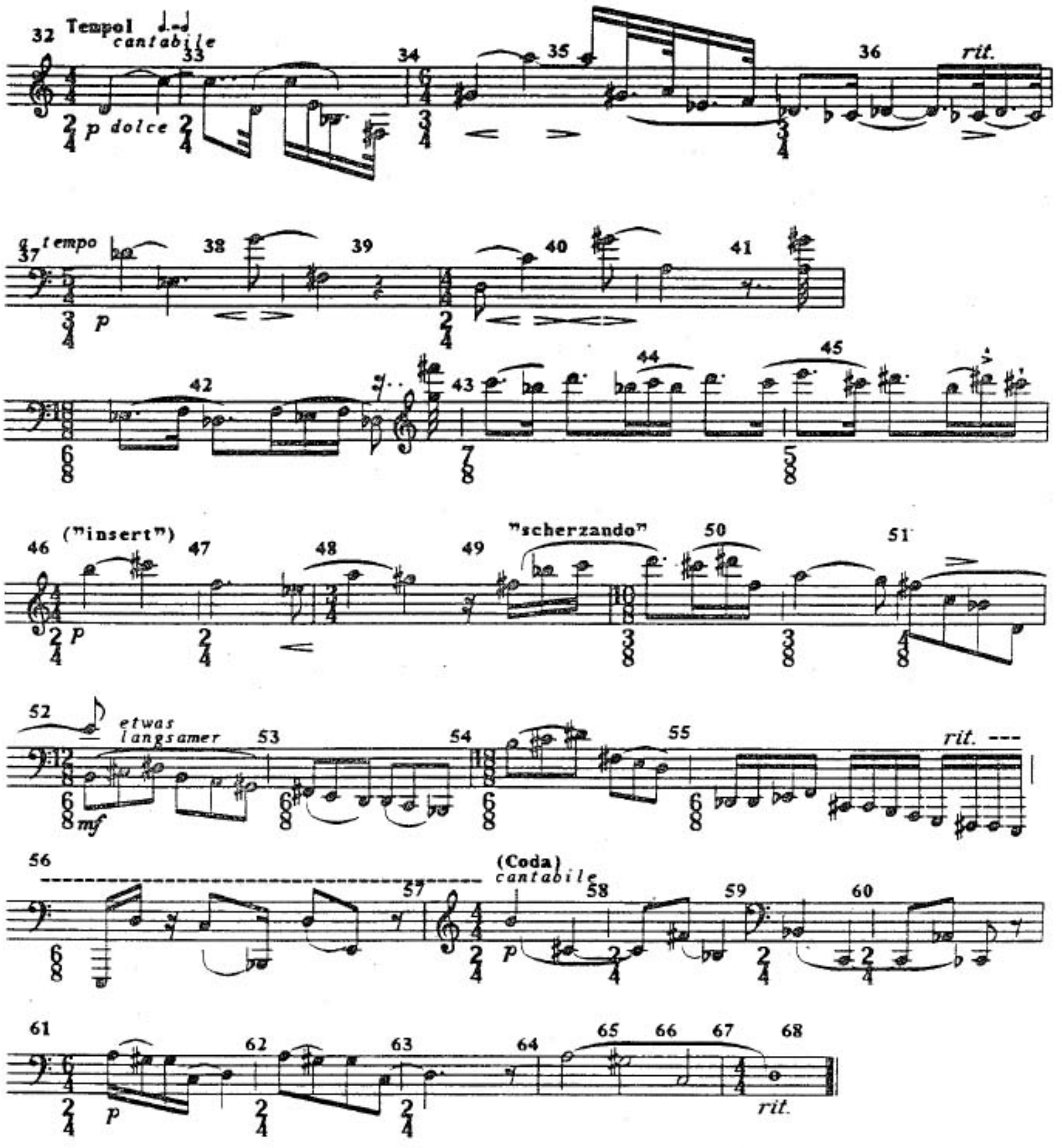


Figure 1: (cont'd).

	Cantabile	"Stravinsky" + scherzo	m. 12 Cantabile (incl. liquidation)	
Hypermeasures	8/4 +	13/4 +	14/4	= 35/4
Measures	9/8 + 7/8	5/4 + 5/4 + 3/4	4/4 + 6/4 +	4/4
Sub-measures	2/4+5/8 2/4+3/8	5/8+5/8 2/4+3/4	2/4+2/4 3/4+3/4	2/4+2/4

	m. 19: "Development"		m. 27: ("Etwas breiter)	
Hypermeasures	8/4 +	8/4 +	10/4	=26/4
Measures	4/4 + 12/8=4/4	12/8 + 12/8	15/8=5/4 +	15/8
Sub-measures	2/4+2/4 6/8+6/8	6/8+6/8 6/8+6/8	5/8+5/8+5/8	6/8+9/8

	m. 32: Cantabile		"Stravinsky"
Hypermeasures	10/4 +	9/4 +	18/8=9/4
Measures	4/4 + 6/4	5/4 + 4/4	
Sub-measures	2/4+2/4 3/4+3/4	3/4+2/4 2/4+2/4	6/8+7/8+5/8

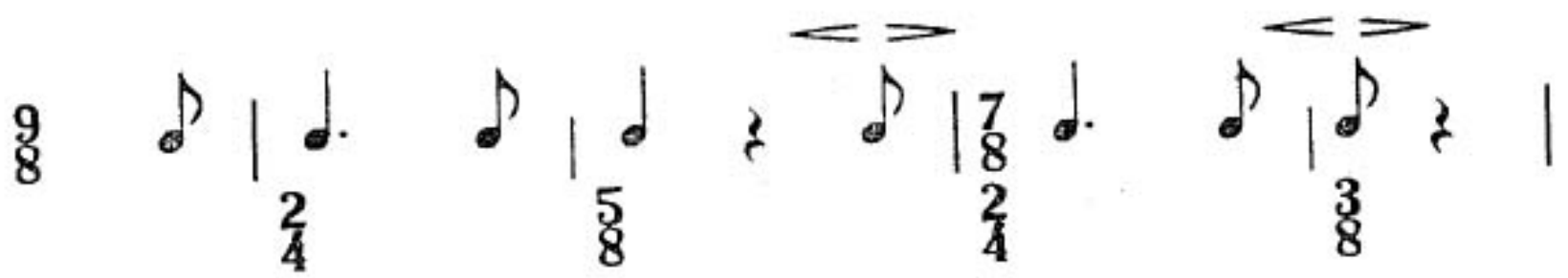
	m. 46: "Insert" + "scherzo"	
Hypermeasures	12/4	=40/4
Measures	4/4 + 3/4 + 10/8=5/4	
Sub-measures	2/4+2/4 3/8+3/8+4/8	

	m. 52: Development II	
Hypermeasures	30/8=15/4	=15/4
Measures	12/8 + 18/8	
Sub-measures	6/8+6/8 6/8+6/8+6/8	

	m. 57: Cantabile and coda				
Hypermeasures	8/4 +	12/4 +	4/4		=24/4
Measures	4/4 + 4/4	6/4 +	6/4 +	4/4	
Sub-measures	2/4+2/4 2/4+2/4	2/4+2/4+2/4	2/4+2/4+2/4	2/4+2/4	

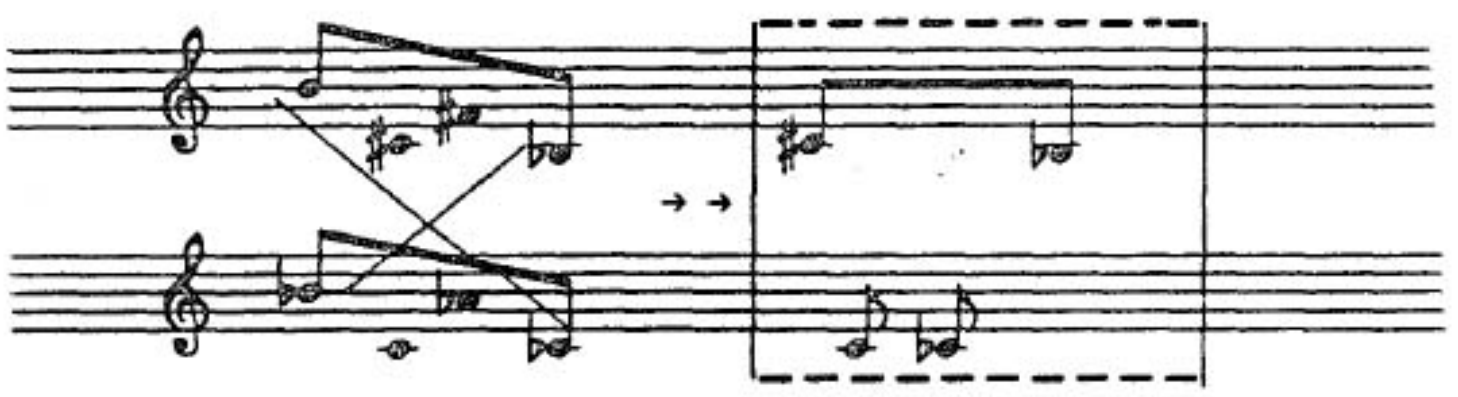
Figure 2: Summary of *Hauptstimme* Meter in Schoenberg's op.33b.

The metric crosscurrents in this piece can be illustrated to great advantage in the opening. Example 1 and figure 1 show that the first four written barlines articulate the ends of the four hexachords comprising the two inversionally combinatorial row forms of the piece, P and T_3IP. The four pitches which occur on the written downbeats, G#-D, G-D♭, are grouped into falling tritones separated by a half-step. This contour and interval repetition goes beyond the row's necessities in establishing the supports for the regularity of the 2/4 written meter. The *hauptstimme* itself is grouped into two pairs of dyads, the first and fourth of the P form, and the second and fifth of the T_3IP row form. These dyad pairs demonstrate repetition of both contour and duration although the tetrachords represent different set class types. In figure 1, the opening dyad pair, with its short-long durational pattern is presented in an up-down metrical relationship. Example 2 depicts how the second dyad pair of the *hauptstimme* preserves parallelism of metrical and durational pattern. The hairpins highlight the registral extremes of the tetrachord--B♭ -C♭--a pitch class exchange with the registral extremes of the first tetrachord.



Example 2: Dyadic Parallelisms.

Example 3 demonstrates how the sub-measure downbeats of the first four-note unit (as depicted in figure 1) outline the C#-B♭ space, and the sub-measure downbeats of the second four-note unit fill it in chromatically.



Example 3: Voice exchange and the saturation of chromatic pitch space.

The tetrachordal set class exemplified by the first dyad pair of the *hauptstimme* is 4-14-[0,2,3,7]. This set, made up of the first and fourth dyads of the row, is not a linear segment of the row, but is nonetheless clearly a prominent component of the opening phrase.[3] It also plays an important role in the second phrase, and is

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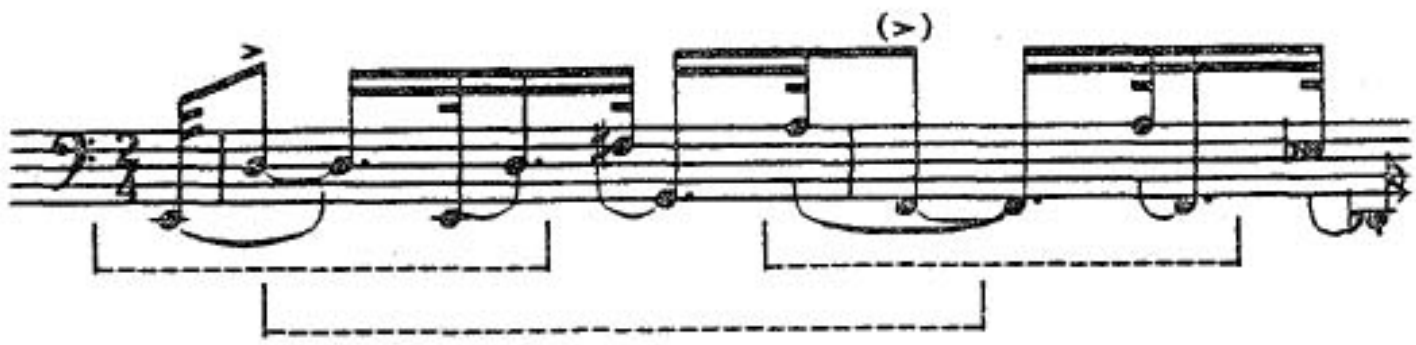
[3] Some theorists have maintained that sets generated from the linear ordering of the row account for all harmonic dimensions in the music. See, for example, Hyde, Martha:

the harmonic clue for a third metric crosscurrent, the one projected by the accompaniment. The only repeated dyads in the T_3IP row presentation of the accompaniment in mm. 3-4 are the first and fourth, E-D and A-F, which combine to form the inversionally related form of 4-14. These accompaniment dyads can be heard as a "submerged mirror" of the initial *hauptstimme* dyads--B-C♯, F♯-B♭. Example 4's 2/4 metricization, contradicting both the written meter and the *hauptstimme* meter, focuses on the {E-D} and {A-F} dyad repetitions and durational patterns of the accompaniment. The three metric crosscurrents--those which respond to the *hauptstimme*, the accompaniment, and the row's primary hexachords--, form the networks to which the performer must respond at the opening of the piece.



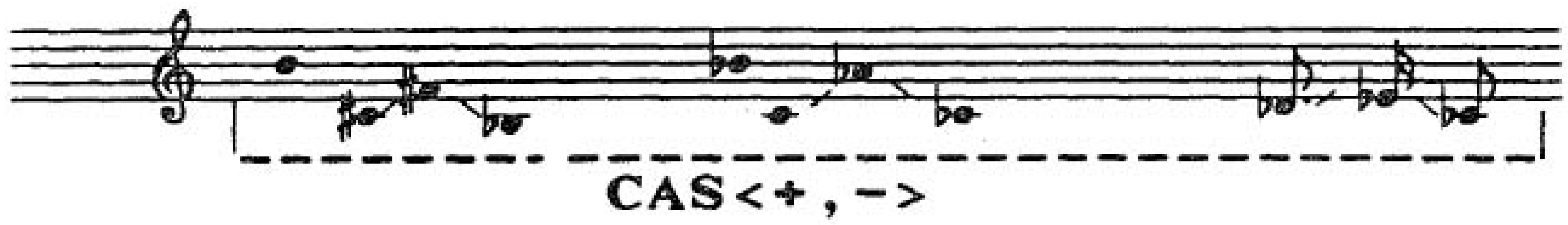
Example 4: Accompaniment Meter.

The *hauptstimme* of the following passage as isolated in example 5, presents the second half of a "sentence"[4] which derives its contour from notes 2-4 of the four-note gestures which open the piece. The accented pitches of m. 6--D♭ and C♭ --act as a telescoping of the opening two gestures by taking the C♯ and C♯ (in register) which frame the opening, and quickly reiterating them.[5]

Schoenberg's Twelve-Tone Harmony, UMI Research Press, Ann Arbor 1982, pp. 61-83.

[4] Schoenberg used this word to describe a short-short-long phrase structure, in which the "long" segment was built out of the accumulation of repetitions of one motivic component of the "short" segments. See, for example, *Models for Beginners in Composition*, Schirmer and Co. New York.

[5] See Friedmann, Michael L., "A Methodology for the Discussion of Contour: Its Application to Schoenberg's Music", *Journal of Music Theory*, Fall 1985, Volume 29, Number 2, pp. 223-248. This article introduces a concept called the Contour Adjacency Series, which describes the contour relations between adjacent tones of a musical unit by + (rising) and - (falling). The same article also introduces the more specific notion of Contour Class(CC), in which pitches are numbered according to registral position within musical units. The opening four-note gestures of the hauptstimme of op. 33b are both characterized by CC<3-1-2-0>, as is the succession of written downbeats in the accompaniment--G#-D-G-D♭ and the two accompaniment figures-- F-E♭-A-G♯ and G-E-C-D.

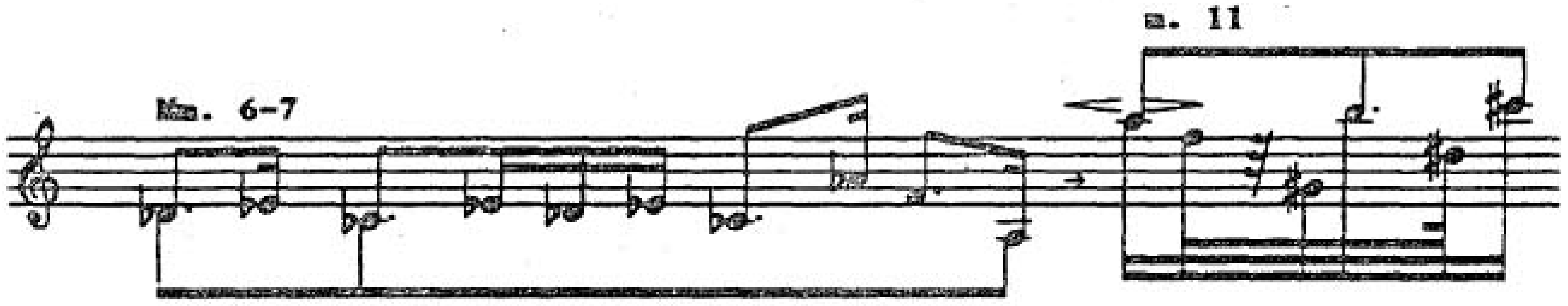


Example 5: Aspects of Contour Repetition

Because of its ostinato character, I have whimsically chosen to refer to the material of mm. 5-10 by the identifying tag "Stravinsky". The *hauptstimme* of this passage is grouped into two 5/4 bars. The dotted eighth-sixteenth unit, which initializes each sub-measure is the diminution of the dotted quarter-eighth pattern which initializes the first two *hauptstimme* measures of the piece, and the CAS< +,->. This results in two *hauptstimme* sub-measures of 5/8 in the first 5/4 *hauptstimme* measure, and a 2/4 + 3/4 division of the second 5/4 measure. The "sentence structure" of the *hauptstimme* is thus highlighted: the *steigerung* is accentuated by the accumulation of 5/8 bars, and the increasing relaxation of the 2/4 + 3/4 signals the cadence.

A B cont.
2/4 + 5/8 2/4 + 3/8 5/8 + 5/8 and 2/4 + 3/4

The *poco scherzando*, which begins in the middle of written measure 10, retrogrades the pitch classes of the "Stravinsky" section. Example 6 spells out the connection between the "soprano line" of m. 11--A-B-C♯ and the low line of m. 5-7--D♭-C♭-A--which it presents in retrograde. On the hypermeasure level, seen in figure 2, the *poco scherzando* can be understood as an extension of the "Stravinsky" section, and is felt as a large upbeat to the return of the *cantabile.*



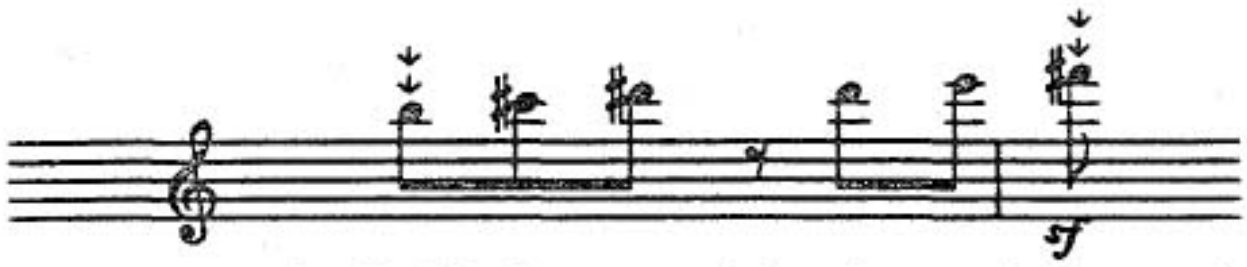
Example 6: Whole-tone trichord in palindromic presentation.

In figure 1, the 4/4 + 6/4 with which figure 1 describes the second *cantabile* passage in m. 12 neatly contains the two dyad pairs, second and fifth of the two row forms, in its submeasures. The two 2/4 submeasures which comprise the 4/4 bar correspond with the written meter, and with the hexachordal changes. The 6/4, which contains the retrograde inversion of the previous bar, inverts the contour of that bar. (Mm. 12-13 = CC<0-2-1-3>, mm. 14-16 = CC<3-1-2-0>.) The dyadic units, which occupy 2/4 each in mm. 12-13, are augmented into 3/4 units in the 6/4 bar, whose submeasure downbeats are articulated by the dotted quarter-eighth pattern.

In m. 17, although dyads III and VI of the row are employed to "liquidate" (Schoenberg's word) the *cantabile*, the contour of mm. 12-13 is duplicated, and the exact durational relations--<2-3-1-2>--are preserved in diminution. The performer can only project Schoenberg's stretto in this passage by playing the written meter, and avoiding the perpetuation of a sixteenth-dotted eighth pattern through mm. 17-18: the important role of F♯ in m. 18, articulating the beginning of the *hauptstimme* submeasure, is critical in conveying this stretto.

In mm. 1-18, the expository section of the piece, nine out of the sixteen *hauptstimme* submeasures are independent of the written meter. This is the means by which the metric tension suggested in the opening of the piece is sustained throughout the first large section.

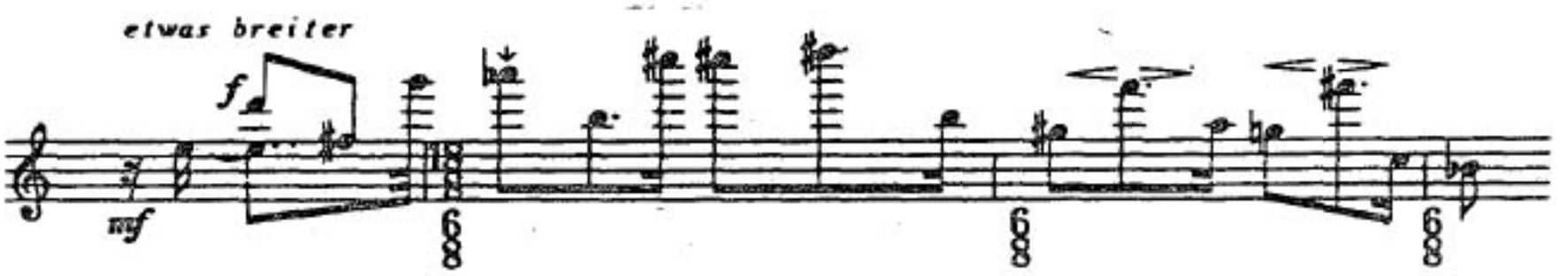
In mm. 19-24, the *hauptstimme* meter confirms the written meter. New linear patterns and combinations are the central developmental device. The choice of hauptstimme in figure 1 emphasizes continuity through the eighth-note values, and the "whole-tone" trichord, 3-6, which appears in six different transpositions. In mm. 25-26, although my account of the hauptstimme meter again confirms the regularity of the written meter, example 7 demonstrates how the gestural direction of the ascending whole-tone motive is reversed by use of the rest on the fourth 8th of m. 26, and the *sforzando* on the downbeat of m. 27. The passage in m. 28, which begins the *etwas breiter* section, the climax of the piece, presents the prickliest problems for an account of the *hauptstimme* meter.



Example 7: Whole-tone trichord: metric reversal.

Since one of the functions of the metrical account in figure 1 is to assist in the larger sectional articulations of the piece, one would think that the *etwas breiter* in the middle of m. 28, which affects texture as well as tempo should be articulated by a *hauptstimme* downbeat, even though the written meter only gives it half-bar downbeat status. However, the high C♯ in the middle of m. 29 is also a moment of textural change, the high point and beginning of the descent of the *hauptstimme* line. The written downbeat of m. 29 is yet another possible candidate for hauptstimme downbeat status. A comparison of the relative qualifications of the middle of m. 28, (see example 8a) the beginning of m. 29 (see example 8b) and the middle of m. 29 (see example 8c) reveals that although the eighth-dotted eighth-sixteenth rhythmic figure is initiated in the middle of m. 28, it does not regularize in the *hauptstimme* until 3/8 later, at the beginning of m. 29. The beginning of m. 29, however, is in the middle of a linear ascent, and is not dignified with a textural change, as are the other two candidates for *hauptstimme* downbeat status. Moreover, the sense of stretto

8a : Downbeat, middle of m. 28.



8b: Downbeat = bginning of m. 29.

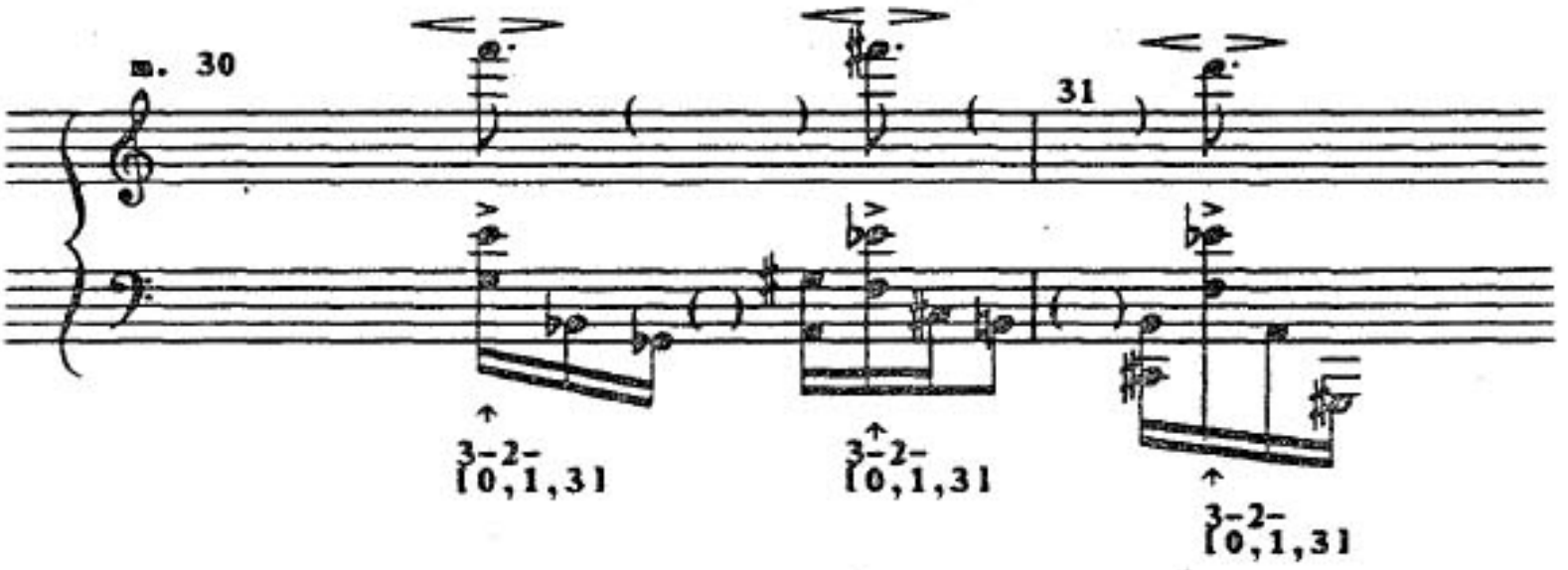
8c: Downbeat = middle of m.39.

Example 8: Climax of op.33b: Three metric settings of the hautpstimme.

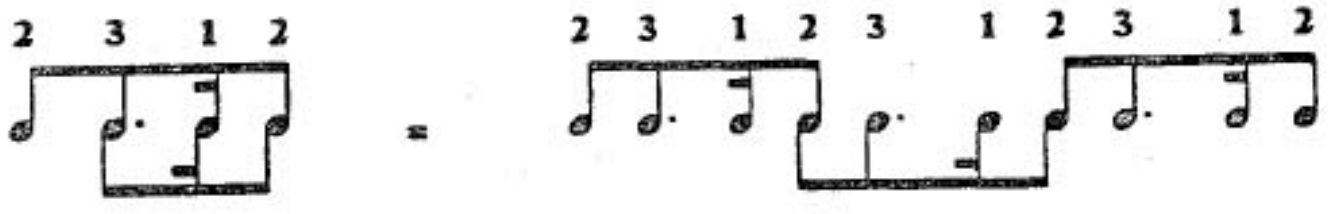
signalled by Schoenberg's unusual beaming in m. 28 is not really discarded until the middle of m. 29. If we take into account the row forms of the passage, evidence of the primacy of the C♯ comes more to the fore. The E of the *etwas breiter* begins a T_3IP form of the row. The high C♯ initiates a retrograde of that row form, which extends over the rest of the passage until m. 32, and acts therefore as the axis of the pitch class palindrome. The C♯ also initiates the CAS< +,-> for the three-note motive. The large-scale connection back to m. 18, which ended the exposition on this same C♯, and whose register had been abandoned ever since, gives even more substantiation to a highlighting of this pitch through *hauptstimme* downbeat status. Therefore, my metric interpretation shows that the first 6/8 of the *etwas breiter* (somewhat broader) should function as a preparation for its real downbeat--the C♯. These six eighths could, in effect, be characterized by the words *breiter werden* (<u>becoming</u> broader).

After making this decision, it seemed only natural to conceive of the first 16th rest and E as a two-sixteenth extension of the fourth group of four 16ths which began in m. 27, and to hear the rest of the ascent to the C♯ as a 5/8 sub-measure. On the micro-level, the groupings of eighths from the downbeat of m. 27 are 3+2, 2+3, 2+3. Conveniently and symmetrically, the choice of C♯ for *hauptstimme* downbeat status divides the span from mm. 27-32 into two large measures of 15/8--one made up of three 5/8 groups, the other of 6/8 plus 9/8 submeasures.

The second 15/8 hauptstimme bar, beginning in the middle of m. 29 and ending in the middle of m. 31, is the most regular in the piece. Not only are there five consecutive metrical units, beginning at the beginning of m. 29 which duplicate a sarabande-like durational pattern, (2 + 3 + 1) but, as example 9 shows, this pattern is reinforced by the three hairpins on the dotted eighths in m. 30 and 31, each supported by a 3-2-[0,1,3] type harmony. Example 10 illustrates how the durational pattern 3-1-2 is initiated by these emphasized pitches, just as 2-3-1 is the pattern <u>within</u> the 3/8 unit. If we view the last note of the 3-1-2 pattern functioning as an elision in relation to the first note of the 2-3-1 unit, the 2-3-1-2 pattern, familiar from m. 12-13 and m. 17 can be heard as a circular unit undercutting the squareness of the two overlapping 3/8 patterns. We also can hear the hairpins resulting in a syncopation on the upward leaps of mm. 30-31. With the aid of the hemiola produced by the last 2/8 of m. 31, we can also hear a resolution of the syncopation in the *cantabile* of m. 32.

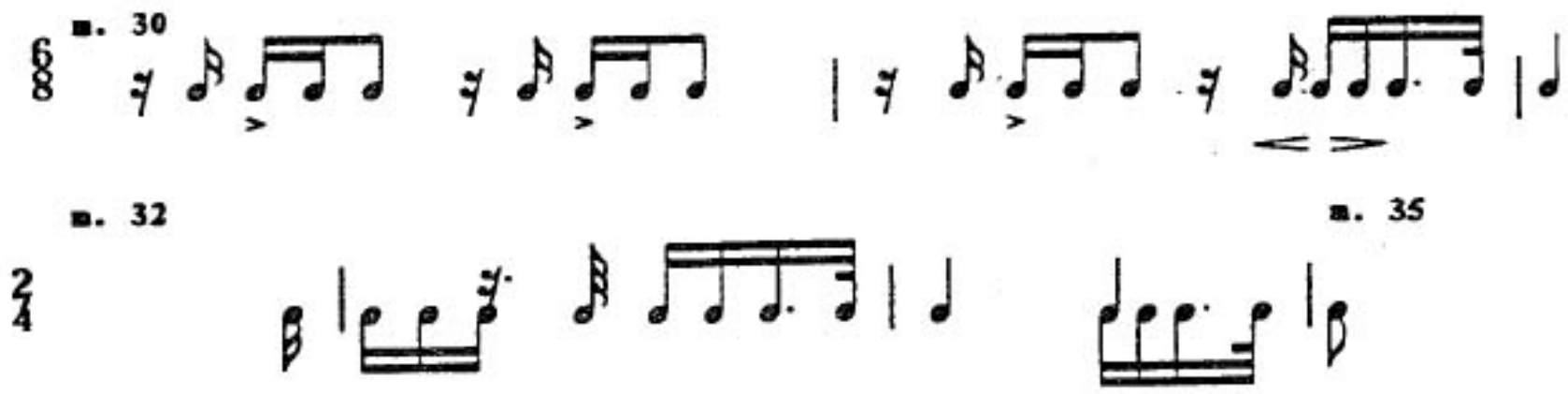


Example 9: Harmony and dynamics in m. 30-31.



Example 10: Durational patterning in m.38-31.

Although mm. 19-26 demonstrate unanimity between *hauptstimme* and written meter, the two 15/8 hauptstimme bars demonstrate near-complete dissonance with the written meter. Figure 2 shows the dramatic metrical expansion, both at the levels of measure and hypermeasure, that helps to create the major structural downbeat of the piece thus far at m. 32. Example 11 shows the persistence of rhythmic patterning creating compelling connections across this central sectional boundary.



Example 11: Rhythmic continuity across formal articulation.

By utilizing the third and sixth dyads of the two row forms, the cantabile of m. 32 recalls in exact pitch the "liquidation" section of m. 17. The entry of each dyad in quarter notes articulates haupstimme measures of 4/4 then 6/4, a sequence that recalls the earlier *cantabile* passage of mm. 12-16. The accelerations within each *hauptstimme* submeasure help to clarify and articulate the metrical units. After the first dyad pair, however, we are presented with another dyad pair instead of liquidation, this time articulating a measure of 5/4 which ends with a quarter rest, followed by a bar of 5/4, similarly ending with a quarter rest. The second and third dyad pairs alternate in their metrical inflection of the dyadic leaps, both moving from down-up to up-down within their *hauptstimme* measures. As the 4/4 *hauptstimme* bar ends, the accompaniment on the written downbeat of m. 41, begins the second statement of the material I have nicknamed "Stravinsky". The *hauptstimme,* just as in m. 5, begins on its own downbeat. Once again, the hauptstimme meter cuts cross sectional boundaries, demonstrating its independence from accompaniment and written meter alike, and asserting its unifying power.

As in mm. 5-10, the first "Stravinsky" section, the account of *hauptstimme* meter in this section is primarily based on durational pattern: dotted eighth, sixteenth, dotted eighth, three sixteenths, resulting in submeasures of 6/8, 7/8 and 5/8. At this point we reach a pinnacle of conflict between the irregularity of the hauptstimme meter and the regularity of the written barlines. Although I have tried to make a case for the high C♯ of the *etwas breiter* section as the climax of the piece, the metrical tensions of the second "Stravinsky" section make for another kind of climactic moment.

Mm. 46-48 are labelled the "insert" section, because they are not parallelled by a comparable passage in the first thematic "run-through" of mm. 1-31. This section is metrically welded to mm. 49-50, which, in rhythmic character, motivic structure and register, strongly recall the *poco scherzando* of mm. 10-11. Here, the retrograde inversion of the pitch class structure coincides with the durational pattern to dictate the *hauptstimme* meter, in what will prove to be its last real departure from the written meter. The use of inversion in both mm. 43-45 of the "Stravinsky" section, and m. 50 of the second scherzando, as well as the fluidity of the "insert" section, demonstrate the role of the recapitulation as compared to the exposition--to gradually bring balance and smoothness to the apparently disjunct pieces of material introduced in the first 11 bars of the piece.

In the remaining sections, the *etwas langsamer* of mm. 52-56, an abridged version of the development of mm. 19-28, and the coda of mm. 57-68, all hauptstimme barlines also prove to be written barlines. Metric analysis is mostly valuable here to indicate the groupings of measures into hypermeasures. In mm. 52 and 54 of this development section, as in mm. 21 and 23 of the first one, the parallel deployment of the {B-C♯-D♯} trichord is the cue for the larger metric grouping of two plus three submeasures. The groups of four 16ths in m. 55 strikingly resemble the comparable passage of m. 27, but, in keeping with the more stable character of this section, they begin on a strong beat, and represent a 3X2/8 hemiola division of the bar, rather than the more intricate sub-divisions of the earlier section. Just as the upward leaps of the *etwas breiter* anticipate those of m. 32, the downward leaps of m. 56 prepare for the cantabile of m. 57. The six plus nine of this second development (really 12/8 + 18/8) can be best understood as an augmentation of the 6/8 plus 9/8 which preceded the cantabile in m. 32. Here again, the six plus nine precedes a cantabile, the final one of the piece, in m. 57.

This final coda, which has a rhythmic character reminiscent of the "insert" of m. 46, finally returns to the dyadic combinations of the opening of the piece. The final cantabile is the only one in which the pairs of dyads are presented in perfect parallel rhythmic symmetry with no metric ambiguity. The duration pattern of 2-3-1-2, familiar from mm. 12, 17 and 29 is the predominant one here. Just as figure 1 shows that the 2-3-1-2 pattern of mm. 12-13 is presented twice in mm. 57-60, figure 2 demonstrates that the larger metric articulation of mm. 12-16--4 + 6--is doubled to become 4 + 4 and 6 + 6 in mm. 57-66.

In structuring a performance of the final coda material, which uses dyads III and VI of the row in a series of three progressive augmentations, the final D should be given a unique quality of closure. The three statements of the <A-G♯-C-D> motive show the D gaining in significance in its pendulum-like alternation with A. First D is the weak beat of a submeasure; then it is the strong beat of a sub-measure, and finally it is the downbeat of the final measure. The series of *hauptstimme* downbeats at the measure level-- <B-B♭ A-D> --intimates a quasi-tonal closure on D bringing to mind the symmetrical focus on that pitch in m. 3, and the major arrival in m. 32.

The overall nature of the relation between written and *hauptstimme* meters is perhaps best compared to the relation between a passacaglia bass and an extremely flexible soprano. For the performer, therefore, a sensitization to the *hauptstimme* alone is by no means enough. The performer must also train himself/herself to hear the hexachord progression which serves to articulate the written meter, and to experience the shifting relations between these metric articulations.

Harmonic Partitioning

In music which is dependent on hexachordal combinatoriality for many of its principal harmonic relations, there are two means to identify hexachords: the unordered pitch class content and the partitioning of the hexachord into harmonic units: principally, groupings of 2+2+2; 3+3; 4+2. Figure 3 (Appendix A) shows the unordered pitch class collection of {G♯, A, B, C♯, E♭, F}, labelled a, and the collection of {G, F♯, E, D, C, B♭}, labelled as b. The partitionings of the hexachords into harmonic units which grow out of the ordering projected by the first hexachord of the row is labelled x, and the partitionings which grow out of the ordering projected by the second hexachord of the row is labelled y. Therefore, the three interval class types which indicate an x-type partitioning are:

2-2	2-2	2-1
(B, C♯)	(F, E♭)	(A,G♯)

The dyad types which indicates a y-type partitioning are:

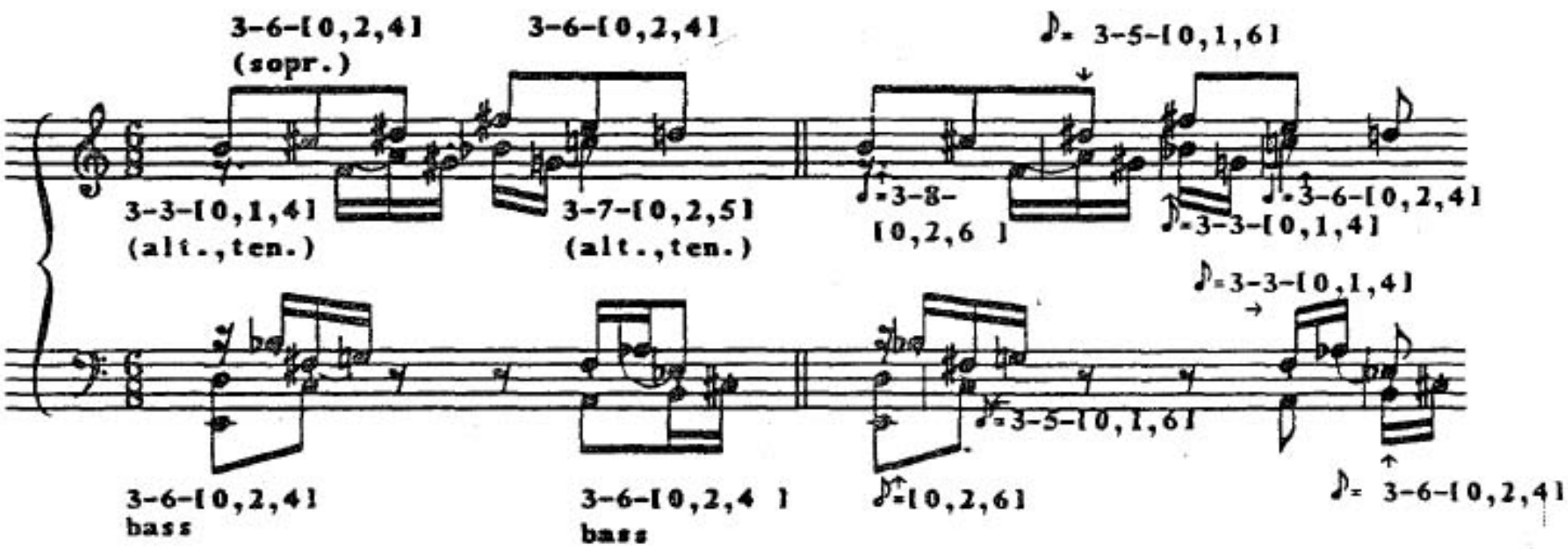
2-4	2-3	2-2
(F♯, B♭)	(G, E)	(C,D)

Other types of partitioning which are used in the music as a source of harmony are presented in figure 3. Figure 4 (Appendix B) illustrates the progression of hexachords throughout op. 33b, defining them both by pitch content and intervallic organization and partitioning.

The a vs. b divisions of 12-tone space are clear in op. 33b, with the exception of the development section, where adjacent voices such as soprano and alto imply more far-flung possibilities, such as derived rows and hexachords. However, the x vs. y identifications are more often than not filled with double-entendres. The primary compositional means for articulating harmonic partitioning are polyphonic, as signalled in the score by stem direction, and sometimes dynamic differentiation. However, temporal order, metric "pulsing" through dynamic stress or duration and registral adjacency often offer alternative partitions that greatly enrich the sense of harmonic quality and referentiality in the music.

In examples. 12-14, polyphonic partitioning plays a dominant role. In example 12a, the polyphonic beaming of the right hand causes us to divide the musical ample space into 3-6--{B-C♯-D♯} and 3-3--{F, A, G♯}--a y-type partition, followed by 3-6--{F♯-E-D}--and 3-7--{B♭-G-C}--, a z_1-type partition, one of those not generated by the row's ordering. The rhythmic projection of this hearing is a bipartite division of the bar into two dotted quarters. On the other hand, a division of each hexachord based on harmonic trichords as they occur vertically (see example 12b), indicates a 3-8--{B-C♯-F} + 3-5--{D♯-A-G♯} x-type partitioning of the first hexachord, and a 3-3--{F♯-B♭-G} + 3-6--{E-C-D} y-type partitioning of the second hexachord. This vertically

oriented partitioning projects a durational pattern of quarter, eighth, eighth, quarter -- a hemiola-type symmetry, whose conflict with the polyphonically motivated partitioning adds great vitality to the music.



12a: Partitioning by Polyphony

12b: Partitioning by time span.

Example 12: m.21 Multiple Partitions.

Example 13 demonstrates how mm. 37 and 39, two parallel cantabile bars, project multiple harmonic dimensions: temporal and registral partitioning give a tripartite richness to the musical discourse, although polyphonic considerations are in the foreground because of dynamics.

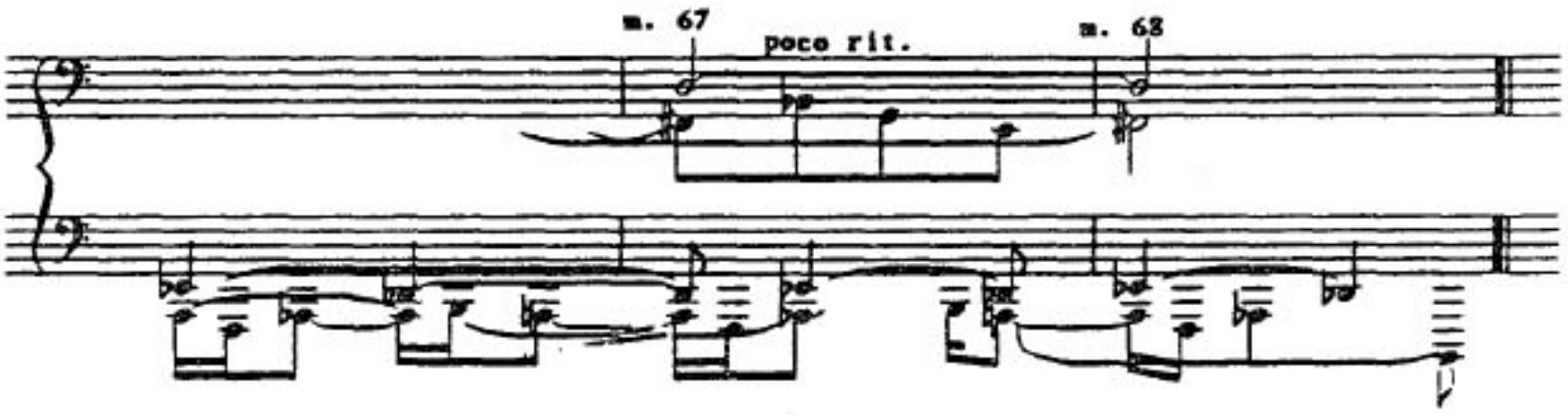
Polyphonic partition: (upward + downward stems) $2\text{-}2\text{-}[0,2]^{\{Db,Eb\}} + 4\text{-}12\text{-}[0,2,3,6]^{\{Cb,A,Ab,F\}} = y$

Temporal partition: $3\text{-}7\text{-}[0,2,5]^{\{Db,Cb,Ab\}} + 3\text{-}8\text{-}[0,2,6]^{\{Eb,F,A\}} = z_3$

Registral partition: $3\text{-}5\text{-}[0,1,6]^{\{A,Ab,Eb\}} + 3\text{-}8\text{-}[0,2,6]^{\{Cb,Db,F\}} = x$
(bottom to top)

Example 13: m.37 and 34; Multiple Partitions.

In mm. 66-68, the closing bars of the piece, shown in example 14, the clear polyphonic y-type partition is enriched by the combination of registral and temporal adjacency, which together strongly hint at an x-type partition.



L.H. alternative partitions: {Eb,Db} {Bb,A,Ab,F}
I. Polyphonic beaming: 2-2-[0,2] + 4-12-[0,2,3,6] = a,y

{A,Ab} {Eb,F} and {Db,B}
II. Registral adjacency: 2-1-[0,1], temporal adjacency 2-2-[0,2]:
2-1 + 2-2 + 2-2 = a,x

Example 14: Mm. 66-68, Multiple partitions.

The remaining examples, Exx. 15 and 16, both focus on the multiple partitions articulated by dominant and subordinate pitches vs. the overall serial ordering.

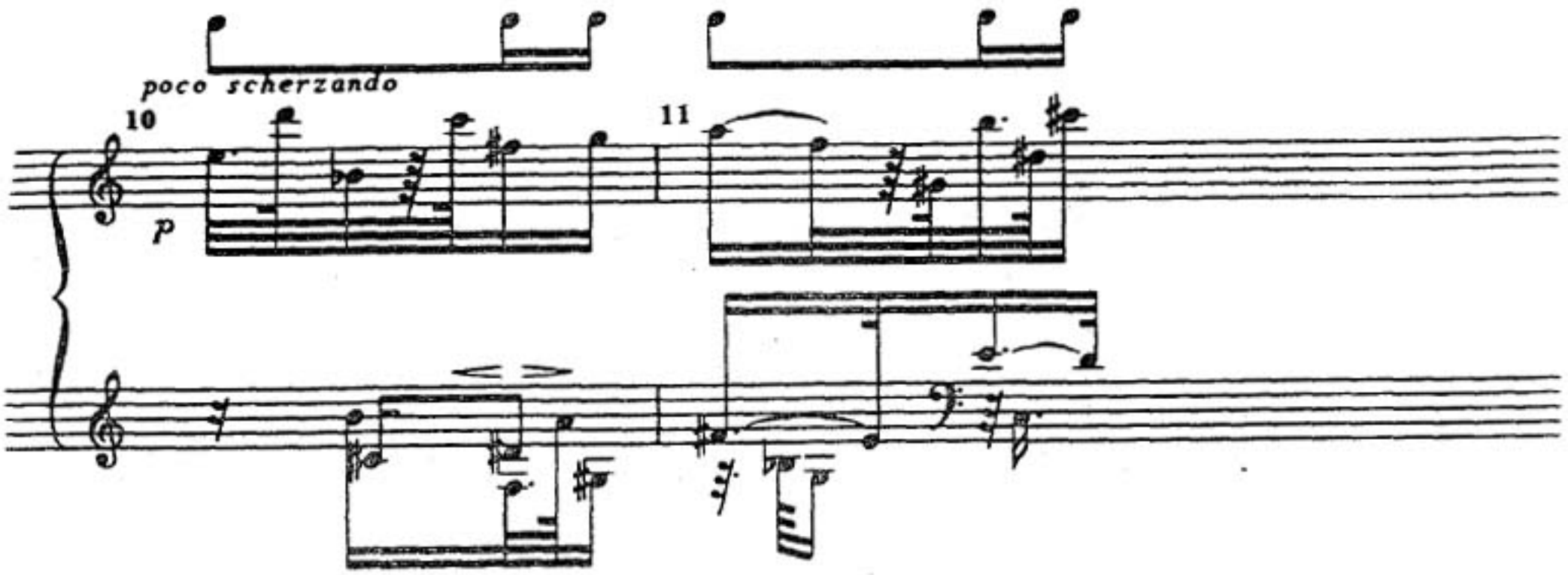
{Cb,Db,Eb} {A,Ab,F}
Temporal partition: 3-6-[0,2,4] + 3-3-[0,1,4] = y

{Cb,Db,F} {A,Ab,Eb}
"Long-note vs. short-note" partition" 3-8-[0,2,6] + 3-5-[0,1,6] = x

Example 15: Measure 6. Multiple partitions.

Although a traditionally hexachordal view of the harmony provides the performer with his/her principal framework, other considerations play an important secondary role. These harmonic sources include not only the set classes composed of adjacent row elements, but the dyad pairs mentioned earlier, as well as other cross-hexachordal groupings, some of which are shown in figure 3. For example, I should once again cite the 4-14 tetrachord that opens the hauptstimme, and provides the *grundgestalt* (in the sense of contour) for the piece. Example 14 shows that the last two bars of the music conclude with verticalities that are forms of this same set class. This is unquestionably a result of compositional plan, and not merely the fortuitous collision of segments of the two hexachords.

If the performer's voicing of harmonies responds to the richness of harmonic reference caused by the multiple, simultaneous partitions of the hexachord, and if the performance displays a phrasing and metrical parsing of lines which responds to the ***hauptstimme*** meter as well as to the written meter, the listener can begin to aspire toward a perception of the beauties of Schoenberg's music. Hexachordal partitioning provides rich cues for the vertical perception of the pianistic texture, while metrical multiplicity refers the performer to the most appropriate motivations for shaping the temporal progression of the music. Although the combination of two seemingly disparate ways of thinking in a single paper about one short work might strike the reader as strange, the utility of this combination to the performer will demonstrate their ultimate complementarity.



M. 10-RH {Bb,C,D,E} {F♯,G}
I. Serial order-T_3IP = 4-21-[0,2,4,6] + 2-1-[0,1,] = b,x

II. Motivically profiled  vs. subordinate:

{G,F♯,E} {Bb,C,D}
3-2-[0,1,3] vs. 3-6-[0,2,4] = b,z_2

M. 10-LH

{B,C♯} {D♯,F} {G♯,A}
I. Vertical dyad partitioning-P: 2-2-[0,2] + 2-2-[0,2] + 2-1-[0,1] = a,x

{B,A,G♯,F} {C♯,D♯}
II. Polyphonic beaming: 4-12-[0,2,3,6] + 2-2-[0,2] = a,y

M. 11-RH {F,A} {D♯,C♯,B,G♯}
I. Serial order-2-4-[0,4] + 4-22-[0,2,4,7] = a,y

II. Motivically profiled  vs. subordinate:

{A,B,C♯} {D♯,F,G♯}
3-6-[0,2,4] vs. 3-7-[0,2,5] = b,z_1

M. 11 LH {F♯,G,Bb} {C,D,E}
I. Serial order-3-3-[0,1,4] + 3-6-[0,2,4]

{D,E,F♯} {C,Bb,G}
II. Polyphonic beaming: 3-6-[0,2,4] + 3-7-[0,2,5] = b,z_1

Example 16: Mm. 10-11, Multiple partitions.

APPENDIX A:

a={G♯,A,B,C♯,D♯,F}
b={G,F♯,E,D,C,Bb}

I. Dyadic partitions of the hexachord:
x=2-2, 2-2, 2-1 (Hexachord I)
y=2-4, 2-3, 2-2 (Hexachord II)

II. Trichordal partitions of the hexachord
x=3-8-[0,2,6] + 3-5-[0,1,6] (Hexachord I)
y=3-3-[0,1,4] + 3-6-[0,2,4] (Hexachord II)
z_1=3-6-[0,2,4] + 3-7-[0,2,5]
z_2=3-2-[0,1,3] + 3-6-[0,2,4]
z_3=3-7-[0,2,5] + 3-8-[0,2,6]

III. Tetrachord + dyad partitions of the hexachord

x=4-21-[0,2,4,6] + 2-1
4-Z15-[0,1,4,6] + 2-2
4-11-[0,1,3,5] + 2-2

y=4-12-[0,2,3,6] + 2-2
4-22-[0,2,4,7] + 2-4
4-24-[0,2,4,8] + 2-3

Sources of Harmony Beyond the Hexachord

P_0:	B	C♯	F		Eb	A	G♯		F♯	Bb	G		E	C	D		
T_3IP:	E	D	Bb		C	F♯	G		A	F	Ab		B	Eb	Db		
6-Z13-[0,1,3,4,6,7					6-Z42-[0,1,2,3,6,9]				6-1-[0,1,2,3,4,5]				6-1				

P_0:	B	C♯		F	Eb		A	G		F♯	Bb		G	E		C	D
T_3IP:	E	D		Bb	C		F♯	G		A	F		Ab	B		Eb	Db
	4-10			4-23			4-1			4-7			4-17			4-1	
	[0,2,3,5]			[0,2,5,7]			[0,1,2,3]			[0,1,4,5]			[0,3,4,7]				

Cross-hexachordal dyad combinations

Dyads I and IV (O. nos. 0,1,6,7): 4-14-[0,2,3,7]
Dyads II and V (O. nos. 2,3,8,9): 4-2-[0,1,2,4]
Dyads III and VI (O. nos. 4,5,t,e): 4-Z15-[0,1,4,6]

Cross-hexachordal trichord combinations

Trichords I and III (O. nos. 0,1,2,6,7,8): 6-Z43-[0,1,2,5,6,8]
Trichords II and IV (O. nos. 3,4,5,9,t,e): 6-Z17-[0,1,2,4,7,8]

Figure 3: The Hexachord 6-34 [0,1,3,5,7,9]

APPENDIX B:

Cantabile *"Stravinsky"*

m. 1	m. 2	m. 3	m. 4	m. 5	m. 8	m. 10	m.11
a.x	b,y	b,x	a,y	a,Ry	b,Rx	b,x	a,y
				b,Ry	a,Rx	a,x	b,y

Cantabile

m. 12	m. 13	m. 14	m. 15	m. 17	m. 18
a,x	b,y	a,y	b,x	b,Ry a,Rxb,Rx a,Ry	

"Development"

m. 19	m. 20	m. 21	m.22
a,x b,y a,Ry b,Rx	b,Ry a,Rx b,x a,y	a,y b,z_1	a,z_1 b,z_2

m. 23	m. 24	m. 25	m. 26	m. 27
a,y b,z_1	b,y a,z2	a,x b,z_2	a,y b,z_1	a,y a,z_2 b,z_1
b,y a,z_1	a,y b,z_2	b,x a,y_2	b,x a,z_2	b,x a,z_1

etwas breiter

m. 28	m. 29	m. 30	m. 31
b,x	a,y-Ry	a,y b,Rx	b,Rx
a,x	b,y-Ry	b,Ry a,Rx	a,x b,y

Cantabile

m. 32	m. 34	m.37	m. 38	m. 39	m. 40	m. 41	m. 43	m. 45
b,Ry	a,Rx	a,y	b,Rx	b,Ry	a,Rx	a,x b,Rx	b,z_2	a,z_2
a,Ry	b,Ry	b,xb,y	a,Rx	a,Ry	b,Rx	a,z_2 a,Rx		b,Ry-y

"Insert"

m. 46	m. 49	m. 50	m. 51
a,x(Rx-x-Rx)	b,y	a,Ry	b,Rx
b,x(Rx-x)	a,y	b,Ry(y)	a,Rx

"Development"

m. 52	m. 53	m. 54	m. 55	m. 56
a,y a,z_2	a,y b,x-y a,z_1	a,y a,y	b,Ry b,y	a,Rx a,x b,x
b,x b,z2	a,z_1	b,x b,z_1	a,Ry a,Ry	b,z_2 b,x

Cantabile and Coda

m. 57	m. 58	m. 59	m. 60	m. 61	m. 62
a,x	b,y	b,x	b,y	a,x b,y	a,x
b.x	a,y	a,x	a,y	a,y	b,x

m. 63	m. 64	m. 66
b,Ry	a,x	b,y
a,Ry b,Rx	b,x	a,y

Figure 4: Hexachord Forms in Schoenberg's op.33b