

Diatonic-Collection Disruption in the Melodic Material of Alban Berg's Op. 5, no. 2

The pre-serial Expressionist music of the early twentieth century composed by Arnold Schoenberg and his pupils, most notably Alban Berg and Anton Webern, has famously provoked many music-analytical dilemmas that have, themselves, spawned a wide array of new analytical approaches over the last hundred years. Schoenberg's own published contributions to the analytical understanding of this cryptic musical style are often vague, at best, and tend to describe musical effects without clearly explaining the means used to create them. His concept of "the emancipation of the dissonance" has become a well known musical idea, and, as Schoenberg describes the pre-serial music of his school, "a style based on [the premise of 'the emancipation of the dissonance'] treats dissonances like consonances and renounces a tonal center."¹ The free treatment of dissonance and the renunciation of a tonal center are musical effects that are simple to observe in the pre-serial music of Schoenberg, Berg, and Webern, and yet the specific means employed in this repertoire for avoiding the establishment of a perceived tonal center are difficult to describe.

Both Allen Forte's "Pitch-Class Set Theory" and the more recent approach of Joseph Straus's "Atonal Voice Leading" provide excellently specific means of describing the relationships of segmented musical ideas with one another. However, the question remains: why are these segmented ideas the types of musical ideas that the composer wanted to use, and what role do they play in renouncing a tonal center? Furthermore, how does the renunciation of a tonal center contribute to the positive construction of the musical language, if at all?

¹ Arnold Schoenberg, "Composition with Twelve Tones" (delivered as a lecture at the University of California at Los Angeles, March 26, 1941), in *Style and Idea*, ed. Dika Newlin (New York: Philosophical Library Publishers, 1950), 105.

Speculation on this matter is not guaranteed to produce analytically valuable generalizations, since the means of renouncing a tonal center will certainly vary, to some extent, from one piece of music to another. However, if it can be shown that certain general methods of renouncing a tonal center are employed, and possibly developed, in a purposeful manner over the course of a single piece in the Expressionist style, then the observed presence of these specific techniques in the pitch organization of stylistically similar works could lead to the formulation of a meaningful analytical approach, the development of which could further the understanding of one of the basic stylistic characteristics of the “freely atonal” idiom.

The following discussion will aim to describe the means of renouncing a tonal center in the melodic material of Alban Berg’s *Vier Stücke für Klarinette und Klavier*, Op. 5, no. 2. The analytical means to that end will utilize some of the terminology and methods of classification used in Pitch-Class Set Theory to describe a process that will henceforth be referred to as “diatonic-collection disruption” (or “DCD”).

A given pitch-class set (or “PC set”) can be said to exhibit DCD if the prime form of that PC set is, as a result of its intervallic construction, not an abstract subset of the prime form of the diatonic collection (0,1,3,5,6,8,10). It follows that if the prime form of a given PC set is not an abstract subset of the prime form of the diatonic collection, then the PC set itself (as well as any other member of the same set class) is, therefore, not a literal subset of any single diatonic collection.

That a given PC set exhibits DCD can also be demonstrated by identifying the trichord subsets of the PC set that are, themselves, not subsets of any single diatonic collection. These trichords that exhibit DCD and that function as subsets of larger sets will henceforth be referred to as “non-diatonic trichord subsets”. Out of the twelve prime forms of cardinality three that are

defined in Pitch-Class Set Theory, only three of them can possibly manifest themselves as non-diatonic trichord subsets, and they are as follows: (0,1,2), (0,1,4), and (0,4,8).

An example here from Berg's Op. 5, no. 2 will be helpful in clarifying the basic mechanics of this analytical approach. Example 1, below, shows the pentachord verticality struck in the piano part on beat four of measure five.

Example 1: Piano Pentachord on Beat Four of Measure Five as an Example of Vertical "Diatonic-Collection Disruption", Followed by the Pentachord's "Non-Diatonic Trichord Subset"

non-diatonic trichord subset of
PC set [4,5,8,11,1]

[4,5,8,11,1]
(0,1,4,6,9)

[4,5,8]
(0,1,4)

This pentachord is PC set [4,5,8,11,1] with prime form (0,1,4,6,9). Because prime form (0,1,4,6,9) is not an abstract subset of the prime form of the diatonic collection (0,1,3,5,6,8,10), it follows that PC set [4,5,8,11,1], as well as any transposition or inversion thereof, is not a literal subset of any single diatonic collection. That this is the case can also be demonstrated by identifying the non-diatonic trichord subset of the pentachord: in this case, PC set [4,5,8] with prime form (0,1,4).

For these reasons, it can be said that the above pentachord exhibits DCD. As can be recognized aurally by simply playing this pentachord on a piano, the effect of DCD is one of extreme tonal ambiguity. It is for this reason that an analytical approach that identifies instances of DCD and that shows the importance of trichord sets belonging to the three non-diatonic trichord prime forms defined above is useful in clarifying the methods by which the composer of an Expressionist piece stretches the limits of tonal ambiguity to the extent that any sense of tonal center becomes diminished past the point of perceptibility.

The above example demonstrates DCD in a vertical, harmonic context. In a horizontal, melodic context, a slightly modified approach is required since notes in a melody are chronologically introduced one after another. To reflect the chronological nature of the listening process analytically, the segmentational approach employed to show DCD in a melodic context will involve a technique that will henceforth be referred to as “continually accumulating segmentation” (or “CAS”). This technique can be described as follows: the cardinality of the segmented set increases in correlation with the articulation of each newly sounding pitch class in the melody. The technique of CAS will become clearer as the melodic analysis of Berg’s Op. 5, no. 2 commences below.

Let us consider, as our first melodic segment of the analysis, the opening of the clarinet melody from the Eb4 on the upbeat of count four in measure one to the Fb5 on the last eighth note of measure three (see Example 2 below).

Example 2: Clarinet Melody from Measures One through Three (all examples are notated at *sounding* pitch)



Note that there is no point of rest from the entrance of the clarinet part until after the Fb is sounded on the downbeat of measure three, after which there is a rest followed by a hesitating Ab and then a restatement of the Ab-G-Fb fragment. What is so significant about that first Fb that prompted Berg to disrupt the rhythmic continuity of the melody and to repeat the last three notes up to that point?

The answer to this question has to do with Berg’s use of DCD in the clarinet melody over measures one through three. To demonstrate the process of DCD in the melodic context

these subsets is [4,7,8]—the Ab-G-Fb fragment (see Example 3.b above). Since the appearance of pitch class Fb effects this change, the Fb articulated on the downbeat of measure three can be identified as the point of DCD. It is as if the Fb is, in this way, the completion of a musical idea—the moment that the increasing potential energy of the set is transformed into kinetic energy. The Ab-G-Fb fragment is shown to be an intermediate melodic goal because of the dynamic role that it plays in the process of DCD as a subset of the [0,1,3,4,7,8] hexachord, and its identity as a local melodic goal is clarified and reinforced by the repetition of the fragment.

The melodic material following the restatement of the Ab-G-Fb fragment consists of an ascending leap of a minor tenth from A4 to C6 (see Example 4.a below).

Example 4.a: Clarinet Melody from Measure Four



Example 4.b: Pitch Class C in Clarinet Part as Axis of Symmetry in Pitch-Class Space of the Piano Pentachord Sounding Below On Beat Four of Measure Four

This gesture restores balance to the melodic line by recalling the ascending leap in the first notes of the clarinet part. At this point, the clarinet part comes to a point of rest on the high C. A more complete analysis of this movement would provide more context for the following observation, but it is at least worth noting here that pitch class C is, in pitch-class space, the axis of symmetry for the piano pentachord struck on the fourth beat of measure four as the high C6 is sounding above (see Example 4.b above).

The last C6 on the upbeat of count four in measure four begins the departure from the point of rest on C (see Example 5 below).

Example 5: Departure from the Point of Rest on C and Leading into Measure 5

C6 on the upbeat of count four is followed by an ascent to Eb6 (the registrally highest note of the movement) and a descent to Cb6. The result is a statement of PC set [11,0,3] with prime form (0,1,4). Here, Berg alludes to the previous melodic statement and repetition of PC set [4,7,8] (the Ab-G-Fb fragment)—also a member of set class (0,1,4). There is, however, a difference in the ordering of intervals between these two instances of (0,1,4): [4,7,8] moved first down a half step and then down three half steps, whereas [11,0,3] moves first up three half steps and then down four half steps. In this melodic excerpt, DCD occurs on Cb6—the second clarinet note of measure five—and it comes *from a state of rest* and sets into motion a cascading melodic descent that last for the rest of the measure. This instance of DCD contrasts with the instance that occurred on the downbeat of measure three as the *culmination* of melodic motion.

The descending melodic line beginning on the Eb6 on the downbeat of measure five demonstrates an interesting variation on the melodic processes exhibited in the first three measures of the movement (see Example 6 below).

Example 6: A Schematic of the Melodic Descent in Measure Five

An examination of the above example shows that the Bbb4 on the downbeat of count four is the point of DCD, effecting a transformation of PC set [10,11,1,3,4,6] with prime form (0,1,3,5,6,8) into PC set [9,10,11,1,3,4,6] with prime form (0,1,2,4,6,7,9). The non-diatonic trichord subsets of PC set [9,10,11,1,3,4,6] are PC set [9,10,11] with prime form (0,1,2) and PC set [9,10,1] with prime form (0,1,4). The Bbb point of DCD on the downbeat of count four then functions as the first note of a three note melodic segment that continues the descending contour: Bbb-Ab-G (PC set [7,8,9] with prime form (0,1,2)). The Bbb-Ab-G fragment is then repeated, recalling the fragmentary repetition of the Ab-G-Fb fragment in measure three.

A developmental procedure is worth clarifying here. In the first melodic segment that we considered, Fb was the point of DCD that closed off the first melodic idea, and it was followed by a fragmentary repetition of the Ab-G-Fb fragment—one of the non-diatonic trichord subsets of the preceding melodic line. In measures five and six, however, Bbb is the point of DCD, but it does not close off the melodic descent. Instead, it functions also as the first note of a trichord set that is then repeated. Here, the fragmented repetition consists not of one of the non-diatonic trichord subsets of the preceding set, but as a *transformation* of one of the non-diatonic trichord subsets of the preceding PC set [9,10,11,1,3,4,6]: PC set [9,10,11] with prime form (0,1,2) is transformed by T_{10} into PC set [7,8,9] (the Bbb-Ab-G fragment) with the same prime form.

The procedure described above might seem too convoluted to have any meaningful significance in the melodic structure of the piece; however, it will now be shown that Berg applies the exact same procedure in the following melodic segment and, in that way, makes the developmental process comprehensible. Examine the schematic of the final melodic segment of the piece in the example below:

Example 7: A Schematic of the Melodic Descent in Measures Six and Seven

This melodic segment can also generally be described as a descending line, and the first two notes of the segment are the first two notes of the Bbb-Ab-G fragment that was just repeated earlier in measure six. For this reason, the listener expects to hear G on the downbeat of measure seven, but a Gb sounds instead, delaying the DCD that would have occurred had a G \natural sounded. This “melodic surprise” sets into motion the descending line that follows, and, as the above CAS shows, the point of DCD is F3 on the third triplet subdivision of count two in measure seven. The presence of pitch class F here effects a transformation of PC set [4,6,8,9,11] with prime form (0,2,3,5,7) into PC set [4,5,6,8,9,11] with prime form (0,1,2,4,5,7). The non-diatonic trichord subsets of PC set [4,5,6,8,9,11] are PC set [4,5,6] with prime form (0,1,2) as well as the following PC sets belonging to set class (0,1,4): [4,5,8], [5,6,9], and [5,8,9].

Just as occurred at the point of DCD in the previous segment, the point of DCD in this final segment—F3—then functions as the first note of a three note melodic segment that continues the melodic motion. Also parallel with the previous segment, the trichord commencing at the point of DCD—F-D-F# (PC set [2,5,6] with prime form (0,1,4)—belongs to the same set class as all of the non-diatonic trichord subsets of PC set [4,5,6,8,9,11] that belong to set class (0,1,4). As such, the F-D-F# fragment could be seen as a *transformation* of any of the previously listed (0,1,4) subsets of PC set [4,5,6,8,9,11]. That the F-D-F# segment is followed by fragmented repetition serves to further emphasize the procedural parallelism with the previous segment (in measures five and six) while simultaneously complicating it. Here, the fragmented

repetition is incomplete in that only D3 and F#3 are repeated, omitting the F \natural 3 that would have effected a complete repetition of the F-D-F# fragment. This final modification of the process at work in the melodic phrase pattern of the movement serves to emphasize the melodic major third D-F# that, as a more complete analysis of the movement would further contextualize, foreshadows the immediately following return of the piano part to the pedaled repetitions of the D3-F#3 dyad—and in the same register as the fragmented repetition in the clarinet part.

That Berg is, in this movement, intentionally avoiding the establishment of melodic intervallic patterns that would remotely suggest a tonal center is, in the opinion of this analyst, quite obvious on a purely audible and intuitive level. The above analysis supports and clarifies that intuition by describing a very specific means by which Berg consistently evades the association of melodic material with the “tonally familiar” intervallic constructs inherent in the diatonic collection.

The developmental approach with which Berg implements the technique of diatonic-collection disruption over the course of this movement is a testament to the depth and subtlety of his compositional approach. First, DCD is demonstrated as a means of punctuating a melodic idea that is then immediately followed by a fragmentary repetition of one of the non-diatonic trichord subsets that precluded the possibility of a subset relationship of the melodic idea with the diatonic collection. While other variations on this technique are shown above for the sake of thoroughness, the next real step in the focused development of DCD in the movement involves the continuation of melodic motion past the point of DCD and into a transformation of one of the non-diatonic trichord subsets of the preceding melodic idea. Examples 6 and 7 demonstrate this process as well as the consistently applied procedure of fragmentary repetition of non-diatonic

trichord subsets. Ultimately, the developmental application of fragmentary repetition leads to the melodic emphasis of D3-F#3 that foreshadows the return in the piano part to the D-F# dyad that opened the movement.

It is, therefore, as evident that the renunciation of a tonal center does not preclude a positive sense of musical organization as it is certain that positive elements of musical development are at work in this movement. Christopher Lewis seems to make a similar assertion about the presence of positively constructive elements in the structure of freely atonal works in his article “Tonal Focus in Atonal Music: Berg’s op. 5/3” by raising the question of whether “vestiges of tonal hierarchy [can] appear in an atonally structured work”.² He concludes a thorough analysis of the movement by declaring, “to assume that because a piece exhibits a strong atonal structure it may not also depend upon tonal direction for some part of its coherence, runs the risk of doing an injustice both to the flexibility of musical art and to the subtlety of the minds that create it.”³

However, Lewis’s definition of “tonal direction” is, strangely, not entirely incompatible with the notion of the renunciation of a tonal center, and, as such, it allows him to circumvent the question of whether atonal procedures are subordinated to tonal procedures, or vice versa, in the structure of atonal music in general. The logical conclusion of the present analysis is that the renunciation of a tonal center is a highly prioritized aesthetic goal in Expressionist music and that the diminution of tonally functional musical structure is not so much a negative side effect of that priority as is it is a positively constructive means to that end.

² Christopher Lewis, “Tonal Focus in Atonal Music: Berg’s op. 5/3,” *Music Theory Spectrum*, Vol. 3 (Spring, 1981): 85.

³ *Ibid.* p. 97

Appendix A: Glossary of Original Terms

1. Diatonic-Collection Disruption (or “DCD”):

“Diatonic-collection disruption” is a description of the process by which a vertical, harmonic segment or a horizontal, melodic segment is made to be measurably tonally ambiguous on account of its intervallic construction and the resulting lack of a subset relationship with any single diatonic collection. “A given pitch-class set (or ‘PC set’) can be said to exhibit DCD if the prime form of that PC set is, as a result of its intervallic construction, not an abstract subset of the prime form of the diatonic collection (0,1,3,5,6,8,10). It follows that if the prime form of a given PC set is not an abstract subset of the prime form of the diatonic collection, then the PC set itself (as well as any other member of the same set class) is, therefore, not a literal subset of any single diatonic collection” (Schnitzius, 2).

2. Non-Diatonic Trichord Subset:

A “non-diatonic trichord subset” is a PC set of cardinality three that, itself, exhibits DCD and that also functions as a subset of a larger segmented PC set. “Out of the twelve prime forms of cardinality three that are defined in Pitch-Class Set Theory, only three of them can possibly manifest themselves as non-diatonic trichord subsets, and they are as follows: (0,1,2), (0,1,4), and (0,4,8)” (Schnitzius, 2-3). A PC set of cardinality four or greater that exhibits DCD can have one or more non-diatonic trichord subsets. Since the specific array of non-diatonic trichord subsets can vary from one instance of DCD to another, the identification of the specific array of non-diatonic trichord subsets at work in a given instance of DCD can be used as a means of specifying that particular instance of DCD and of differentiating it from other instances.

3. Continually Accumulating Segmentation (or “CAS”):

“Continually Accumulating Segmentation” is a method of segmentation used specifically with horizontal, melodic excerpts, and it is designed to identify the exact musical moment that effects DCD in a given melody by taking into account the chronological nature of the listening process. “This technique can be described as follows: the cardinality of the segmented set increases in correlation with the articulation of each newly sounding pitch class in the melody” (Schnitzius, 4). Since any dyad will have a subset relation with at least two specific diatonic collections, the method of CAS will have to be carried out, at the very least, to the extent of trichord consideration in order to demonstrate an instance of DCD. Example 3.a is a complete demonstration of CAS, and Examples 6 and 7 consist of schematic descriptions of melodic excerpts that contain the final two steps of CAS: the accumulated PC set just before the moment of DCD followed by the PC set as it exists just as the moment of DCD has taken place.