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THE MUSICAL QUARTERLY

SCHOENBERG'S CREATIVE EVOLUTION: THE PATH TO ATONALITY

By ALLEN FORTE

Introduction

PROBABLY no composer in the history of music underwent such an extraordinary development as did Arnold Schoenberg, from the first tenuous piano pieces of 1894 to the profound twelve-tone works of 1950. It is the purpose of the present study to illuminate part of this evolutionary path, the path from tonality to atonality.

Although this study is not deeply theoretical or highly technical, it does employ a certain amount of special language, some of which is more or less current in the literature of music theory and analysis. For the reader who is innocent of these matters, a brief introduction will enable him to follow the main arguments that involve the atonal music.¹

¹ For a more complete explanation, see the author's *Structure of Atonal Music*, 2nd ed. (New Haven and London, 1977), hereafter designated *StrAM*.

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Any musical configuration is reducible to a pitch-class set (pc set). A pc set is usually notated as a collection of integers representing pitch-classes. Thus, B \sharp , C, and D \flat are represented by the integer 0; B x , C \sharp , and D \flat are represented by the integer 1, and so on, until A x , B, and C \flat are represented by the integer 11. In this study, however, the term pitch-class set (or pc set or simply set) will be used, but conventional letter names instead of integers will be used to spell out the contents of the sets so that the reader can more easily refer to the musical examples, which are of fundamental importance to this presentation.

It is convenient to associate pc sets with symbolic names instead of identifying them by ad hoc descriptions or by always listing the pc contents. For example, the familiar “diminished 7th chord” is assigned the name 4-28. In this name the digit 4 indicates the number of elements (pitch-classes) in the set, while the digit 28 indicates the position of the name on a fixed list of pc sets (see Appendix 1 in *StrAM*). If the hyphen is followed by the character Z, this signifies that the set has a counterpart with which it shares the same interval content.

Given two sets, they may be related in various ways. For the purposes of the present study only three ways need be considered; two sets may be related by transposition, inversion, or complementation. While transposition will surely be familiar to the reader, inversion requires a word of explanation. As a simple example from which one can generalize, consider the contour inversion of C-E-G-B \flat , which is C-A \flat -F-D. An inversion of a set may be transposed.

Complementation can also be easily explained, although its ramifications are manifold and complex. The complement of C, C \sharp , D, E \flat , E, F is F \sharp , G, A \flat , A, B \flat , B — the remaining notes of the chromatic scale. The complement of a set may be transposed or inverted and transposed. In that case we speak of a transformed complement. If the complement is untransformed, the term literal complement is applied. Complementation is one of the most important of the relations that connect pitch-class sets.

This article begins with a discussion of Schoenberg’s musical signature and its significance for the emergence of the atonal style of composing, proceeds to a consideration of atonal harmonies as they occur in his tonal music, then deals with certain representative music of the transitional period, culminating in a partial analysis of the completely atonal song, “Am Strande” (1909). Where appro-

priate, quotations from Schoenberg's own extensive prose writings will be introduced.²

Schoenberg's Musical Signature

As is well known, Alban Berg, in his Chamber Concerto for Piano and Violin with Thirteen Wind Instruments, presented the musical counterpart of Schoenberg's name in the opening music (the "motto") of the piano part: AD EsCHBEG (the eight-note set A, D, E \flat , C, B, B \flat , E, G).³ The work is dedicated to Schoenberg on his fiftieth birthday (1924). In an even earlier work, the Four Pieces for Clarinet and Piano, Opus 5 (1913), Berg began each movement with a statement of EsCHBEG, which is reducible to pc set 6-Z44, or with a statement of the transformed complement of 6-Z44, 6-Z19.⁴ Webern's Three Small Pieces for Cello and Piano, Opus 11 (1914), although not dedicated to Schoenberg, nevertheless contains a number of occurrences of EsCHBG, pc set 5-Z37, a characteristic atonal collection and, obviously, a subcollection of 6-Z44.⁵

Ex. 0. Schoenberg, Suite, Op. 29



6-Z19: E, F, G#, A, B, C

And in his Suite, Opus 29, completed in 1926 (Ex. 0), Schoenberg himself introduced the hexachord 6-Z19 as a contiguous segment⁶ of the basic twelve-tone row in order positions 5 through 10, so that 6-Z44 then occurs "around the corner" in order positions 11 through 4.⁷ Thus, in addition to the explicit occurrences of the sig-

² All references to dates of composition are taken from Vol. I (*Chronologischer Teil*) of Jan Maegaard's *Studien zur Entwicklung des dodecaphonen Satzes bei Arnold Schönberg*, 2 vols. and supplement (Copenhagen, 1972).

³ For a discussion of the organization of the motto, see Ex. 114 in *StrAM*.

⁴ See *StrAM*, Ex. 6.

⁵ I am indebted to Alan Chapman for this information. Webern, perhaps out of deference to the master, omitted E, one of the two musical letters shared by their last names, but represented twice in Webern's.

⁶ The construction "contiguous segment" or "contiguous subset" here and elsewhere means that the components of the segment or subset are contiguous.

⁷ This information was supplied by Martha MacLean, who is completing an in-depth study of the early twelve-tone music of Schoenberg.

nature in the Berg works mentioned above, there are less explicit but no less interesting occurrences in pieces by Webern and by Schoenberg himself. Indeed, in Webern's Rondo for String Quartet (ca. 1906) published posthumously in 1966, the first motive together with its accompaniment (all of m. 1) form the set 7-22. The subset structure of 7-22 is unique among sets of seven elements in that 6-Z19 and 6-Z44 both occur twice. This suggests the possibility that Webern may have understood the concept of the unordered pc set as early as 1906, albeit in the limited form of the signature.

Exactly what the occurrence of the musical signature has to do with the main topic of this paper, the transition from tonal to atonal procedures, will be made clear in the following discussion.

At a certain point Schoenberg recognized in his music structural features that were counter to traditional tonality, even as it had been extended by his immediate predecessors. Indeed, this is a theme that runs throughout the *Harmonielehre* and his other writings, often expressed in a detached way, as though he were merely the observer of some natural artistic process.

What made it [the First Quartet] so difficult to understand was its complicated contrapuntal style. And the most embarrassing circumstance was that the harmonies produced by those independently moving parts changed so fast and were so advanced that the ear could not follow their meaning.⁸

Or, in a particularly intriguing revelation:

True, new ways of building phrases and other structural elements had been discovered, and their mutual relationship, connection, and combination could be balanced by hitherto unknown means.⁹

The recognition that his musical works exhibited forms of organization that were radically different from those of traditional tonality probably came gradually in an intuitive way and was initially directed toward small sections of music (as will be shown below). According to Schoenberg, the final and complete recognition took place after he had composed the *George Lieder*, Opus 15:

. . . I was inspired by poems of Stefan George, the German poet, to compose music to some of his poems and, surprisingly, without any expectation on my

⁸ Leonard Stein, ed., Leo Black, tr., *Style and Idea*, enl. ed. (New York, 1975) (hereafter cited as *Style and Idea*), p. 44: "How One Becomes Lonely" (1937). Wherever access to Schoenberg's original text has been possible, the author has supplied his own translation.

⁹ *Style and Idea*, p. 88: "My Evolution" (1949).

part, these songs showed a style quite different from everything I had written before. And this was only the first step on a new path, but one beset with thorns. It was the first step towards a style which has since been called the style of 'atonality'. . . . Although the word revolution had not, at this time (about 1907),¹⁰ exclusively the ominous political flavor which is attributed to it today, I always insisted that the new music was merely a logical development of musical resources.¹¹

The term logical here is apropos, for the new method of organization was one based upon pitch-class sets and carried out by means of the operations of transposition, inversion, complementation, intersection, and union.¹² In this way Schoenberg was able to produce new configurations directly derivable from certain primordial configurations (or basic shapes, as he later called them).

A crucial question is when the transition to the atonal style began. If this is answered it will then be possible to examine the music on either side of this date for structural characteristics that will illuminate the transition. Schoenberg tells us that the date was 1907 (cf. n. 10):

My Two Ballads, Op. 12 [April, 1907], were the immediate predecessors of the Second String Quartet, Op. 10 [begun March 9, 1907, completed in 1908], which marks the transition to my second period. In this period I renounced a tonal centre — a procedure incorrectly called 'atonality.'¹³

Study of the music preceding Opus 12, however, provides a more exact date and an earlier subcorpus of music, the five 1905 songs of Opus 6, Eight Songs, which must be regarded as the transitional works.¹⁴

This new discovery hinges, in turn, upon the discovery of Schoenberg's musical signature, EsCHBEG (or its complement), several occurrences of which were cited above. At this juncture, it is necessary

¹⁰ The George Lieder date from 1908-9. The citation of the year 1907 here is clearly an error on Schoenberg's part, but an interesting one, since it suggests that he was thinking of an earlier date for the emergence of the style of "atonality." A related matter is the dating of the song, "Am Strande," discussed in n. 43.

¹¹ *Style and Idea*, pp. 49 f.: "How One Becomes Lonely."

¹² See *STRAM*.

¹³ *Style and Idea*, p. 86: "My Evolution."

¹⁴ It must be recognized that Schoenberg's own reminiscences and his own views of his evolution were subject to normal human biases and inaccuracies. There are many contradictions in the collected writings, *Style and Idea*, which may, at some future time, be sorted out. (As one example, he sometimes speaks of two periods of development and at other times of three.) In the present study, quotations from the composer are regarded only as suggestive; the main evidence for those aspects of the transitional period presented here is drawn from the music.

to make two points in order to prevent the signature from being regarded as a trivial or occult phenomenon. First, its occurrences demonstrate that Schoenberg was thinking in terms of unordered pitch-class sets, that is, musical units which can arise independent of the syntax of traditional tonality and which ultimately would do so over the span of a complete work. Second, the mode of occurrence of the signature demonstrates a growing awareness of the operations by which pc sets could be related. In particular, the operation of complementation is clearly evident here, since the signature occurs either as some form of EsCHBEG (6-Z44) or its complement (6-Z19). Moreover, the signature as 6-Z44 rarely is the literal EsCHBEG, but is almost always a transposition or an inversion.

What might be called “set consciousness,” then, begins here, in the 1905 songs of Opus 6, written between September 6 and November 28 of that year, after Schoenberg had returned to Vienna from his first stay in Berlin.¹⁵ In each of these the signature occurs in a prominent position, as shown in the examples that follow.¹⁶ (See Ex. 1.)

Here in the first vocal phrase, a complete musical unit, is the signature.¹⁷ Note that it is not literally EsCHBEG, but a transposition, thus indicating Schoenberg’s awareness of the potentialities of that operation applied to a collection of pitches. (“... new ways of building phrases and other structural elements had been discovered.”) (See Ex. 2.)

In the second of the five 1905 songs the appearance of the musical signature is somewhat delayed. When it does occur, however, it occurs multiply. As shown in Example 2, 6-Z44 occurs four times, as does its complement, 6-Z19. The total set here is 9-3, and the subset structure of that set is such that 6-Z44 and 6-Z19 are represented in it more times than any other complement-related pair. However, only two of these eight forms of the signature are given as contiguous formations, those at the tops of the lists below Example 2. (It is perhaps not coincidental that 6-Z19 is the literal complement of 6-Z44 in the previously composed song, Op. 6/2 [Ex. 1].)

¹⁵ The notion of “set consciousness” may be criticized as implausible. This is a problem that belongs to the naïve layman, not to the musician. Was Bach conscious of counterpoint? Did Beethoven really understand the musical materials with which he composed?

¹⁶ Dates are those of completion.

¹⁷ Here and elsewhere the content of sets is given in normal order whenever commas are used to separate letter names. When hyphens are used to separate, the actual linear succession is indicated.

Ex. 1. Schoenberg, Op.6/2, "Alles" (Dehmel), Sept. 6, 1905

Durchaus sehr zart, etwas langsam

6-Z44: G, Ab, A, C, Db, Fb

Laß uns noch die

Nacht er - war - - ten,

The mode of occurrence of 6-Z19 here is especially interesting, for the set includes every pitch in its immediate environment except the bass note, G, the tonic. Pc set 6-Z44, in similar fashion, excludes only E \flat , which is fundamental to the harmonic-contrapuntal structure, as explained below.

The passage shown in Example 2 also provides a good instance of the kind of contrapuntal elaboration that characterizes the tonal

Ex. 2. Schoenberg, Op.6/8, "Der Wanderer" (Nietzsche), Oct. 15, 1905

Die Nacht ist schon-

6-Z44:

F, F \sharp , G, B \flat , B, D
 G, B \flat , B, D, E \flat , E
 D, E \flat , E, G, A \flat , B
 B, D, E \flat , F \sharp , G, A \flat

6-Z19:

B \flat , B, D, E \flat , F, F \sharp
 E \flat , E, F \sharp , G, B \flat , B
 G, A \flat , B \flat , B, D, E \flat
 E \flat , E, G, A \flat , B \flat , B

structures of the transitional music. Basically, the harmony of the entire passage is tonic, with E_b replacing D in the traditional 5-6 motion. The F that enters in the voice above the bass may be regarded as an appoggiatura that brings in the E_b at the beginning of measure 10. Before this appoggiatura resolves, however, the triad in the right-hand part of the piano is embellished by a constellation consisting of neighbor notes (two lower and one upper). In measure 10 the appoggiatura F falls to E_b again, but this time the motion is intensified by the introduction of a chromatic passing tone, E . Similarly, the neighbor-note chord of measure 9 is now expanded to include an additional component, A_b , so that G , the tonic note, is doubly embellished — by $F\#$ and by A_b .

In sum, the passage shown in Example 2 is a hybrid of atonal and “extended” tonal structures. Passages of this type make up one category of “transitional” music, the music that ultimately led to the “style of atonality.”

Ex. 3. Schoenberg, Op. 6/6, “Am Wegrund” (Mackay), Oct. 18, 1905



6-Z19: A, B b , C $\#$, D, E, F

In the song “Am Wegrund” (Ex. 3) the signature occurs as the right-hand part of the piano accompaniment, a configuration that subsequently becomes the first vocal phrase (m. 3) and returns, transposed, in measure 27. The most remarkable aspect of this song, in terms of Schoenberg’s *oeuvre*, is its complicated association with *Erwartung*.¹⁸ In the latter work, a fully atonal composition completed on September 12, 1909, Schoenberg introduced melodic configurations from “Am Wegrund.”¹⁹ For example, at measure 411 (Ex. 4) the *Hauptstimme* is the descending figure above the bass in

¹⁸ Discovered by Herbert Buchanan: “A Key to Schoenberg’s *Erwartung* (Op. 17),” *Journal of the American Musicological Society*, XX/3 (Fall, 1967), 434-49.

¹⁹ See Buchanan, *loc. cit.*, for a complete discussion of this self-borrowing.

Example 3, while the bass is the ascending figure in the upper staff of the piano in Example 3, that is, the signature, 6-Z19.

At the time he incorporated the "Am Wegrand" material into *Erwartung*, there is no doubt whatsoever that Schoenberg was completely conscious of pitch-class sets and operations upon them, as can be demonstrated in other works of the same period, for example, Opus 11 (completed August 7, 1909).²⁰ Moreover, *Erwartung* may offer additional strong musical evidence that he was conscious of sets and operations in Opus 6/6 and, with a slight extension, in all the Opus 6 songs that display the signature. Let us consider only one passage in *Erwartung*, from measure 411 through the beginning of the following measure (Ex. 4).

In addition to the two parts borrowed from "Am Wegrand," Schoenberg composed the flute accompaniment figure in sixteenth-note triplets, the slower-moving viola double stops in eighth notes, a sustained dyad F-A in trumpets, a secondary part for English horn that enters in the middle of the measure, and, of course, the vocal line.²¹ At the end of the vocal phrase there is a change in the orchestral texture, with new instruments marking the caesura.

In composing these new parts, Schoenberg replicated the bass *Hauptstimme* (6-Z19) a number of times. Seven contiguous formations that express either 6-Z19 or 6-Z44 are shown in Example 5. Example 5a shows 6-Z19 as it occurs in the upper part of the viola double stops. With respect to the form of 6-Z19 in the bass *Hauptstimme*, this is a transposition up ten half-steps. As one result of this transpositional relation, the form shown in Example 5a shares only one note with that in the bass *Hauptstimme*, E, a condition that is available at only two levels of transposition for this set. In Example 5b we see 6-Z19 formed again in the secondary viola part between the complete lower part of the double stops and the central pitches of the upper part. With respect to the form in Example 5a, the form in Example 5b is a transposition up four half-steps. In this relation maximum intersection, the sharing of four pitches, E_b, E, G, B, is achieved, so that the two forms are closely linked. And compared with the bass *Hauptstimme*, the form of 6-Z19 in Example 5b is a

²⁰ See Gary Wittlich, "Interval Set Structure in Schoenberg's Op. 11, No. 1," *Perspectives of New Music*, XIII/1 (Fall-Winter, 1974), 41-55.

²¹ The text here is identical to the opening line of "Am Wegrand." The English translation: "A thousand persons pass by; the one for whom I long is not among them."

Ex. 4. Schoenberg, *Erwartung*, Sept. 12, 1909

H \flat

Cl.
Fi.

Voice
 Tau - - send Men - -

Tpt.
Va.

Bn.
B.Cl.

Cl.
Fi.

E.H.

Voice
 - - schen ziehn - - vor - - ü - ber.....

Tpt.
Va.

Bn.
B.Cl.

Vn.
Hn.
Va.
Vc.,Cb.

Ex. 5a

6 - Z19: B, C, D#, E, F#, G

Ex. 5b

6 - Z19: Eb, E, G, G#, Bb, B

transposition up six half-steps, so that the two sets share two pitches. Thus, it can be seen that with regard to the operation of transposition and the resulting number of shared pitches, the three forms of 6-Z19 here make up a microhierarchy, a substructure entirely typical of Schoenberg's mature atonal compositions.

Ex. 5c

6 - Z44: C, C#, D, F, F#, A

Ex. 5d

6 - Z44: D, Eb, E, G, G#, B

Examples 5c through 5g show five forms of 6-Z44 that occur as contiguous sets in the passage presented in Example 4. The first of these, Example 5c, is perhaps the most remarkable, for it is a statement of the complement of the bass *Hauptstimme* that is completed as the first three notes of the latter are unfolded. It shares four notes with the bass *Hauptstimme*, C#, D, F, A, and the set formed by these notes (4-19) is significant elsewhere in the passage.²² The next occurrence of 6-Z44 is shown in Example 5d. Here English horn and viola combine, forming a set that is a transposition up two half-steps of

²² It will be evident that no attempt is made here to present a "complete" analysis of the passage, but only to show those aspects that relate to the topic of this section, Schoenberg's musical signature.

that shown in Example 5c. The only note shared by the two forms is D, the English horn note and the lower note of the initial flute dyad. The importance of this note in the passage is evident, since it is the opening note of the bass *Hauptstimme*.

Ex. 5e

Cl.
Fl.
E.H.

6 - Z 44: G#, A, Bb, C#, D, F

Ex. 5f

Cl.
Fl.
E.H.
Voice

6 - Z 44: C#, E, F, G#, A, Bb

Ex. 5g

E.H.
Voice
Hn.
Bn.
B.Cl.

6 - Z 44: Eb, E, F, G#, A, C

Examples 5e through 5g are taken from the “cadential” formation in measure 411. Here the relation to the bass *Hauptstimme* is unequivocal. The forms shown in Examples 5e and 5f both share five notes with the bass *Hauptstimme*, while the form shown in Example 5g shares three with it. The sum of the notes shared by the three forms with the *Hauptstimme* is identical to the *Hauptstimme* itself (with respect to pitch-class). Thus, in the cadential formation, the *Hauptstimme* is restated, both in terms of pitch-classes and in terms of its complement-image.

The vocal line projects the set 7-21, which contains one form of 6-Z19 and one form of 6-Z44. These do not occur as contiguous subsets. However, 6-Z19 within the vocal line is A, Bb, C#, D, E, F, that is, the *same* pitch-classes as the bass *Hauptstimme*. The association of vocal line and bass *Hauptstimme*, furthermore, is rendered completely audible by the ordered dyads that they share: D-C#, Bb-A, and E-F.

To sum up, these multiple occurrences of the signature, generated by the form of the signature set out in the bass *Hauptstimme*,

go far toward explaining the borrowing from "Am Wegrand" in *Erwartung*: Schoenberg partially "understood" (in an intuitive way) the pitch-class set significance of the "Am Wegrand" line (6-Z19) at the time it was composed, and at the time he wrote *Erwartung* he was totally capable of utilizing the structural potential of the set and its complement in the complicated way just explained.

Hence, as has been said above, there is little doubt that the 1905 Opus 6 songs mark the beginning of set-consciousness. In *Erwartung*, of course, we witness the extraordinary development of highly sophisticated procedures that yielded coherent and powerful musical structures without benefit of the syntax of traditional tonality:

Externally, coherence manifests itself through an intelligible application of the relationship and similarity inherent in musical configurations.²³

Ex. 6. Schoenberg, Op. 6/7, "Lockung" (Aram), Oct. 26, 1905

Leicht, aber nicht allzu rasch

zart

rascher

6-Z19: G, Ab, B, C, D, Eb

In this song, Opus 6/7, the signature does not occur until measure 3. Here, as in Example 3 (Op. 6/6), the signature can also be read in a tonal way. More will be said about that and about Opus 6/7 below. (See Ex. 7.)

Here 6-Z19 is the first hexachord in the piano accompaniment and is the harmony that extends through the first two measures. When C enters on the downbeat of measure 3, a seven-note set, 7-22, is formed. This set (as pointed out in connection with Webern's Rondo for String Quartet) contains 6-Z19 twice and 6-Z44 twice. Only 6-Z44 is expressed as a contiguous formation, as everything but F# in measure 1. That is, the complement-related sets 6-Z19 and 6-Z44 interlock over the passage that extends from the beginning of the accompaniment through the first quarter note of measure 3. They differ by only one note: 6-Z19 contains F#, while 6-Z44 contains C. More extraordinary is the fact that the common five-note set is 5-22, D#, E, G, A#, G, and that that set is the complement of the large

²³ *Style and Idea*: "My Evolution," p. 86.

Ex. 7. Schoenberg, Op. 6/3, "Mädchenlied" (Remer), Oct. 28, 1905

Sehr rasch

Ach, wenn es nun die Mut-ter wußt, wie du so
wild mich

6-Z19: D#, E, F#, G, A#, B
6-Z44: A#, B, C, D#, E, G

set 7-22.²⁴ The vocal line, it should be pointed out, is a subset of 6-Z19. Indeed, it is one of Schoenberg's favorites, 4-19. (See Ex. 13.)

Schoenberg "signed" virtually every work after the 1905 Opus 6 songs. For example, in the very next work, the First Chamber Symphony, completed on July 16, 1906, there are several thematic occurrences of the signature:

Ex. 8. Schoenberg, First Chamber Symphony, Op. 9

Holzbl.

3. hierzu

6-Z19: G#, A, C, C#, D#, E
G#, A, B, C, D#, E

Here, at the beginning of Theme 3 (m. 8) in Berg's analysis,²⁵ we find 6-Z19 twice. And in Berg's Theme 6 (3 measures after rehearsal 6) again 6-Z19 (see Ex. 9).

Finally, 6-Z44 is set out at the beginning of a melodic theme at rehearsal 79 (Berg's Theme 21). Interestingly enough, this is the literal complement of the form of 6-Z19 in Theme 3 (Ex. 8). (See Ex. 10.)

²⁴ It is doubtful, however, that Schoenberg was aware of this relation (embedded complement) at this stage in his evolution.

²⁵ Alban Berg, *Arnold Schönberg, Kammer-symphonie, op. 9, Thematische Analyse* (Vienna, 1920).

Ex. 9. Schoenberg, First Chamber Symphony, Op.9

6-Z19: A, B \flat , C \sharp , D, E, F

Ex. 10. Schoenberg, First Chamber Symphony, Op.9

6-Z19: E \sharp , F \sharp , G, A \sharp , B, D (upper voice)D \sharp , E, F \sharp , G, A \sharp , B (excludes C)B, C, D \sharp , E, F \sharp , G (excludes A \sharp)6-Z44: A \sharp , B, C, D \sharp , E, G (EsCHBEG--excludes F \sharp)D \sharp , F \sharp , G, A \sharp , B, C (excludes E)

Not only is the signature presented melodically here (Ex. 10), but it is also in the accompanying chords. Again, the large set formed by the first two chords is pc set 7-22 (which contains both 6-Z19 and 6-Z44 twice, as noted above). One of the forms of 6-Z44 is literally EsCHBEG, a rare occurrence in Schoenberg's music, as has been said.²⁶

As further examples of the signature, the two songs Opus 12 may be cited. In Opus 12/1 ("Jane Grey"), completed on April 28, 1907, the signature first occurs in measure 8 as the contiguously formed set A, B \flat , C, D \flat , E, F. This is 6-Z19 and is the inversion of the literal complement of EsCHBEG. In Opus 12/2 ("Der verlorene Haufen"), completed in April, 1907, before the first song of the opus, the signature occurs multiply in a most extraordinary way in the isolated piano figure that begins at the end of measure 3:

D	F	A	D \flat	A \flat
			F	F \flat
			B \flat	D \flat

²⁶ In the Second Chamber Symphony, begun in 1906 and completed in 1940, the signature (here 6-Z19) occurs as the collection forming the first measure, but excluding the first note. A reference to the literal signature is provided by the tonality, E \flat minor (Es) and the harmony at the end of the measure, A minor — i.e., the initials A.S.

Once again, the entire set is 7-22. Pc set 6-Z19 is formed if B \flat or A \flat is excluded, and 6-Z44 is formed if D or A is excluded.

To return for a moment to an earlier example, it will not have escaped the reader's attention that the formation shown in Example 9 may be regarded as a tonal configuration:

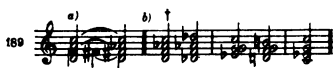
9	8
6	5
4	3

This observation will serve as point of departure for the next section of this article.

Atonal Harmonies as Tonal Formations

In his *Harmonielehre* (1910-11), Schoenberg discusses two processes that create what are now recognized as incipient atonal pitch-class sets. The first of these is the *vagierende Akkord* (indeterminate chord)²⁷ that, for Schoenberg, is a chord which comes into being by chromatic alteration and which, as a result, has multiple meanings. Or it may be a chord of diatonic structure that takes on a new meaning in a particular context. Both types are shown in Example 11.

Ex. 11. Schoenberg, *Harmonielehre*, Ex. 189



In Schoenberg's words:

The one (189a) is best derived from the second degree in major or minor by raising the third and lowering the fifth. By raising the third one obtains an ascending leading tone; by lowering the fifth one obtains a descending leading tone.²⁸

The pitch-class set at a is 4-25, one of the whole-tone tetrachords and, of course, not a formation characteristic of triadic tonality. The second chord in Example 11, indicated by the dagger, is not an atonal harmony. However, its occurrence here in a nontypical environment is illustrative of a process that does, in fact, lead to atonal harmonies.

²⁷ In the first edition of the *Harmonielehre* these are introduced on p. 270.

²⁸ *Harmonielehre*, 1st ed., p. 281.

The second of the two processes is the introduction of *Harmoniefremde Töne* (nonharmonic tones). Schoenberg takes two views of this phenomenon. He gives the more or less conventional review of passing notes, suspensions, anticipations, etc., but even there he introduces unusual formations, such as those shown in Example 12.

Ex. 12. Schoenberg, *Harmonielehre*, Ex. 255



Again, Schoenberg:

The passing tone achieves excellent service with indeterminate chords where, for example, a new meaning that is brought about by a passing note permits two phrases, such as those at 255a and b, to unite, forming a single phrase.²⁹

Of special interest is the formation in the first measure of b. Whereas the first vertical is the conventional diminished-seventh chord, the second, with D_b in the soprano is a typical atonal set, 4-18, one that occurs throughout Schoenberg's atonal music. Furthermore, the entire measure, that is, the first chord together with the passing D_b , forms another familiar atonal set, 7-31.

The reading of the first measure of Example 12b as a unified harmony is closely related to Schoenberg's other treatment of *Harmoniefremde Töne*, a view that has sometimes been regarded as bizarre. It is summarized in his well-known statement, "There are no nonharmonic tones, for harmony is simultaneity."³⁰ This decision not to recognize the traditional distinction between basic harmonies and linear embellishments of those harmonies—or, at a deeper level, the decision to recognize only a single musical dimension—enabled Schoenberg to find "radical" harmonies in the music of composers of the past:

Ex. 13. Schoenberg, *Harmonielehre*, Ex. 233



Then there is "this Mozart," who wrote the following chord in the G minor

²⁹ *Ibid.*, p. 380.

³⁰ *Ibid.*, p. 355.

Symphony (233a). To be sure, in this context (233b), but still, without any preparation.³¹

The “chord” in question is, in pc set nomenclature, 4-19, a tetra-chord favored by Schoenberg and with multiple representation in his atonal, as well as twelve-tone, music. How pleased he must have been to discover that Mozart also used it.

Surely, from the standpoint of triadic tonality this reinterpretation is untenable. However, with respect to Schoenberg’s own evolution, the new concept of musical space that this rejection of tradition implies is of the utmost importance, for, in the most general sense, it opens up the universe of pitch-class sets and detaches pitch organization from the harmonic-contrapuntal syntax of triadic tonality. It points directly to the unordered pitch field of the atonal composition and to the segmentation of that field in the complex ways that are characteristic of Schoenberg’s atonal music.³² In short, Schoenberg was not saying anything about the music of triadic tonality—surely he understood the linear origin of the Mozart “chord”—but was attempting to justify his own musical concepts, which, of course, at that time (1910-11) had already been reified in a number of important works.

Five examples from Schoenberg’s music will suffice to indicate the ways in which the atonal harmonies occurred in Schoenberg’s own music. An adumbration of the atonal period can even be seen as early as 1899, in the song “Erwartung,” Opus 2/1:

Ex. 14. Schoenberg, Op. 2/1, “Erwartung” (Dehmel), Sept., 1899

Sehr langsam (♩)

Aus dem meer-grü-nen Tei - che

Here every note of the triad is supplied with at least one neighbor note, creating the atonal set 5-32.

³¹ *Ibid.*, p. 363.

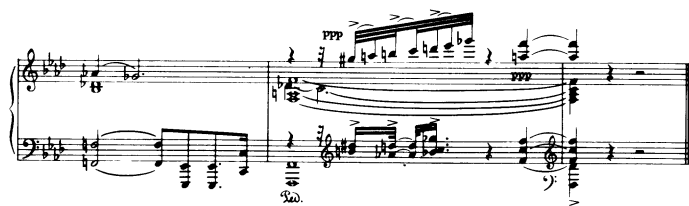
³² See the author’s “Sets and Non-Sets in Schoenberg’s Atonal Music,” *Perspectives of New Music*, XI/1 (Fall-Winter, 1972), 43-64.

Ex. 15. Schoenberg, Op. 2/4, "Waldsonne" (Schlaf)



The cadential VII⁷ is embellished by neighbor notes, forming the set 4-19. This is reminiscent of the "Mozart chord," Example 13.

Ex. 16. Schoenberg, Op. 3/2, "Die Aufgeregten" (Keller), Nov. 9, 1903



At the end of this song, the "freely" treated embellishing notes form atonal sets that sound against the sustained tonic harmony. Indeed, this passage sounds a good deal like those that will be characterized as "transitional" in the discussion below. Consider the right-hand passage in thirty-second notes. As a tonal configuration it is most peculiar, for it does not work within an interval of the sustained tonic triad, but within the interval formed by the neighbor notes G[♯] and G[♭], which resolve to A and F, respectively. The E[♭] is left by skip, presumably so as to avoid premature statement of the F of resolution. The total configuration presents a set of type 5-31, also much beloved by Stravinsky—for example, in *The Rite of Spring*. The left-hand part in sixteenth and thirty-seconds is even more unusual and is difficult to fit into the tonal framework. It almost replicates the upper voice, differing from it by only one note, with B[♭] for the A of the upper voice. The set formed is 7-26.

Again, as in Example 16, we find a complicated sonority at the cadence of this song (Ex. 17). The dominant substitute here is the sonority that is reached on the last eighth note of the penultimate measure, a seventh chord with root on C. This is introduced by a

Ex. 17. Schoenberg, Op. 3/5, "Geübtes Herz" (Keller), Sept. 2, 1903

combined suspension and passing chord on the down beat, 5-Z37.³³

Finally, the signature itself is sometimes formed as a “bent” tonal configuration. For instance, at the end (mm. 85-86) of Opus 12/1 (“Jane Grey”), the tonic major and minor chords are combined with the leading tone and lowered leading tone. As a result, 6-Z44 is formed: C, C#, D, F, F#, A.

Representative Music of the Transitional Period

Thus far, two aspects of the music preceding the atonal music have been discussed: the musical signature as the indicator of transition, and atonal formations in tonal contexts. It is now appropriate to take a closer look at some of the music composed during the period 1905 to 1909, beginning with the song, “Lockung,” Opus 6/7, completed on November 26, 1905. Of all the transitional 1905 songs, this one was selected for the present article because Schoenberg mentioned it in an important passage in the *Harmonielehre*:

Two very significant cases of unfixed tonality in my compositions are the orchestral song, Op. 8, No. 5, “Voll jener Süsse,” which fluctuates mainly between D \flat and B major, and Op. 6, No. 7, the song “Lockung,” which expresses E \flat major without introducing a single time an E \flat major triad that one could regard as a pure tonic. The one time it occurs [m. 50] it has at least a drive toward the subdominant.³⁴

There is also a partial harmonic analysis of Opus 6/7 in *Structural*

³³ The occurrence of 5-Z37 here, the “subsignature” EsCHBG that Webern used in Op. 11 (see n. 5), suggests the possibility that the complete signature might be found in this 1903 work. However, none of the three possible forms of 6-Z44 or the three possible forms of 6-Z19 is convincingly delineated in the penultimate measure.

³⁴ First ed., p. 430.

Functions of Harmony (1948), pages 112-13, which suggests that Schoenberg had a long-lasting and special regard for the song.³⁵

The song contains passages that fall into one of three categories: (1) modifications of more or less normal tonal prolongations analyzable by Schenkerian procedures; (2) passages in which tonal prolongations have been extended in unusual ways; and (3) short sections that do not fit well into the tonal schema at all and that may be regarded as harbingers of atonal structures, the "transitional" passages, which in some cases may be regarded as hybrid tonal-atonal formations. Examples of each of the three categories are presented below. (See Exx. 18a and 18b.)

Example 18b presents an analytical sketch of the first sixteen measures of the song, for which the notation is given in full in Example 18a. The harmonic analysis is after Schoenberg, *Structural Functions of Harmony*, page 112. Notice that the piece begins with the submediant harmony; the main tonality is E \flat major, as he indicated in the *Harmonielehre*.

Some comments on the sketch (Ex. 18b): The *Kopfton* G is introduced by the technique known as *Uebergreifen* ("overlapping") in Schenker's theory: as D resolves to C, F overlaps and resolves to E \flat . Finally, the *Kopfton* G overlaps and then is immediately projected to the upper register (m. 4). This G is then sustained while the voice just above the structural bass ascends chromatically from A \flat to C. As this voice moves to D \flat , the bass F is introduced (m. 8), supporting A \flat in the upper voice, which is the upper neighbor of the *Kopfton* G now in its original register. Immediately thereafter the A \flat is placed in still a lower register. Subsequently, B, the first note of the voice, enters above the A \flat , concealing the return of A \flat to F in measure 14 via F \sharp (m. 11). The upper-voice F in measure 14 belongs to the G of measure 4, as shown by the beam, and represents the continuation of a long-range "middleground" motion that is completed in measure 16 with D of the upper voice over G of the bass. The harmony is V of VI, as Schoenberg indicates.

Thus, except for the highly chromatic motion in measures 4-8, which is still based on traditional voice-leading, as the figured-bass symbols indicate, and the ambiguity concerning the tonic (C minor or E \flat major), the passage analyzes out as a coherent tonal structure,

³⁵ The other opus mentioned in the quotation, Op. 8, *Six Orchestral Songs*, composed from 1903 through 1905, is virtually unknown as of the present writing.

Ex. 18a. Schoenberg, "Lockung" (Aram), Oct. 26, 1905

Leicht, aber nicht allzu rasch

zart *P* *rascher*

flüchtig *f* *rit.*

11 12 13 14 15 *rascher*
 Komm, komm mit nur es - nen Schritt!

zart *P*

fließend 16 17 18 19 20 *zögernd*
 Hab schon ge - ges - sen, will dich nicht fres - sen, komm,

P *f* *P*

Ex. 18c. Schoenberg, Op.6/7, "Lockung"

drängend 26 27 28 29 30 31

sehr rasch etwas langsamer

Komm, komm mit noch ei-nen Schritt!— Kaum ... zwei

fließend 32 33 34 35 36 37

Ze - hen weit noch zu ge - hen bis zu dem Haus - chen, komm,

38 39 40 41

— mein Mäus - - - chen,

Ex. 18d. Schoenberg, Op.6/7, "Lockung"

31 32 33 34

6 6 6 7

4 4 5 3

b VI: 1 V

Ex. 18e

Ex. 18e shows two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has two flats. The top staff has notes marked with 'N' and 'PN'. The bottom staff has notes marked with '9 (7) 8'.

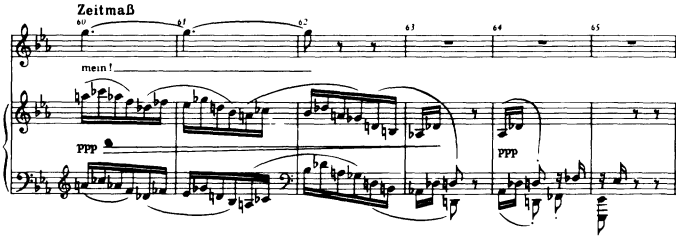
Ex. 18f. Schoenberg, Op. 6/7, "Lockung"

Ex. 18f shows two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has two flats. The top staff has lyrics: "— komm mit nur ei-nen Schritt!" and "sehr rasch". The bottom staff has lyrics: "drängend" and "Komm, komm mit".

There are three transitional passages in which the tonality is momentarily suspended: measures 24-25, 60-62, and 52-54. Measures 24-25 and 60-62 are similar, but not identical, as shown in Examples 18f and 18g. Examples 18h and 18i show the pitch-class set structure of the two passages.

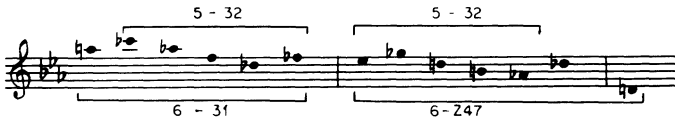
Although these passages are not completely organized in the manner of the fully atonal piece, they do exhibit certain structural characteristics that resemble those of the atonal music. Two hexachords are set out in measures 24-25 (Ex. 18h), made distinct by contour: 6-31 and 6-Z47, typical atonal sets. In measure 61 (Ex. 18i), which should correspond to measure 25, changes are made, however,

Ex. 18g. Schoenberg, Op.6/7, "Lockung"

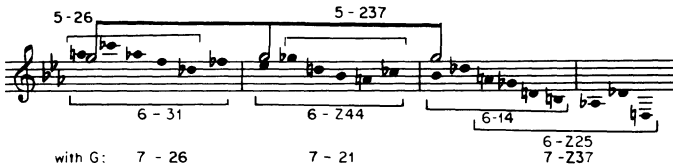


and set 6-Z44, the signature, replaces 6-Z47. (Cf. 6-Z19 in Ex. 6.) Moreover, in measures 60-62 the *Kopftön* G is sustained by the voice, creating the succession of seven-note sets indicated in Example 18i. These sets are interrelated to some extent by common contiguous subsets. For example, 5-32 occurs both in 6-31 and, immediately thereafter, in 6-Z47 (Ex. 18h). Set 5-32 is also the common five-note subset of 6-31, 6-Z47, and 6-Z44. However, it is not formed as a contiguous subset in 6-Z44 in Example 18i. (It is E_b, G_b, D, A, C_b.)

Ex. 18h. Schoenberg, Op.6/7, "Lockung"



Ex. 18i. Schoenberg, Op.6/7, "Lockung"



Two of the large seven-note sets in Example 18i are related to five-note sets as complements. Set 7-26 in measure 60 contains its complement as the first five notes, while 7-Z37 in measure 62 is preceded by its complement in measure 61. Finally, the way in which the

endings of the two passages are related: 6-Z47 in Example 18h is the complement of 6-Z25, the last hexachord in the passage shown in Example 18i. Indeed, not only do the two have the same total interval-content, but they also share five pitch-classes.

Opus 14/1, "Ich darf nicht dankend," is a thoroughly hybrid work, one that can be analyzed with a combination of Schenkerian-tonal and pitch-class set procedures.³⁶ Schoenberg's own view of the music supports this assertion:

Yet the overwhelming multiplicity of dissonant harmonies could no longer be balanced out by the occasional introduction of such tonal chords as one customarily used for the expression of a key. It did not seem appropriate to force a motion into the procrustean bed of tonality without at the same time supporting it with such harmonic successions as belong to it. . . . That I was the first to venture the decisive step is not generally regarded as a credit to me—a fact that I regret but must ignore. This first step was taken in the two songs, Op. 14.³⁷

Two short excerpts from Opus 14/1 will serve to illustrate the structure of the work: the piano introduction and the closing passage.


Example 19b is a Schenkerian interpretation of the opening music shown in Example 19a. The second chord is a linear formation that, in measure 3, proves to be a dominant substitute, with A resolving to the tonic note through A#, while the soprano G resolves to F#. The first chord, therefore, is an embellishment of the second, itself a linear formation. (Cf. the extensions of traditional procedures illustrated in Exx. 14 through 17.) The melodic goal of the entire three measures is the *Kopftone* F# in measure 3, scale degree five in the main tonality of B minor. This is first adumbrated by the chromatic neighbor note G#, then by the diatonic neighbor note G in measure 1. This second neighbor note, however, is prolonged through a linear progression that spans the interval G-D, as shown: that is, the upper fourth of the second vertical in measure 1 is composed out. In temporal correspondence with this motion, the bass arpeggiates the dominant triad: F#-C#-A#.


The atonal reading of the same opening passage is shown at Example 19c. The sets shown there are important throughout the

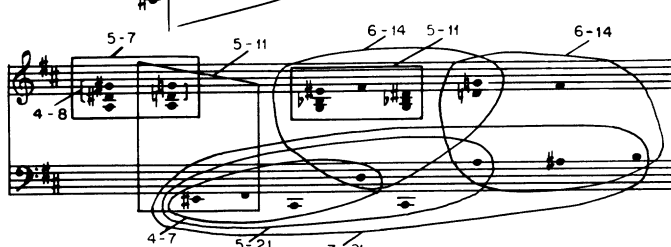
³⁶ For other views of this song, see Jan Maegaard, *Studien zur Entwicklung des dodecaphonen Satzes*, II (*Analytischer Teil*), 69 f.; also Edward T. Cone, "Sound and Syntax: An Introduction to Schoenberg's Harmony," *Perspectives of New Music*, XIII/1 (Fall-Winter, 1974), pp. 21-40.


³⁷ From W. Reich, ed., *Schöpferische Konfessionen* (Zurich, 1964). Quoted by Jan Maegaard, *Studien zur Entwicklung . . .*, II, 69. (Also in *Style and Idea*, "My Evolution," p. 86.)


Ex. 19. Schoenberg, Op. 14/1, "Ich darf nicht dankend" (St. George),
Dec. 17, 1907


a) 

b) 

c) 

d) 

e) 

f) 

song, especially 5-7. It is clear that Schoenberg regarded the two trichords as a unit, for the set 5-7 occurs in other forms as well (as shown in Ex. 20). Consider, for instance, Example 19d, where the two chords "resolve" to a "D-minor triad." This is not logical in the tonal sense, for the resolution, following the pattern of measure 3, should be that shown in Example 19e, to a C-minor triad. However, the progression is logical in the context of this work, for it creates two additional interlocking forms of 5-7, as shown in Example 19d. Furthermore, the lower two voices in Example 19d also form 5-7, as indicated.

Two forms of the hexachord 6-14 occur in measures 2 and 3.³⁸ These are transpositionally related in such a way that they share the maximum number of components, four. Similarly, two forms of 5-11 occur, one within 6-14. In this case the two are inversionally related and share three notes: E#, F#, and G. Finally, the entire bass line forms pc set 7-21, one of Schoenberg's favorites. And, remarkably, within 7-21 is its complement, 5-21, an embedding which is very typical of the advanced tonal music. And, of course, the signature, which occurs as the concealed but contiguous subset shown in Example 19f.³⁹ (See Exx. 20a and 20b.)

Example 20b presents a Schenkerian analysis of the closing music shown in Example 20a, which is quite a bit more complicated than the opening (Ex. 19). Here, especially, the quotation from Schoenberg concerning the "decisive step" is relevant. There is nothing like this in late nineteenth-century music, although prototypes there would not be difficult to locate.

First, let us give attention to the bass. The chromatic motion from D to G recalls the upper-voice motion from G to D in Example 19b. Here, however, the drive is toward the dominant note, F#, which never appears. Perhaps the best reading of the bass is as an unfolding, with D prolonged to resolve to C# (understood), while the lower component of the line, G, resolves to F# (also understood).

The upper voice prolongs the neighbor-note G by a linear progression that descends a fourth to D, the third of the final tonic chord. The G# that immediately precedes the final F# is, of course,

³⁸ Pc set 6-14 is one of the five hexachords used by Schoenberg in one of his most complex late atonal compositions, the piano piece, Op. 23/4 (1920-23).

³⁹ In Op. 14/2 the signature is completely exposed as the first six notes in the left-hand part of the piano. The set is 6-Z44: F, F#, G, Bb, B, D.

Ex. 20. Schoenberg, Op.14/1, "Ich darf nicht dankend"

m.26

a)

b)

a)

b)

a reference to the first melodic note of the piece. The tritone A \sharp -E is an unusual feature of measures 28-29, since it does not resolve in the conventional tonal manner—because of the motivic reference to the opening trichord in the last measure.

Ex. 20c. Schoenberg, Op.14/1, "Ich darf nicht dankend"

In the atonal reading, Example 20c, special attention should be given to the interlocking forms of 5-7 that begin in measure 27. Here 5-7 does not have the external form that it had at the outset of the song (Ex. 19)—a transformation typical of the later atonal music. Notice in particular the long sustained form of 5-7 that begins with the D \sharp on the last beat of measure 27. The hexachord

6-Z10 occurs in two transpositionally related forms here.⁴⁰ And the large set, 8-Z15, which is formed by the entire first measure, is of interest, since it foreshadows the structural use of such large units in the later music. Here it is not merely the occurrence of the large set that gives it importance, but its relation to 4-Z15, its complement, which is a subset of the cadential formation in measure 30. In the same formation 4-Z29 occurs, and 4-Z15 and 4-Z29 are intervallically equivalent tetrachords.⁴¹

Ex. 21. Schoenberg, Op. 10, *Entrückung*

The image displays a musical score for Schoenberg's Op. 10, *Entrückung*. It is divided into two columns of staves. The left column contains the vocal line (Sopran) and the piano accompaniment. The vocal line is marked 'Sehr langsam (gehende Achtel)' and 'Sopran'. The piano accompaniment is marked 'mit Dämpfer' and 'ppp'. The right column shows the piano accompaniment in detail, with various dynamics like 'ppp', 'pp', and 'p' indicated. The score is written in a complex, atonal style characteristic of Schoenberg's early work.

The last movement of the Second String Quartet (Op. 10), entitled *Entrückung*, after the George poem which it includes, was begun late in 1907, probably just after Opus 14/1 was completed on December 17. It was completed early in 1908, perhaps overlapping the first of the George Lieder, Opus 15. Examination of the

⁴⁰ Like 6-14, 6-Z10 is one of the five hexachords in Op. 23/4 (see n. 38). The other three are 6-Z39, the complement of 6-Z10, and the signature hexachords 6-Z19 and 6-Z44.

⁴¹ It will be recalled that all interval classes are represented in the total interval content of each set — a unique situation among tetrachords.

first six measures (Ex. 21) will suffice to indicate the hybrid nature of the work.

Whereas in Opus 14/1 the tonal aspects are perhaps most prominent, in *Entrückung* the atonal features predominate. Indeed, the tonality (F \sharp /G \flat major) is not asserted in a way that is analyzable in Schenkerian linear-harmonic terms, and no effort will be made to do that. Instead a different strategy will be adopted, one that will reveal the developmental character of the section.

Ex. 22a. Schoenberg, *Entrückung*

Ich füh - le Luft von an - de - rem pla - ne - ten
5 - 2 - 3

The opening section is part of the introduction to the entrance of the voice in measure 21, as shown in Example 22a. The famous “Ich fühle Luft” motive is based on pc set 4-23, and in this ordering all the interval classes of the set are represented as linear (consecutive) intervals: ic4 (the perfect fourth), ic2 (the major second), and ic3 (the minor third). As we proceed, the significance of this will become evident.

Before embarking upon a discussion of this opening music it is appropriate to ask two questions. First, in what way is the assumed tonality of F \sharp major expressed in this section, which resembles a succession of atonal pitch fields? Second, in what way does this introduction prepare for the entrance of the voice and for the statement of the “Ich fühle Luft” motive in particular?

Ex. 22b. Schoenberg, *Entrückung*

6 - 239
4 - 4 4 - 2 29
4 - 19 5 - 13
4 - 19
8 - 12

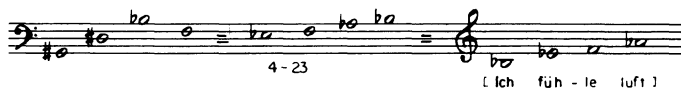
With respect to the latter question, the opening passage seems peculiar at first. It consists of a succession of statements of the large set 8-12, and 8-12 does not contain 4-23 (“Ich fühle Luft”). Nor does 8-12 contain certain basic sets associated with triadic tonality,

such as the major scale (7-35). Example 22b displays the tetrachordal subsets of 8-12 in its first form, tetrachords which are fundamental components of the subsequent music. Segmentation by contour yields 4-4 and 4-Z29; however, the tetrachord 4-19 proves to be more significant to the sequel. Here the two forms are inversionally related. And, as one would expect, 8-12 contains the signature. Example 22c shows that it occurs as the central hexachord, beginning with B and ending with F.

Ex. 22c. Schoenberg, *Entrückung*



Ex. 22d. Schoenberg, *Entrückung*



The opening configuration, however, does relate directly to the “Ich fühle Luft” motive in the following way. The head notes of each transposition, which is by fifth, form 4-23, as shown in Example 22d. This set is transpositionally related to the motive in such a manner that they have no pitch-classes in common, one of five such possible transpositions.

At the end of the first measure the last pentachord of 8-12, 5-13, is detached from the large set and continued imitatively with a transposed form in measure 2. This five-note set contains interlocking tetrachords 4-19 and 4-Z29, which become especially important in a developmental way in the “returning” passage of measure 5 (to be discussed). However, what is of prime importance here is the way in which the two forms of 5-13 interact, since this has to do with the relation of the introduction to the “Ich fühle Luft” motive. The two forms of 5-13 are transpositionally related by the interval of a major second (ic2). They share only two pitch-classes, C# and B, which again form the same interval-class. Moreover, the sum of the two forms of 5-31 is the large whole-tone set 8-21, the complement of 4-21, one form of which is C, D, E, F#.

Thus, just as the first measure expressed the "Ich fühle Luft" motive, and the first interval of that motive in particular, the second measure expresses the second interval of the motive. It should also be noted that the boundary interval of 5-13 in its ordering here again belongs to ic2, so that that interval-class is presented in a saturated way, both in the "foreground" detail and in the "background" set, 8-21, the sum of the two forms of 5-31.

Continuity with the opening music is furthered not only by continuing the "detached" set 5-13 in measure 2, but also by the way in which the two forms of 5-13 are linked in that measure. At the join, the set 4-12, complement of 8-12, is formed:

Vn. 1 C# F
Vn. 2 B D C#

In measure 3 the two forms of 5-13 continue to interchange while cello and viola enter with lines based upon descending fifths. In terms of pc sets, the viola presents 5-35, the complement of the major scale, 7-35, while the cello sets out 6-32, the major hexachord. The sum of these lines is 8-23, the literal complement of the "Ich fühle Luft" motive as it is shown in Example 22a. Thus, in this passage, the fifths of the opening, which reflect the first interval of the motive, are restated in viola and cello against the seconds in the violins.

Most remarkable, however, is the event that occurs at the end of the measure. There the viola plays a trichord C#-D#-Fx against the sustained E in the cello. The resulting tetrachord is 4-12, the complement of the opening eight-note set. Just as 4-12 joins the two forms of 5-13 in measures 2 and 3, so here it serves as a clear reference to the opening music. Again, the composer has assured continuity while at the same time introducing new elements. Even in the detail at the end of the measure (m. 3), the set structure is completely logical and meaningful in terms of prior events. Consider the constellation formed by the "joining" form of 4-12 and the form brought in by the cello and the viola:

Vn. 1 C# F
Vn. 2 B D C#
Va. C# D# Fx
Vc. E

Within this configuration pc set 5-13 is formed once again as Fx, B, C#, D, D#, and this form is identical to the form played by the second violin in measures 2-3.

In measure 4 successive forms of 5-13 are transposed down a major second, continuing the large-scale whole-tone pattern. This pattern is broken, however, at the end of the measure, when the second violin's figure beginning on G ends on F \flat instead of F, and the last figure in the first violin changes the contour of the set and differs from 5-13 by one note: A for A \flat . These peculiar changes will be discussed below.

Ex. 22e. Schoenberg, *Entrückung*

The musical notation in Example 22e shows a single melodic line on a treble clef staff. The notes are: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. Above the staff, brackets indicate intervals: 5-13 (G4-A4-B4-C5), 5-13 (A4-B4-C5-B4), and 4-4 (B4-C5-B4). Below the staff, brackets indicate intervals: 4-Z29 (G4-A4-B4-C5), 4-19 (A4-B4-C5-B4), 4-18 (B4-C5-B4-A4), and 8-12 (G4-A4-B4-C5-B4-A4). A large bracket at the bottom indicates the 8-12 set (G4-A4-B4-C5-B4-A4).

Measure 5 presents a beautifully composed return to the initial set, 8-12. The substructure of this set, in terms of tetrachords and pentachords, is shown in Example 22e. Notice that it contains two interlocking forms of 5-13, the second of which is more easily associated with 5-13 as it originally occurred within 8-12 in measure 1 because of the “augmented triad” and the semitone components. Also prominent are the tetrachords 4-19, 4-Z29, and 4-4 (cf. Ex. 22b). With respect to the first occurrence of 8-12, the positions of 4-4 and 4-Z29 are reversed. The occurrence of 4-18 as a component of 8-12 here is an apparent anomaly. This set-type, however, is the one that is held in common between any two successive forms of 8-12 in the opening statement (m. 1).

Example 22f shows in detail the way in which the return of 8-12 (Ex. 22e) is prepared. First, the passage is introduced by the set 5-25, which, as noted above, differs from 5-13 by only one note. Why this should differ in this way poses an analytical puzzle (is it a misprint?) until the figure is combined with its “regular” form, which follows immediately. The result is a hexachord: E, F#, G, A \flat , A, C. This hexachord is 6-Z39, the same type as the last hexachord in 8-12 (Ex. 22b). Thus, although 8-12 does not occur in measure 4, it is represented by its hexachordal subset and is referenced at the end

Ex. 22f. Schoenberg, *Entrückung*

The image shows two systems of musical notation. The first system consists of two staves. The top staff has a treble clef and a key signature of one flat. The bottom staff has a bass clef. Brackets and labels indicate various pitch-class sets: 5-25 (top staff, first measure), 7-33 (top staff, second measure), 5-13 (top staff, second measure), 4-19 (top staff, second measure), 5-13 (top staff, second measure), 4-19 (top staff, second measure), 5-13 (top staff, second measure), 4-19 (top staff, second measure), 6-Z39 (bottom staff, first measure), 8-24 (bottom staff, first measure), 5-13 (bottom staff, first measure), 4-19 (bottom staff, first measure), 4-19 (bottom staff, first measure), 4-Z29 (bottom staff, first measure), and 6-Z39 (bottom staff, first measure). The second system also consists of two staves, with similar annotations: 6-Z39 (top staff, first measure), 5-13 (top staff, first measure), 4-19 (top staff, first measure), 4-19 (top staff, first measure), and 4-Z29 (top staff, first measure).

of the passage, just as it was referenced by 4-12, its complement, at the end of the previous measure.⁴²

Following 5-25 (Ex. 22f) an eight-note configuration, 8-24, is unfolded. Within this are three contiguous forms of 5-13, easily recognizable because of the “augmented triad” and semitone components. Further, there are two forms of 4-19, as shown. Most extraordinary, however, is the large set 8-24. Previously, 5-13 and 4-19 have been associated with 8-12. What is the reason for building another type of eight-note set here? Pc set 8-24 is the complement of 4-24, which in one ordering is C, D, E, G \sharp , a set that is very closely associated with respect to interval content with the whole-tone tetra-

⁴² Similarly, the F \flat at the end of the last figure in the second violin in m. 4 is not a misprint. Together with the first new note, C, of the succeeding first violin figure, it forms pc set 6-Z19, the signature and the complement of the central hexachord in the initial statement of 8-12 (cf. Ex. 22c). The initial dyad is a reversal of that in 6-Z44 (Ex. 22c).

chord 4-21 (C,D,E,F#). Thus, the reference here is to the second interval of the "Ich fühle Luft" motive.

The whole-tone component is continued in the second configuration of measure 5 (Ex. 22f) with the seven-note set 7-33. This is the complement of 5-33 (e.g., C, D, E, F#, G#). And the substructure of the previous pattern is continued in this one: interlocking forms of 5-13 and 4-19.

In the third configuration of measure 5 (Ex. 22f), the hexachord 6-Z39 is created. This hexachord is of the same type as the last hexachord in 8-12 in its first form, as will be recalled (Ex. 22b), and the hexachord formed in the remarkable "wrong-note way" at the end of measure 4 and the beginning of measure 5 (Ex. 22f). Within 6-Z39 there are two forms of 4-19 and one form of 5-13. (Set 5-13 in this appearance is identical with respect to pitch-class to 5-13, the first figure in the first violin in m. 4.) The last tetrachord is, of course, 4-Z29, the same as in the initial appearance of 8-12 in measure 1.

In sum, the substructure of the configurations leading to the return of 8-12 in measure 5 is such that the return is prepared in a gradual, developmental way. The whole-tone structures are gradually transformed and the forms of 5-13, the set that was initially split off from 8-12 in measure 1, become more and more explicit. This passage, in particular, looks ahead to a very advanced stage in Schoenberg's evolution, to the style that he called "composing with tones," that is, to the atonal-serial works, of which the Five Piano Pieces, Opus 23, is an example.

In measure 6 the first violin enters with the "descending fifths" pattern first introduced by the viola in measure 3. This pc set is 7-35, one form of which is the major scale, as remarked earlier. If interpreted as a scale here, then it is the G \flat major scale. Clearly this is intended to be the first statement of the tonality of the movement. And the association of set 7-35 with the "Ich fühle Luft" motive is unmistakable: the two lower instruments present 4-23 four times in an ordering that emphasizes ic5 and ic2. The sum of these four forms is again 7-35, the same pitch-classes as those in the first violin—that is, another statement of the G \flat major (tonic) scale.

Entrückung occupies a special place in Schoenberg's creative evolution, as should be evident from the previous discussion. It begins in an almost completely atonal way, a startling development compared with "Lockung," Opus 6/7, composed some two years

earlier. The tonal component, the G_b major scale, is even introduced in an atonal context, that is, directly following 8-12 in measure 5. In this movement, Schoenberg is not only composing with pc sets in the most sophisticated way, but also with large-scale intervallic structuring that relates directly to a musical event of small scale, the "Ich fühle Luft" motive. In this latter respect, the movement represents an effort to discover musical means that would produce the kind of musical coherence governing spans of various dimensions that is available in traditional triadic tonality.

An additional and major point can be made at this juncture, with supporting evidence from *Entrückung*: At this stage in his evolution, Schoenberg was already composing with unordered pc sets of various sizes and composing with these sets in a thoroughgoing way that is not evident, say, in Opus 12/1. Furthermore, these basic components take precedence over any particular motivic or thematic form. Perhaps the most striking example is the form of 8-12 at the beginning (Ex. 22b) and the form of the same set as it occurs at the end of measure 5 (Ex. 22e). As noted above, they are somewhat associated by the "augmented triad" and semitone elements of 5-13 and by the intervals formed by successive dyads, since in the first form of 8-12 (m. 1) those intervals are restricted to classes 1, 3, and 4, and in the second form (m. 5) the dyadic intervals express classes 1, 2, 3, and 4. Otherwise, the sets differ greatly with respect to mode of occurrence, especially with regard to register and overall contour. (Here the contour of 8-12 associates it with 8-24 and 7-33, of course, in the same measure.) Thus, even at this stage in Schoenberg's evolution the pc set is no longer attached to the traditional motive or theme exclusively.

In the song, "Am Strande" (Ex. 23), we have a completely atonal work,⁴³ hence a basis for comparison with the previous tonal and hybrid examples. There are no tonal harmonies, no "cadences," and no linear progressions or other features of the tonal work that would suggest that a Schenkerian analysis might be either appropriate or fruitful.

⁴³ The song was not published during Schoenberg's lifetime for reasons having to do with the text, according to the composer. It is dated Feb. 8, 1909, but in a gloss, perhaps made during the period 1911-15 (according to Maegaard, *Studien zur Entwicklung* . . . I, 60), Schoenberg claims that the correct year is 1908. This is unquestionably an error. Even with respect to secondary features, such as the use of extreme registers, harmonics, and so on, it compares to the George Lied, Op. 15/15 (Feb. 28, 1909), to Op. 11/1 (Feb. 19, 1909), and to Op. 11/2 (Feb. 22, 1909).

Ex. 23. Schoenberg, "Am Strande" (Rilke?), Feb. 8, 1909

sehr kurz

dim. Vor - u - ber... die Flut...

ff

Noch brau-est fern. Wild Was - ser... und o - ben Stern an Stern

Flag. durch tonlos Niederdrücken der Tasten

All the pc sets introduced at the beginning of the piano introduction (through m. 3) recur in various ways to produce new structures. However, these recurrences will not be discussed in any detail; instead, close attention will be given to the opening music.

Ex. 24a. Schoenberg, "Am Strande"

The initial piano configuration (a bit of tone-painting not unusual in Schoenberg's music) consists of the hexachord 6-Z17 followed by the tetrachord 4-8, a special "motto" set throughout the song.⁴⁴ Set 6-Z17 divides into the two tetrachords 4-6 and 4-19, shown in Example 24a. Of these, 4-19 is more important in the subsequent music.⁴⁵ The entire opening motion forms 9-5, the complement of

⁴⁴ Comparing the ascending figure of the upbeat to the similar figure that begins at the end of m. 3, Edward Cone ("Sound and Syntax") suggests that the C in the former may be a misprint for B in the latter. This is not the case. There are two different hexachords involved (6-Z17 and 6-Z19); both have their own *raison d'être*. Moreover, C natural in the upbeat is absolutely unmistakable in the manuscript, reproduced as Faks.Abb.no. 1 in Maegaard's *Studien zur Entwicklung . . . , Notenbeilage*, p. 88.

⁴⁵ Set 4-19 is made up of the last three notes of the thirty-second-note figure and the top note of the chord, 4-8. Here as elsewhere the collected edition should have

the first trichord (Ex. 24a). Such large-scale structuring, in this case through complement-embedding, is completely characteristic of the atonal music.

Ex. 24b. Schoenberg, "Am Strande"



With 4-8 established in the right-hand part, the two new notes G# and A form 6-Z19, the signature. Within 6-Z19 is the five-note set 5-21, which emerges at the end of the piano introduction in measure 6 (Ex. 24b). The relation between the two forms of 5-21 is such that they share no pitch-classes. The complement of 6-Z19, 6-Z44, is shown as it occurs in measure 2, although it occurs also, of course, in measure 1, interlocking with 6-Z19. The common subset between 6-Z19 and 6-Z44 is 5-21, the set mentioned above.

At the end of measure 3, in the extreme low register, is the form of 6-Z19 that differs from the initial 6-Z17 by one note (see n. 44). Comparing the first form of 6-Z19 with this new form, it can be ascertained that they share only one note, the B which is the top note of the "motto" set 4-8 within the first 6-Z19 and the end of the first tetrachord (4-Z29) and the beginning of the second (4-19) in the second form of 6-Z19. Even more subtle is the way in which the new form of 6-Z19 is related to the left-hand part of the previous music. The set 4-Z15 is formed as G#-A-F-E_b in measure 1 (Ex. 24a) and the set 4-Z29 is formed as C#-D-G-B, the first tetrachord in 6-Z19 in measures 3-4 (Ex. 24a). As has been pointed out above, these tetrachords have the same total interval-content (n. 41).

Three additional examples will indicate the extent to which the opening sets permeate the musical texture of the entire song. In measure 9 (Ex. 24c), piano and voice combine to form 6-Z43, the complement of the first hexachord in the song, 6-Z17. This set

followed the manuscript, in which the accent is placed *above* the staff, i.e., above B, to give the correct voicing of the chord.

Ex. 24c: Schoenberg, "Am Strande"

Musical notation for Ex. 24c, Schoenberg's "Am Strande". The score shows a piano accompaniment with a circled melodic line in the right hand and a bass line in the left hand. The circled line is labeled "6Z43" and the bass line is labeled "8-19".

occurs within 8-19, the complement of 4-19. Thus, while 6-Z17 contained 4-19, now 6-Z43 is contained within 8-19, so that the relation between the complementary four- and eight-note sets is structurally meaningful in terms of their hexachordal superset and subset (n. 45).

Ex. 24d. Schoenberg, "Am Strande"

Musical notation for Ex. 24d, Schoenberg's "Am Strande". The score shows a piano accompaniment with a circled melodic line in the right hand and a bass line in the left hand. The circled line is labeled "5-6", "5-Z12", and "5-6".

In measure 8, the "motto" set 4-8, previously stated as piano harmonics,⁴⁶ enters at dynamic level forte and is followed by three bass notes. As a result, the set succession shown in Example 24d is created: 5-6, 5-Z12, and 5-6 again. The two forms of 5-6 share four notes, namely, 4-8, a situation available only by inversion. The occurrence of 5-6 in the opening music is shown in Example 24a: 4-8 plus E_b in the left-hand part. In Example 24d, the last form of 5-6 is identical (with respect to pc) to that form. Not shown in Example 24a, however, is 7-6, the complement of 5-6. This consists of 6-Z17 plus the B at the top of the "motto" tetrachord. (Set 5-Z12 does not

⁴⁶This is perhaps the first instance of such harmonics, for "Am Strande" was completed on Feb. 8, 1909, while Op.11/1, usually cited as the first instance, was completed on Feb. 19 of that year.

occur in the opening music, but is closely related to several other sets in the entire song.)

Ex. 24e. Schoenberg, "Am Strande"



Finally, in measure 9 (Ex. 24e), the "motto" set 4-8 occurs as "parallel fifths" in the left-hand part. As can be seen in Example 23, there is a similar formation in the right-hand part at the end of measure 8.

Thus, in "Am Strande" we have a fully integrated, cohesive atonal work. The path to completely developed atonality has been traversed, and the compositions that immediately succeed "Am Strande" testify to Schoenberg's complete mastery of the idiom that he created: Three Piano Pieces, Opus 11, Five Orchestral Pieces, Opus 16, and *Erwartung*, Opus 17.

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