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INTRODUCTION

It is not generally known that Webern's atonal music contains traces of what has come to be called the octatonic collection.[1] Indeed, in at least one instance, the first of the composer's *Bagatelles for String Quartet* (1913), the octatonic collection assumes primary importance as organizing force in the pitch domain. This, however, is not its first appearance in Webern's music. Example 1 shows an octatonic "trace" from an earlier work.

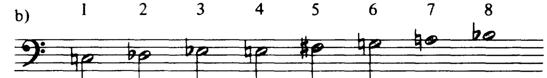
The cadential sonority of the penultimate movement of his path-breaking Opus 7, *Four Pieces for Violin and Piano* (1910), is a hexachord of class 6–Z13, as shown in Example 1a.[2] For devotees of the octatonic who are also familiar with

Example 1. Webern, Op. 7 No. 3: octatonic traces

a)

6-Z13: [0,1,3,4,6,7] Coll. III

b)

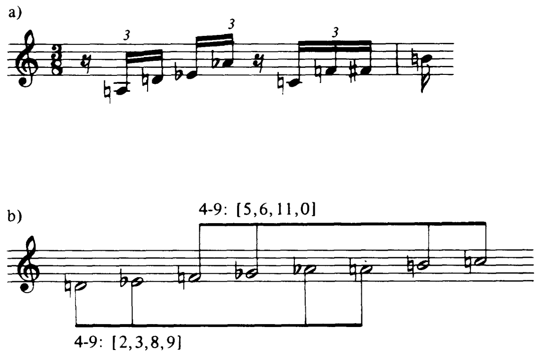


pitch-class set names, this set identification rings a bell—a strident octatonic bell, in fact—for hexachord 6–Z13 represents one of only two classes of hexachord that can be extracted from the octatonic scale as contiguous (ordered) segments. Example 1b demonstrates the location of this form of 6–Z13 in the "ordered" octatonic scale commonly designated

[1]"Octatonic collection" refers to the eight-note pitch-class set 8–28. Any one of four orderings will yield what is known as the octatonic scale, defined by the intervallic pattern 1–2–1 . . . or 2–1–2 . . . . Whereas, by usage, only the ordered subsets of the scale are of analytical interest, the total array of ordered and unordered subsets of the collection is available for analytical scrutiny. This distinction is basic to the present article, as will become clear. Arthur Berger coined the term octatonic in his article, "Problems of Pitch Organization in Stravinsky," *Perspectives of New Music* 2 (1963): 11–42.

[2]I will use set names for pitch-class collections throughout and, where useful, will provide the normal order (not the prime form) of the set in brackets following the name.

Example 2. Webern, Op. 7 No. 3: the octatonic collection 8–28



Collection III, after Pieter van den Toorn (see Ex. 7).[3] Hexachord 6–Z13 in the third piece of Opus 7 is by no means isolated in that movement. In mm. 6 though 9, as shown in Example 2a, the violin presents the complete octatonic collection, comprising two consecutive forms of the same tetrachordal class, 4–9 [0167]. Example 2b locates these two forms of the tetrachord within the totality of Collection II.

In this configuration (Ex. 2a), octatonic collection 8–28 does not have the familiar form of alternating half and whole steps that we know as the octatonic scale. For the purposes of this article, a subset of the octatonic collection 8–28 in which the members do not occupy adjacent positions in the octatonic scale (or some rotational permutation thereof) will be called "unordered" (with respect to the ordered scale). Accordingly, the two forms of 4–9 in Example 2b exemplify unordered octatonic sets. In contrast, 6–Z13 in Example 1b is an ordered form since its members occupy adjacent scalar positions. Because the octatonic scale retains its interval-class sequence (1–2 or 2–1) under simple rotation, an ordered subset may occur in "wrap-around" fashion. For instance, in Example 1b 6–Z13 will also be formed by pitch-class members in locations 7 8 1 2 3 4.

THE *SIX BAGATELLES* WITHIN WEBERN'S OEUVRE

In the summers of 1911 and 1913 Webern composed his *Six Bagatelles for String Quartet,* Opus 9.[4] His prior essay in this medium, the *Five Pieces for String Quartet,* Opus 5, which dates from 1909, is generally regarded as his first mature atonal composition. Unlike the Opus 5 pieces, however, the Opus 9 miniatures are extremely concise. While the first piece of Opus 5 extends to fifty-five bars, the first piece of Opus 9—the subject of the present study—barely achieves ten. Yet this first piece of Webern's Opus 9 is probably the most complex of the set, and not many authors have risen to meet the challenges it offers.[5]

[3]Pieter C. van den Toorn, *The Music of Igor Stravinsky* (New Haven and London: Yale University Press, 1983), 48ff. In Ex. 7 I have taken the liberty of rotating van den Toorn's scales so that his Collection III begins on pitch-class 3 (E♭), Collection II on pitch-class 2 (D) and Collection I on pitch-class 1 (C♯).

[4]Dates are from Hans Moldenhauer and Rosaleen Moldenhauer, *Anton von Webern: A Chronicle of His Life and Work* (New York: Alfred Knopf, 1979). The first and last pieces were completed in 1913, the others in 1911.

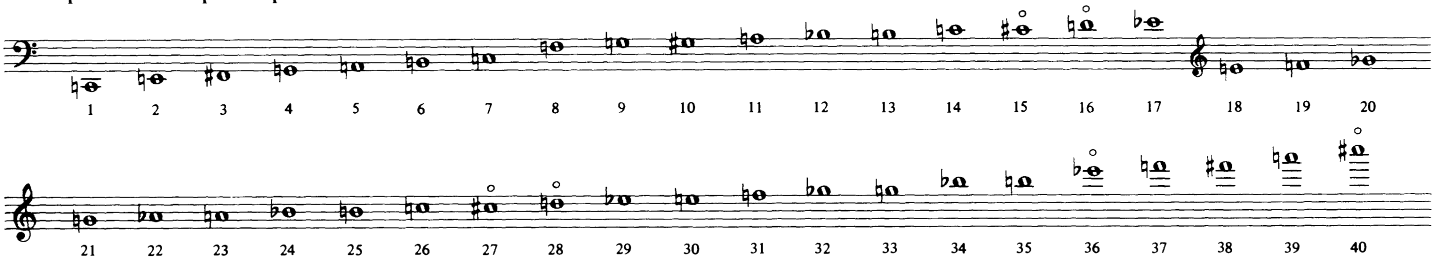
[5]The longest and most intensive study of Opus 9 in its entirety is: Richard Chrisman, "Anton Webern's 'Six Bagatelles for String Quartet,' Op. 9: The Unfolding of Intervallic Successions," *Journal of Music Theory* 23 (1979): 81–122. Hasty's trenchant discussion of segmentation issues in Op. 9 No. 1 is especially germane to the octatonic reading in the present article, concerning both points of intersection as well as entirely different interpretations of internal musical connections. See Christopher F. Hasty, "Phrase Formation in Post-Tonal Music," *Journal of Music Theory* 28 (1984): 167–90, esp. 179–86. Also see footnote 9.

Example 3. Webern, Op. 9 No. 1: short score

Example 3 presents a short score of the first piece of Opus 9 from which dynamics, articulations, and tempo variations have been excluded in order to give the most concise view of the pitch organization of the work. In addition, the small numerals attached to pitches refer to specific temporal positions in the music—hence, are called p-numbers. The designation p_{15}, for example, refers to g^1 on the upper stave and to F♯ on the lower. Because of the presence of these numbers as well as measure numbers on Example 3 it seems advisable to omit triplet identifiers, which are not essential to the analytical purpose of the example, in any event.

It is well to bear in mind that—even given the small scale of Webern's compositional output—the Opus 9 *Bagatelles* are part of a series of ground-breaking works in the key years immediately preceding the First World War. In Webern's oeuvre this development reached its peak in the *Five Pieces for*

Example 4. Total pitch space



Orchestra, Opus 10, completed in 1913. Thus, the *Bagatelles* should be viewed as part of this development and, in particular, as the successors to the instrumental music of Opus 7, the violin and piano pieces from which the illustrations of Examples 1 and 2 were extracted above.

What is extraordinary about all the Opus 9 compositions is that they are so individualized: each one seems to present its own musical idea, which is composed out in the most meticulous way. It is perhaps this aspect of Webern's atonal music, in addition to its intrinsic aesthetic quality, that continues to attract the attention of scholars interested in increasing our understanding of the remarkable avant-garde music of the very early twentieth century. The first piece of Opus 9 is a prime instance.

SURFACE FEATURES OF OP. 9 NO. 1

Many of the external aspects of this movement will be familiar to students of Webern's atonal music: the absence of obvious repetition of longer pitch formations and, correspondingly, the scrupulous avoidance of traditional themes and motives, the extraordinary attention accorded dynamics, mode of attack, and rhythmic articulation, and the carefully notated expressive changes of tempo—for example, the instruction *heftig* at the dynamic climax of the movement in m. 7.

In addition, and of special relevance to the present article, are the registral extremes—notably, the c♯^{4} in violin I at the beginning of m. 8 (p_{47}) and the cello's low C at the end of m. 6 (p_{36}), about both of which more below. Example 4 gives a roster of the entire pitch collection Op. 9 No. 1 unfolds, a total of forty components.

Within this span, g♭^{1} and g^1 occupy the medial position, both spatially, with respect to pitches C and c♯^{4}, and numerically, with respect to the total number of pitches represented in the music. In the concluding pitch constellation, which encompasses attacks at successive p-numbers p_{64}, p_{65}, p_{66}, and p_{67}, we hear the medial dyad followed by pitch-class representatives of the registral extremes, with c♯^{4} now transposed down three octaves to c♯^{1}, while C is transposed *up* the same distance to become c^2. The medial g^1 descends an

Example 5. Alpha and omega dyads

octave, leaving only $g\flat^1$ ($f\sharp^1$) in position with respect to the schematic array shown in Example 4. This interlocking arrangement displays the symmetry of the tetrachord, which is of class 4–9 and a member of octatonic collection III (see Ex. 11).

Another significant surface feature consists of the pitches expressed as harmonics. As indicated in Example 4 by the conventional notation for harmonics, only three pitch classes receive this timbral color—those represented by C♯, D, and E♭—which are also, and significantly so, the first three notes of the piece. In a specific linear sense this minuscule chromatic cluster is "thematic": each component is the source of a linear octatonic component that is developed throughout the movement.

If this "chromatic cluster" is extended by one note to include c^1, the first note played by violin II (which brings all the instruments into the ensemble), it then segments into two dyads, which shall be called alpha and omega, for reasons that will become clear in a moment. Pitch-class specific, contiguous instances of alpha and omega are displayed in Example 5, together with three motivic derivatives: alpha prime, omega prime, and the compound form, alpha prime/omega prime. Alpha prime and omega prime are derived by inverting about the constituent monads. Thus, alpha produces

(1 2) and (3 4), while omega yields (11 0) and (1 2). But because (1 2) is common to both alpha and omega it is assigned the label alpha prime/omega prime.

In addition to appearing in occluded form at p_{55}, where it is embedded in the chord, omega occurs together with alpha at p_{21} through p_{24} and again at p_{46} through p_{58}. Appropriately, the final sounding dyad in the movement is omega at p_{65}–p_{67}, which matches the first occurrence of alpha at p_1 and p_2. It should be emphasized that these forms of alpha and omega as well as other micro-structural components in this music are created *between* instruments as well as within a single instrument. By means of this orchestral technique Webern is able to ensure an integral sonic surface. The roles of alpha and omega in the octatonic interactions that span the entire movement shall be discussed below, but before leaving this section, it should be noted that the lowest and highest pitches of the entire registral span (Ex. 4) form omega, thus delimiting the total pitch space and dramatizing the special priority accorded the pitch classes they represent.

FORM

The surface form of Op. 9 No. 1 may be understood as tripartite, consisting of A: mm. 1–4 (ending with the first of three ritards, with rests in all parts); B: mm. 5–8, ending with the second ritard (the instruction *wieder Mässig* obviously incorrectly positioned), with a link from the $c\sharp^4$ harmonic (p_{47}) to the d^2 harmonic (p_{50}); and A′: from p_{49} through p_{67}, ending with the third of the three ritards. Further divisions within these sections are made perceptible through instrumental attacks and releases: the cello attack at p_{18} and again at p_{38}. The abrupt appearance of $g\flat^1$ in violin II at p_{59}—the penultimate appearance of the medial pitch fulcrum—may be perceived as a significant division of the final section as well. In contrast to the surface form, the internal form of the music, as determined by its interacting octatonic strands, is more intricate, as will be shown.

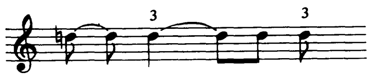
Rhythmic correspondences and distinctions are evident from the outset: each of the first four notes (the chromatic "cluster" discussed above) has a different duration, the longest of which is attached to $c\sharp^2$ (p_3), the shortest to c^1 (p_4). The resulting proportions for alpha and omega are 3:2 and 3:1, respectively, so characteristic of Webern's atonal music (see footnote 6). These durational values, which may be assigned in such a way that an integer can represent a duration in the movement, become, in effect, basic modules—modified, of course, by the flexibilities introduced during performance in accord with the notated tempo adjustments.[6] Example 6 summarizes the durations represented in the movement and gives their integer value, together with examples of single pitches that assume that value in the work.

The compilation in Example 6 takes on greater significance in the context of the entire piece. Thus, the highest pitch, $c\sharp^4$ (p_{47}), has the same durational value as its predecessor, $c\sharp^2$ at p_3–p_4, providing a pitch-class as well as rhythmic correspondence and effecting a formal connection between remote moments in the music. And $e\flat^3$ at p_{21} halves the durational value of its forebear, $e\flat^1$ at p_2. In this way an intricate web of durational connections is forged, one related to the octatonic pitch structure in ways that cannot be discussed in any detail within the scope of the present study.

A proportional relation of large scale lies right on the surface of the music and is clearly indicated by the notation with respect to the metric layout, which consists of four bars of $\frac{3}{4}$ meter followed by two bars of $\frac{2}{4}$ meter, followed by four

[6]See Allen Forte, "Aspects of Rhythm in Webern's Atonal Music," *Music Theory Spectrum* 2 (1980): 90–109. The integer value of duration is computed according to the greatest common divisor of all the notated durations in the composition. In Op. 9 No. 1 the GCD is equivalent to a thirty-second note in a sextuplet of those durations.

Example 6. Summary of durations

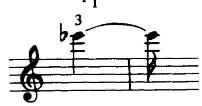


34 d^2 at p_{50}

28 F♯ at p_{12}

18 c♯^{2} at p_3

12 d^1 at p_1



11 e♭^{2} at p_{56}

bars of $\frac{3}{4}$ meter, the whole comprising the quarter-note pulse pattern 12 4 12. But this appears to be purely graphical in nature and does not correspond in any direct way to the reading of form presented earlier. More accessible information is provided by a golden-section computation, which highlights an important proportional juncture in the music: on the basis of the twenty-eight quarter-note pulses, this is 17.30, which corresponds almost exactly to f^2 (*fff*) in the viola at p_{40}, the climax and, indeed, in terms of the octatonic constituent, the crux of the movement, as will be shown.

Example 6 [*continued*].

8 g♭^{2} at p_{41}

6 f^2 at p_{40}

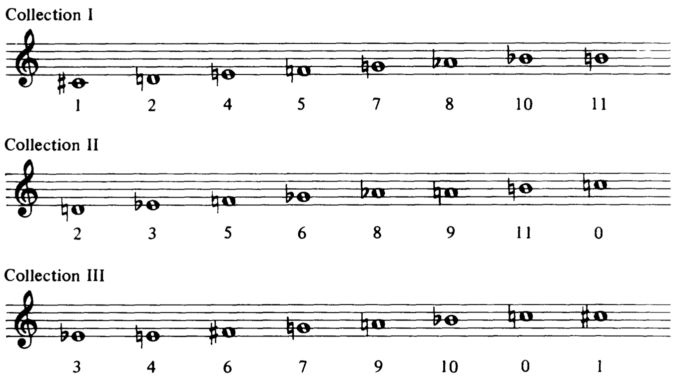
4 B at p_{63}

3 g♯^{1} at p_{38}

THE OCTATONIC COLLECTION AS BASIS FOR LINEAR ORGANIZATION

We turn now to aspects of the octatonic collection relevant to the present study, first pausing to pay homage to a perception that will soon, if it has not already, become general in the micro-universe inhabited by musical scholars. This perception consists of two parts: first, that octatonicism is far more widely distributed over various musics, especially "avant-garde" musics of the nineteenth and twentieth centuries, than has hitherto been recognized; second, that composers have used the octatonic in different and idiosyncratic ways. Debussy's octatonic usage may intersect to some degree with that of Stravinsky, but the often subliminal manifestations of the octatonic in his music distinguish it from its

Example 7. Forms of the octatonic



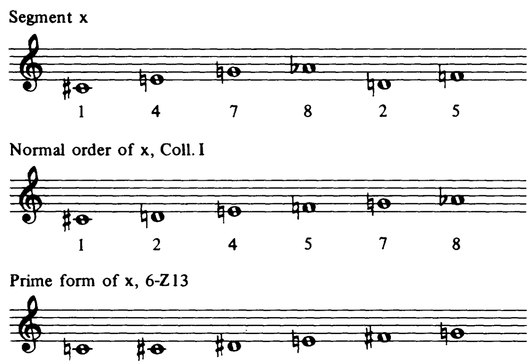
far more overt modes of occurrence in Stravinsky's. Who would assert an obvious connection between the foundational projection of the octatonic in Scriabin's music and the periodic eruptions of octatonic tokens in the music of Richard Strauss?[7] In this historical setting, Webern's music occupies a special place, and within that music the first piece of his Opus 9 may well stand as a remarkable and even unique experimental musical adventure, one that has rather startling historical implications, since his music is generally not associated with that of composers such as Scriabin, who made extensive use of the octatonic collection. At the end of the article we shall return briefly to this point and related issues. The present discussion continues with a consideration of aspects of the octatonic that are directly relevant to the central topic of this study.

If, as suggested earlier, "ordered segment" designates an octatonic scalar segment that is formed by notes that occupy adjacent positions, then, proceeding by decreasing set magnitude, the following list comprises the ordered segments of the octatonic in terms of the set-classes they represent. First, any septad (ordered or unordered) can only be an instance of class 7–31. Of the six classes of hexachord contained in 8–28, only classes 6–Z13 (0,1,3,4,6,7) or 6–Z23 (0,2,3,5,6,8) are represented in the scalar orderings. (There are four pc-distinct forms of each in 8–28, corresponding to the eight circular permutations of that octad.) Of the seven classes of pentad, only class 5–10 occurs as a continuous linear segment. And although 8–28 contains thirteen different classes of tetrachord, an ordered tetrachord can only be an instance of class 4–3 or class 4–10. Any ordered trichord is always a member of class 3–2 and, finally, ordered dyads can only be members of classes 2–1 (semitone) or 2–2 (wholetone).

With the above list as a guide, to determine if a continuous segment is a segment of the ordered, scalar form of 8–28, first identify its class membership. If it belongs to one of the ordered set classes listed above then it has probably been extracted (by the composer) from the scalar octatonic, as distinct from the octatonic collection. In this specific sense, the distinction between ordered and unordered segments provides an informal measure of the "conscious" usage of the

[7]The following list gives some indication of the recent range of scholarly interest in matters octatonic. Pieter van den Toorn, *The Music of Igor Stravinsky* (cited above). Richard S. Parks, *The Music of Claude Debussy* (New Haven and London: Yale University Press, 1989). Allen Forte, "Debussy and the Octatonic." *Music Analysis* 10 (1991): 125–69. James M. Baker, *The Music of Alexander Scriabin* (New Haven and London: Yale University Press, 1986). References to pitch-class set 8–28 in that volume may be construed as invoking the octatonic collection. Tethys Carpenter, "Tonal and Dramatic Structure," in *Richard Strauss: Salome,* ed. Derrick Puffett (Cambridge: Cambridge University Press, 1989). The author cites instances of pitch-class sets that belong to the octatonic orbit. Paul Wilson, *The Music of Béla Bartók* (New Haven and London: Yale University Press, 1992).

Example 8. Identifying an octatonic segment



octatonic scale as a referential collection and is therefore essential to the assertion that Op. 9 No. 1 represents an experimental excursion into the realm of the octatonic—a very idiosyncratic excursion, as will be seen.

A further refinement of the idea of "ordered" segment is required, however, since an ordered segment may undergo internal reordering, which tends to conceal its derivation from the octatonic scale. But the familiar procedure of reduction to normal order will reveal the scalar affiliation of a continuous linear segment, if it exists.

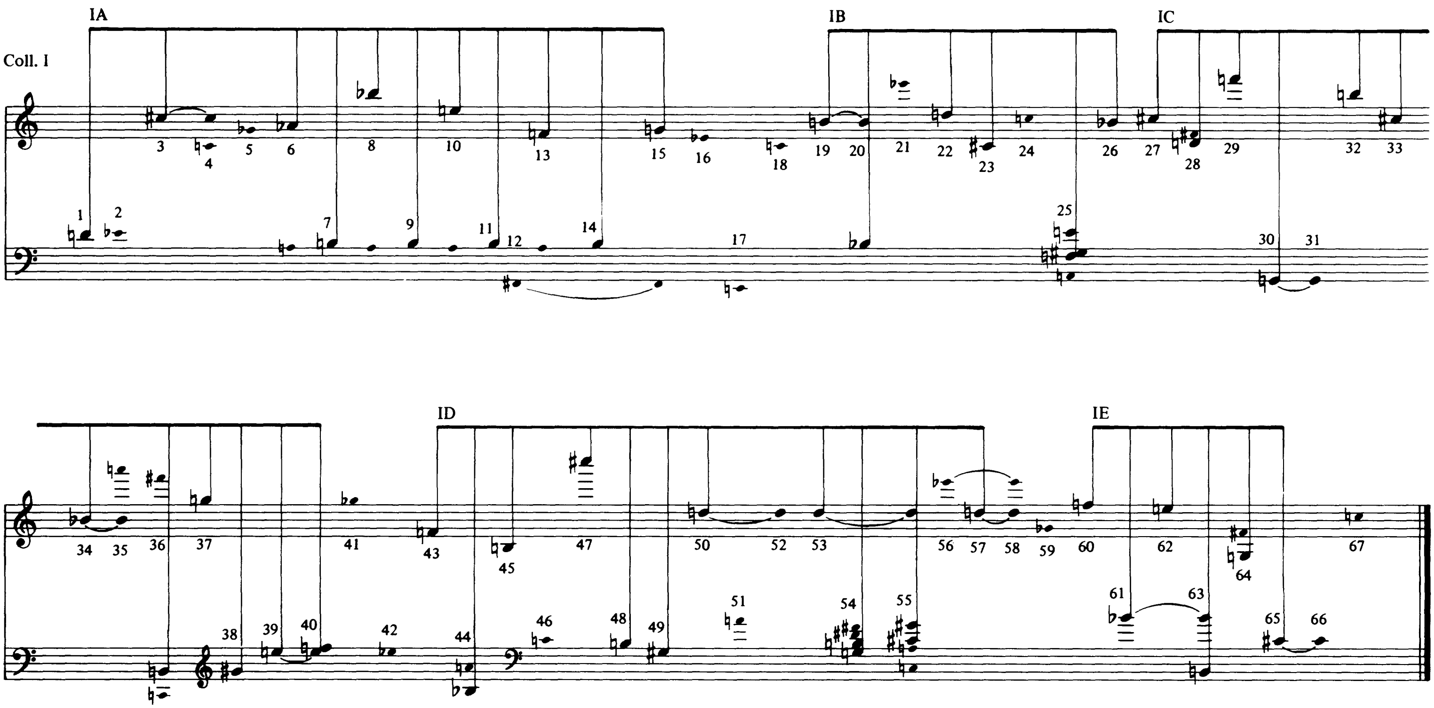
Example 8, in which a continuous line segment undergoes normal order reduction, including the elimination of duplicates, if any, illustrates the procedure that identifies it as an ordered segment of Collection I and a member of hexachordal class 6–Z13.

THE OCTATONIC READING

Derived from the condensed score (Ex. 3), Example 9 reproduces the Collection-I strand of Op. 9 No. 1 in its entirety. Here and in Examples 10 and 11 cue-size noteheads usually represent pitches that are not members of the octatonic collection currently displayed. Reasons for exceptions either require no explanation or are explained as they appear on the examples.

The legend for Example 9 (Table 1) is intended to aid the reader to follow the comments. Pitch-class integers instead of letter names facilitate reference to the octatonic collections shown in Example 9. Set-class names are aligned to correspond to the headnote of each set. Italicized numbers in the row above the pitch-class integers correspond to the position numerals on the example. The examples concentrate on ordered hexachords 6–Z13 and 6–Z23 since they always contain ordered tetrachords 4–3 and 4–10 and the ordered pentad 5–10, which therefore do not require special identification. And because sets larger than the hexachord will reduce either to class 7–31 or to class 8–28, those labels serve only to identify the content of the complete strand.

Let us consider the portion of the strand labeled IA, the contents of which are displayed in Table 1. Its first six notes sum to hexachord 6–Z23, one of the two ordered linear hexachords of Collection I, beginning on d^1 (pc2 at p_1) in cello and ending on e^2 (pc4 at p_{10}) in violin I. Intersecting with hexachord 6–Z23 is a form of 6–Z13 (the other ordered hexachord class) that begins on $a\flat^1$ (pc8 at p_6) in violin 1 and ends on g^1 in that instrument (pc7 at p_{15}), with the repetitions of pc11 (b in viola) punctuating the line. Taken altogether, Example 9. Collection I strands



then, the beamed strand IA from p_1 through p_{15} presents the entire octatonic set, 8–28. The analysis reserves the isolated low cello E at p_{17}, which could be read as part of Collection I, for Collection III (Ex. 11, in which it is shown to join its predecessor, F♯, to form tetrachord 4–3).

The linear strand labelled IB, which is separated from IA by three unassigned notes represented in small notation, begins on the cello's b^1 at p_{19} and ends with the viola's $b\flat^1$ at p_{26}, closing part 1 of the surface form of the movement. This strand does not present the entire octatonic collection, but lacks pc7, which occurred as the last pitch of Strand IA. But unlike the hexachords of Strand IA the two hexachords of this strand, 6–27 and 6–Z49, are not ordered, which suggests that the music does not always refer to the scalar form of 8–28,

Table 1. Legend for Example 9: Collection-I strands

1 3 6 7 8 9 10 11 13 14 15
IA: 2 1 8 11 10 11 4 11 5 11 7
8–28
6–Z23: [8,10,11,1,2,4]
6–Z13: [4,5,7,8,10,11]

20 21 22 23 25 26
IB: 11 10 2 1 5 8 4 10
7–31 (lacks pc7)
6–27: [5,8,10,11,1,2]
6–Z49: [1,2,4,5,8,10]

27 28 29 30 32 33 34 36 37 38 39 40
IC: 1 2 5 7 11 1 10 11 7 8 4 5 4
8–28
6–Z49:[10,11,1,2,5,7]
6–Z23:[5,7,8,10,11,1]
6–27:[7,8,10,11,1,4]
6–Z13: [10,11,4,5,7,8]

43 44 45 47 48 49 50 54 55 57
ID: 5 10 11 1 11 8 2 7 11 2 1 8 2
7–31: (lacks pc4)
6–27:[5,8,10,11,1,2]
6–Z13:[7,8,10,11,1,2]

60 61 62 63 64 65
IE: 5 10 4 11 7 1
6–30:[4,5,7,10,11,1]

but sometimes engages the full octatonic collection through its unordered subsets.[8] While complex reasons for this departure from the ordered set suggest themselves, a basic reason is to be found in the simultaneous unfolding of two interlocking forms of the octatonic, only one of which may be ordered. Here, for example, "unordered" Strand IB interlocks with the final portion of "ordered" Strand IIA (shown in Ex. 10).

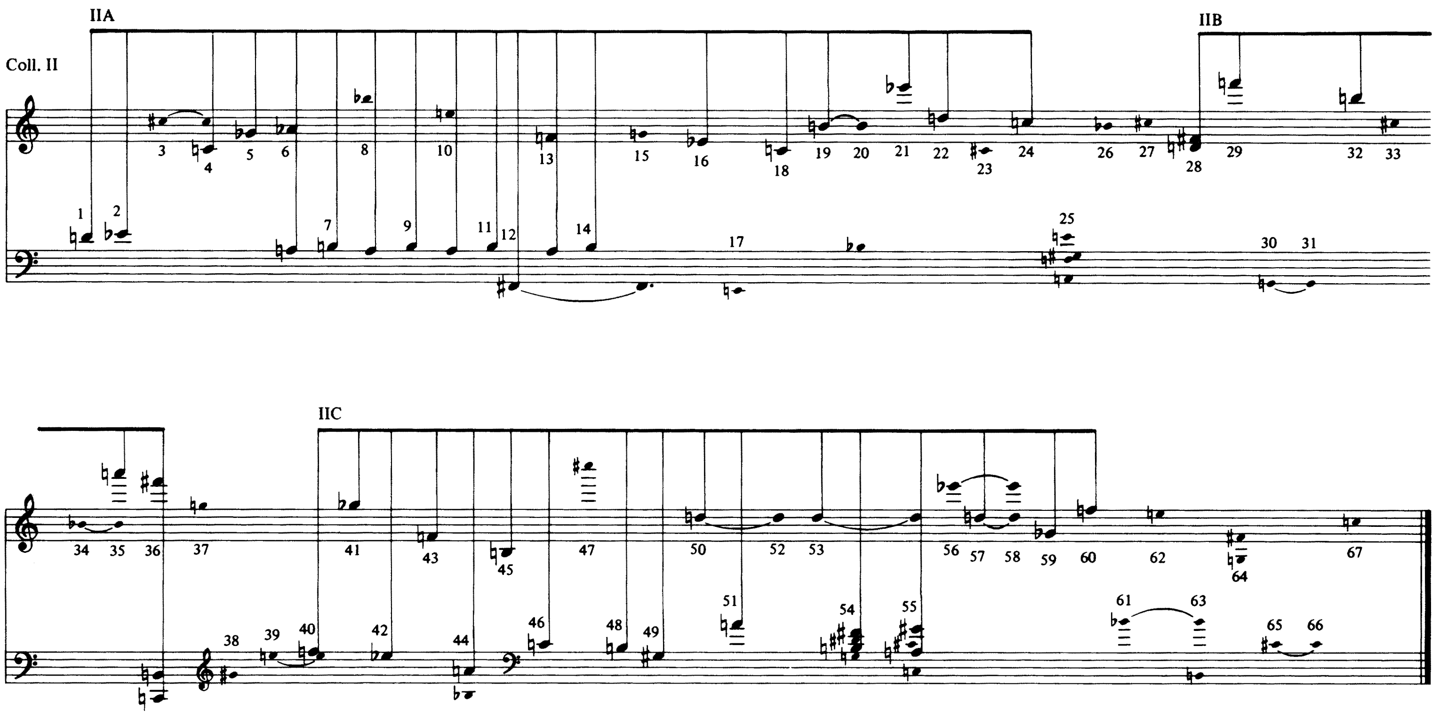
Continuing with our survey of the Collection-I strands in Op. 9 No. 1, let us examine Strand IC, which, like Strand IA, presents the complete octatonic, beginning from the cello's $c\sharp^1$ harmonic at p_{27} and ending with the chromatic collision of cello e^2 and viola f^2 at p_{40}. And again, the strand interlocks two ordered scalar hexachords: first, 6–Z23 from violin f^3 at p_{29} through cello $g\sharp^1$ at p_{38}, then 6–Z13 from viola $b\flat^1$ at p_{34} through f^2 at p_{40}. This strand, too, involves unordered hexachords, beginning with 6–Z49 at p_{27} and including 6–27 from p_{30}, cello G. These two set classes replicate, as classes, those in Strand IB: the two forms of 6–Z49 are related as transpositions, while those of 6–27 are inversions. Perhaps the most salient surface correspondence exists between the two 6–Z49s: the shared D–C♯ dyad at p_{22}–p_{23} and p_{27}–p_{28}, which refers to the opening pitch content of the piece, as the headnotes of alpha and omega, respectively.

The onset of Strand ID coincides exactly with the beginning of the ritardando at p_{43}, and the strand ends on the last d^2 cello harmonic at p_{58}. Like Strand IB, this strand does not express the full octatonic, but lacks one note, in this case pc4, which was a prominent component of the preceding climactic music at p_{39} and p_{40}. Its first hexachord is unordered 6–27, which was also a component of Strand IB. But the second strand, beginning at p_{44}, is ordered 6–Z13, which includes three repetitions of pc11, two of pc8, and three of pc2, the three attacks in cello—one of the most salient moments in the piece.

The final manifestation of Collection I, Strand IE, forms hexachord 6–30, one of the "classic" harmonies of the octatonic, exemplified by the "Coronation" hexachord in

[8]The ordered subset classes of ordered 6–Z13 and 6–Z23 are not exclusively contained within those hexachords. Thus, 4–3 is a subset of octatonic 6–27 and 6–Z49; 4–10 is a subset of octatonic 6–27 and 6–Z50; and 5–10 is a subset of 6–27. This means that an appearance of those unordered hexachords may also bring along ordered subsets. In particular, 6–27 contains all three ordered subsets of 6–Z13 and 6–Z23.

Example 10. Collection II strands



Musorgsky's *Boris Godunov,* and sometimes also known as the Petrushka chord, after Stravinsky's usage. Webern's ordering here conceals the ultra-symmetric properties of the sonority, which engages all four instruments of the ensemble: violin II f^2 at p_{60}, $b\flat^2$ in viola at p_{61}, e^3 in violin II at p_{62}, B in cello at p_{63}, g in violin I at p_{64}, and finally $c\sharp^1$, which is the cello harmonic and a component of the omega interval.

In Example 9 the intricate interweavings of ordered strands of the octatonic scale in Strands IA through IC, together with freer deployments in Strands ID and IE, offer

Table 2. Legend for Example 10: Collection-II strands

1 2 4 5 6 7 8 9 10 11 12 13 14 16 18 19 21 22 24
IIA: 2 3 0 6 8 9 11 9 11 9 11 6 9 5 11 3 0 11 3 2 0
8–28
6–30:[0,2,3,6,8,9]
6–27:[3,6,8,9,11,0]
6–Z13:[5,6,8,9,11,0]
6–Z23:[3,5,6,8,9,11]
6–30:[9,11,0,3,5,6]
6–Z13:[11,0,2,3,5,6]

28 29 32 35 36
IIB: 2 6 5 11 9 6 11 0
6–Z50:[5,6,9,11,0,2]

40 41 42 43 44 45 46 48 49 50 51 53 54 55 56 57 59 60
IIC: 5 6 3 5 9 11 0 11 8 2 9 2 11 6 2 8 9 3 2 3 6 5
8–28
6–30:[3,5,6,9,11,0]
6–Z49:[8,9,11,0,3,5]
6–27:[8,9,11,0,2,5]
6–Z23:[6,8,9,11,0,2]
6–Z50:[2,3,6,8,9,11]
6–Z13:[2,3,5,6,8,9]

convincing evidence of the octatonic presence in this music. The remaining octatonic strands display similar linear structures.

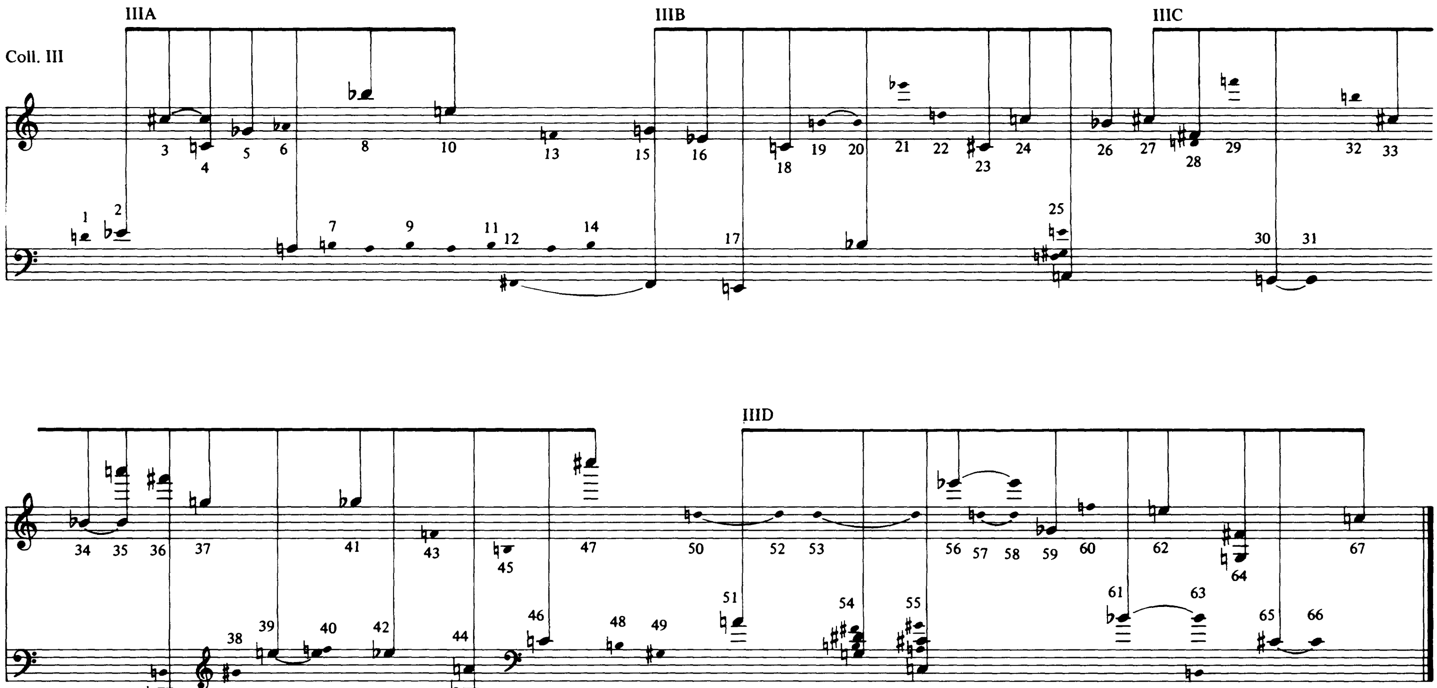
Octatonic Collection II occupies long stretches of Op. 9 No. 1, as is evident in Example 10. From its beginning on d^1 in cello at p_1 to its end on c^2 in viola at p_{24}, Strand IIA includes all but seven pitches, those in cue-size notation that comprise the complete "diminished-seventh chord" excluded from the collection within the total chromatic. As Table 2 indicates, this long strand comprises a complete statement of 8–28, the octatonic collection, within which unfold the ordered hexachords 6–Z13 and 6–Z23. The boundary pitches of these sets are of interest with respect to the instrumental surface of the music. Thus, octad 8–28 ends with violin I f^1 at p_{13}, precisely coinciding both with the onset of the second (last) form of 6–Z13 and with the end of the first form of that hexachord, which began on c^1 at p_4, the first note in violin II. The two forms of hexachord 6–Z13 are not the only ordered hexachords in this strand; 6–Z23 also puts in an appearance, beginning on $g\flat^1$ in violin II at p_5 and ending on $e\flat^1$ in violin I at p_{16}, the end of the instrumental phrase.

From the p-numbers for Strand IIA it is evident that this linear component of the music is closely packed: its elements occupy every position except p_3 ($c\sharp^2$ in violin I) over the entire cycle of 8–28, which ends at p_{13}, as noted above. In terms of the total octatonic, Collection II is represented by two full cycles (IIA and IIC) and one incomplete cycle (IIB). Indeed, Strand IIC almost completes two cycles of 8–28. And it is worth pointing out—again with reference to surface correspondences—that the first cycle of 8–28 in Strand IIC ends precisely with the first cello harmonic d^2 at p_{50}.

Strand IIB begins on the double-stop bowed tremolo in violin II at p_{28}—the entrance of that instrument in the second part of the movement—and ends with the complete vertical trichord at p_{36} (violin I, cello), an important structural moment in the music for several reasons, the most obvious of which is its association with the lowest pitch of the piece, C in cello. In the lowest register of the cello this note also completes an octatonic line that begins on F♯ at p_{15}, as part of Strand IIIB (see below). The hexachord, 6–Z50, is unordered, nor are any of its subsets ordered here.

Like Strand IIA, Strand IIC is a leading octatonic thread in the movement, beginning as it does on the climactic f^2 at p_{40} (viola) and ending on the same pitch at p_{60} in violin II, the last appearance of Collection II in the piece. The pitch-class correspondence between the beginning and the end of the strand, created by pcs 5 and 6 (f^2, $g\flat^1$, $g\flat^2$) requires at least passing attention, as does the association of f^2 and e^2

Example 11. Collection III strands



in both locations. Ordered hexachords 6–Z23 and 6–Z13 begin, respectively, on a^1 in viola at p_{44} and on $f\sharp^1$ at p_{54} in the same instrument. The latter pitch ($f\sharp^1$ at p_{54}) is both tailnote of 6–Z23 and headnote of 6–Z13. Thus, the two ordered hexachords almost exhaust the strand, leaving out only the first three notes, f^2, $g\flat^2$, and $e\flat^2$, two of which recur at the end of the strand within 6–Z13, as noted. And again, the first hexachord in this string is an instance of the "classically" octatonic 6–30.

The remaining hexachords in Strand IIC represent classes, all of the unordered type, already seen in previous strands: 6–Z49, 6–27, and 6–Z50. Whether this recurrence represents a further intricacy in the projection of the octatonic or is a secondary result of "counterpoint" between the octatonic col-

Table 3. Legend for Example 11: Collection-III strands

2 3 4 5 6 8 10
IIIA: 3 1 0 6 9 10 4
7–31 (lacking pc7)
6–27:[0,1,3,4,6,9]
6–Z49:[9,10,0,1,4,6]

15 16 17 18 20 23 24 25 26
IIIB: 6 7 3 4 0 10 1 0 9 10
8–28
6–Z49:[3,4,6,7,10,0]
6–27:[7,10,0,1,3,4]
6–Z13:[9,10,0,1,3,4]

27 28 30 33 34 35 36 37 39 41 42 44 46 47
IIIC: 1 6 7 1 10 9 0 6 7 4 6 3 10 9 0 1
8–28
6–Z13:[6,7,9,10,0,1]
6–Z23:[4,6,7,9,10,0]
6–27:[9,0,3,4,6,7]
6–Z13:[3,4,6,7,9,10]
6–30:[3,4,6,9,10,0]
6–27:[9,10,0,1,3,6]

51 54 55 56 59 61 62 64 65 67
IIID: 9 7 3 0 1 3 6 10 4 7 6 1 0
8–28
6–30:[0,1,3,6,7,9]
6–Z50:[6,7,10,0,1,3]
6–Z23:[10,0,1,3,4,6]
6–27:[10,1,3,4,6,7]
6–30:[10,0,1,4,6,7]

lections may, in the present context, be set aside for later consideration.

As can be read from Example 11 and Table 3, Collection III plays an integrative and perhaps definitive role in Op. 9 No. 1. In the opening music (Strand IIIA) it definitely seems secondary with respect to the ordered hexachords of both Collections I and II, but its headnote, e♭^{1}, confirms the octatonic orientation of the opening "chromatic" trichord, a conflation that has proved to be an evocative and perhaps misleading sign to some analysts.[9] Strand IIIA also provides a setting for the first omega dyad, C–C♯ (p_3–p_4), and its low a (at p_6) connects neatly with the onset of the very prominent oscillating figure, a–b, in viola, which is a component of Strand IIA. To avoid unnecessary graphic complexities, Example 11 uses cue-size notation to show the three occurrences of the viola's a after the first.

Strand IIIB (Ex. 11), like the remaining strands of Collection III, presents an entire octatonic cycle. Its opening ordered tetrachord, 4–3, coincides on e♭^{1} at p_{16} with the onset of ordered hexachord 6–Z13, which ends precisely on the last note of the first section, b♭^{1} at p_{26}. The occurrence of 4–3 here within unordered 6–Z49 draws attention to the fact that the unordered hexachords may contain ordered segments, as noted earlier. The reader may notice that e♭^{3} at p_{21}, potentially a member of Collection III, is shown in cue-size notation because its more effective affiliation seems to be with Collection II, as a component of strand IIA (Ex. 10).

The longest strand of Collection III, Strand IIIC, begins auspiciously on the cello's c♯^{2} harmonic at p_{27}, which signals the beginning of the second part of the movement. As Table 3 shows, the line subsequently unfolds through three interlocking ordered hexachords: 6–Z13, 6–Z23, and 6–Z13 again —each successive pair sharing a form of 5–10. The ordered

[9]Henri Pousseur has published the most extensive chromatic reading of Webern's Op. 9 No. 1 in his article "Anton Webern's Organic Chromaticism," *Die Reihe* 2 (1958 English translation of original German, 1955): 51–63. Wallace Berry, who also cites Pousseur, briefly discusses a possible "tonal" reading of Op. 9 No. 1, "in each microcosm of which a tonal center could be said to be implied, but the sum of which is so fluctuant as to be a neutralization of tonal feeling" (*Structural Functions of Music* [Englewood Cliffs, NJ: Prentice-Hall, 1976], 176–77).

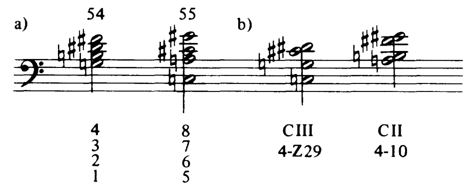
hexachords do not quite exhaust the entire octatonic of Strand IIIC. They leave out the final omega dyad at p_{46} and p_{47}, which completes a form of ordered tetrachord 4–3 within 6–27, providing an instance of the ordered potential of three of the unordered octatonic hexachords, in terms of their tetrachordal and pentachordal subsets (see footnote 8).

Strand IIIC, like Strand IIA, is closely packed. Over its long span, from p_{27} through p_{47}, it elides only six positions: p_{29}, p_{32}, p_{38}, and p_{40}–p_{45}, of which only p_{43} represents an actual disjunction in terms of pitch contiguity.

The orderings, such as 1 10 9 0, that reflect the underlying presence of the octatonic scale, evident in Strand IIIC, are not as pervasive in Strand IIID, which begins and ends with a form of 6–30 and incorporates two unordered hexachords, 6–Z50 and 6–27, as shown in Table 3. Only with 6–Z23, whose first and second notes are embedded in the chords at p_{54} and p_{55}, does an ordered feature of the octatonic come into play. And, indeed, the chords at p_{54} and p_{55} require special attention, since, taken at face value, they are anything but octatonic: the first is a form of 4–19 (0148), which has whole-tone affiliations, while the second belongs to set-class 4–7 (0145), decidedly nonoctatonic in character.

These chords are also recalcitrant when viewed from the chromatic, diatonic, or atonal perspective. From the octatonic angle, however, they are completely quiescent when regarded as interlocking pairs of dyads and reassembled as shown in Example 12. The chords in their notated disposition are shown at (a) and their pitches provided with numerical identifiers. At (b) Collection III takes the odd-numbered pitches, while Collection II takes the even-numbered, producing the octatonic tetrachords shown, one of which (4–10) is ordered. According to this reading, with respect to the actual arrangement of double stops the notated dyads are switched: the first dyad in violin I groups with the second dyad in viola, and the first dyad in viola groups with the second dyad in violin I. Finally, Example 11 shows that Collection

Example 12. The chords at p_{54} and p_{55}

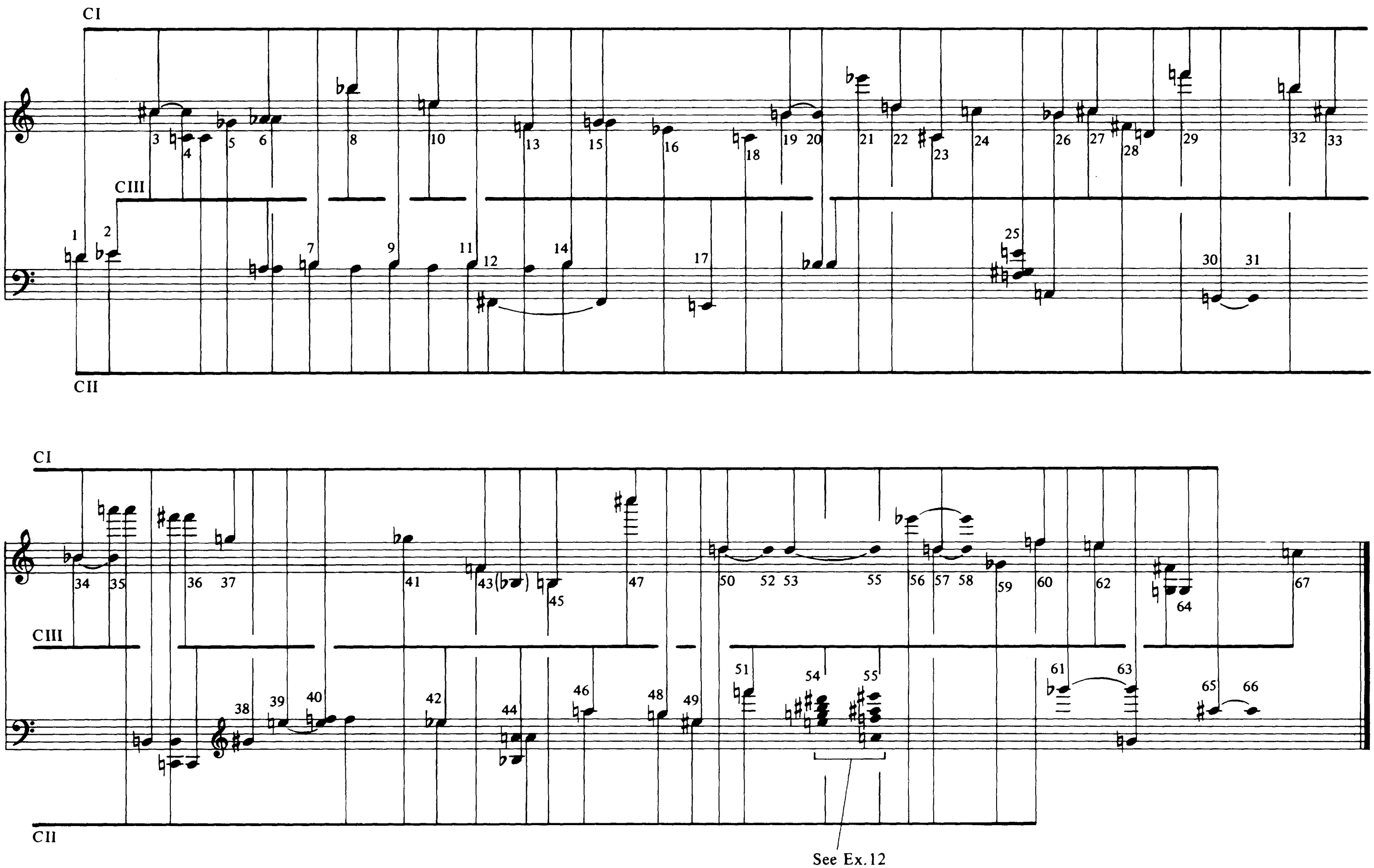


III preempts the pitches at the end of the movement, exempting from its purview only B in the cello at p_{63}.

THE TRIALOGUE

Example 13 shows the entire octatonic structure of Op. 9 No. 1, which may be characterized as a trialogue in which the participants are the three forms of the octatonic collection. With few exceptions the stem of each note connects to two beams, signifying membership in the octatonic collection the beam represents. Thus, the upstem of d^1 at p_1 connects to the beam labeled CI for Collection I, while its downstem connects to the beam labeled CII. A more complex situation, involving double noteheads, obtains at p_6: the left a connects to beam CIII; the right a connects downward to beam CII. On the upper staff at p_6, the left a♭^{1} connects upward to beam CI; the right a♭^{1} connects downward to beam CII, breaking in order to cross, rather than transect, beam CIII. In so doing it joins the stem of a^1, preserving the temporal coincidence of the two notes in the music. The few cases of single pitch affiliations reflect analytical decisions concerning strand boundaries. For instance, F♯ at p_{12} is assigned only to CII, while at p_{15} it connects to beam CIII as well. And the final

Example 13. The octatonic trialogue



note of the movement, c^2 at p_{67}, is a member of CIII only, since its affiliation with CII would assume a remote connection with the final note of CII, f^2 at p_{60}. To summarize, beam connection (including beam transection) specifies collection membership for any given note.

THE TRIALOGUE AND SOME PROMINENT SURFACE FEATURES

Although in a work by Webern such as Op. 9 No. 1 every moment is "special," it is still possible to single out certain categories of events for attention. The surface features discussed at the outset may serve as a point of departure for reviewing ways in which the deeper structure made up of the octatonic strands relates to them.

To begin, let us review the registral extremes. The viola $c\sharp^4$ harmonic at p_{47} serves as tailnote of segment IIIC (Ex. 11) and at the same time is a member of ID, which, together with IIC, effects the connection to the final section of the piece. In this way, the high C♯ relates to strategically placed members of all three octatonic collections. Moreover, within IIIC, c^1 at p_{46} precedes the high $c\sharp^4$ at p_{47}, forming the omega dyad and thus alluding to the opening music at p_4. And the registral successor to $c\sharp^4$, $e\flat^3$ at p_{56}, is also a member of CIII, while the intervening and very prominent cello harmonic d^2 (p_{50}–p_{55}) is shared by Collections I and II, so that the complete registrally defined trichord, $c\sharp^4$–d^2–$e\flat^3$, serves as a motivic pitch-class-specific expansion of the opening trichord of the movement, which is in effect the generator of the movement's multiple octatonic strands.

The lowest note, the cello C at p_{36}, marks the end of segment IIB (Ex. 10), which also includes the entire trichordal vertical at that point. Perusal of Example 13 will indicate just how dense this moment is with respect to the octatonic trialogue: CI takes B; CII takes $f\sharp^3$ and low C, while CIII takes the entire trichord, as noted.

There are two unique dynamic extremes in the movement. The marking *ppp* is assigned to g–$f\sharp^1$ at p_{64}, the final notes of violin I and members of IIID. Here $f\sharp^1$ is also the final statement of the medial-registral pitch, first given as $g\flat^1$ at p_5. The single *fff* marking is assigned to f^2–$e\flat^2$ at p_{40}–p_{42}, which belongs to IIC and is part of the chromatic cluster that comprises the climax of the movement at that point. Specifically, this climactic music consists of: f^2–$g\flat^2$–$e\flat^2$ at p_{40}–p_{41}, members of IIC, the e^2–f^2 tailnotes of IC, and three members of IIIC, excluding f^2 from the chromatic cluster of four pitches. Thus, as in the first chromatic trichord in the movement, all three transpositions of the octatonic collection are involved in this pitch constellation, although, as the reader is certainly aware, no single pitch (pitch class) in the octatonic system can belong to all three transpositions. In this chromatic complex Collection I plays a somewhat weaker role, since only two of the four pitches are members of that transposition, whereas the others claim three pitches each.

The medial pitch in the registral distribution of all the pitches of the movement (Ex. 4), $g\flat^1$, first occurs at p_5, as noted above, where it represents the first departure from the initial chromatic cluster, adjacent to the omega dyad. Subsequently it recurs at p_{54} as the top note of the chord within IIC, and again at p_{64}, again in the context of omega.

Of the notes that occur with multiple frequency only the a–b dyad from p_6 through p_{14} shall be cited: a belongs to IIIA, b belongs to IA, and a–b belong to IIA. Thus, the dyadic oscillation joins (refers to) all three collections, which, in terms of the octatonic reading, explains its role as such a prominent and key figure at the outset.

The octatonic contexts of the three pitch classes expressed as harmonics are as follows. At p_{27} $c\sharp^2$ is headnote of both IIIC and IC. Its sequel, $c\sharp^2$ at p_{33}, moves to $b\flat^1$ in IIIC, which then joins the upper-register a^3 at p_{35}. This harmonic stands in relief, however, in the octatonic-chromatic reduction that is presented below; in that analytical context it is one of the "singletons." The c♯^{4} at p_{47}, discussed above, is another of the singletons in the octatonic-chromatic reduction, while c♯ at p_{65}, the last harmonic, is the tailnote of IE, the penultimate note of IIID, and, perhaps most important for its "motivic" association, part of the final omega dyad.

In addition to its first appearance at p_1, where it initiates Collections I and II, the harmonic D occurs very prominently at p_{50} through p_{58}. There it occupies the longest consecutive duration of any pitch in the movement (Ex. 6), and is tailnote of ID. Perhaps its most important role there is defined by its very audible connection to e♭^{3} at p_{56}, with which it forms the final instance of the alpha dyad.[10]

The harmonic e♭^{3} at p_{21} contributes to the alpha dyad within Strand IIA. Indeed, the alpha dyad d–e♭ belongs only to Collection II, while the omega dyad c♯–c belongs only to Collection III, so that from the "motivic" standpoint, Collection I recedes somewhat in importance compared to its transposed relatives.

THE OCTATONIC-CHROMATIC MODEL

The question now arises as to how these octatonic strands are coordinated in the music and how they interact. From the analytical standpoint the answer might make it possible to create a useful distinction between levels of structure. In short, is there a way to synthesize and at the same time reduce the complexity inherent in the three collections considered together, the "trialogue" shown in Example 13?

Music-theoretic intuitions suggest that the basis of connections between the forms of the octatonic resides in relations within the octatonic complex itself and that a theoretical model should not, or need not, be imposed from without. Reflection further indicates that the most straightforward of these inner connections derive from intersections and differences among the three forms of the octatonic collection, as discussed above. Let us now consider them systematically in that way, proceeding step by step.

Step one aligns the three forms of the octatonic, in pairs, according to intersecting diminished-sevenths, as shown in Table 4. The vertical confluences of the octatonic forms, ordered in this way, are: 0 1, 1 2 3, 3 4, 4 5 6, 6 7, 7 8 9, 9 10, 11 0. Among these is 0 1, the omega dyad of Op. 9 No. 1; 3 4, alpha prime; 6 7, the medial pitches; and 11 0, omega prime—every dyad in the list except one. As mentioned earlier in passing, the tripartite partitioning of the octatonic universe ensures that no single pitch class appears in all three forms. This intrinsic feature of the model proves to be nontrivial in our quest for intra-octatonic connections.

Table 4. Octatonic pairs

I & II								
	1	2	4	5	7	8	10	11
	0	2	3	5	6	8	9	11
I & III								
	1	2	4	5	7	8	10	11
	1	3	4	6	7	9	10	0
II & III								
	0	2	3	5	6	8	9	11
	0	1	3	4	6	7	9	10

[10]The autobiographical significance of this dyad seems inescapable to me, given the many instances of similar events in Webern's music: It is a pitch reference to Schoenberg, in which D is the last letter of the first name and Es the first letter of the last. Similarly, C♯ is autobiographical, although somewhat more recondite: German Cis (C♯) is enharmonically equivalent to D♭ (Des), which decomposes into D + es. The violin's c♯^{3} harmonic was also originally the highest note at the end of the last piece of Webern's Opus 7, *Four Pieces for Violin and Piano,* until superseded by b^3, headnote of the final cascading figure, which replaced the original glissando. See Allen Forte, "A Major Webern Revision and Its Implications for Analysis," *Perspectives of New Music* 28 (1990): 224–55.

Table 5. Difference pairs

I & II		I & III		II & III	
0	1	2	3	2	1
4	3	5	6	5	4
7	6	8	9	7	8
10	9	11	0	11	10
CIII		CII		CI	

In step two we extract the pitch-class-difference pairs from each of the three duples of octatonic forms as shown in Table 5. These chromatic dyads or difference dyads are the basis of prominent surface configurations throughout Op. 9 No. 1 and have been implicit during the preceding expository material—for instance, in connection with the alpha and omega dyads. It is important to recognize that the difference dyads not only join pairs of octatonic forms, which are unfolding over the same time span, but also that they connect the instruments of the quartet. We observe, further, that the difference pairs sum to an octatonic collection, which explains the frequent occurrence in the "foreground" of short segments of an octatonic collection other than those that are predominant at the "middleground" at that moment.

To indicate the exact correspondences between the models above and their representation in the octatonic strands in the movement, *temporally* matching dyads between CI and CII from p_1 through p_{17} (section 1 of the movement) are as follows:

CI:	1	2	4	5	7	8	10	11
CII:	0	2	3	5	6	8	9	11
	p_4		p_{17}		p_{15}		p_8	

Of course the intersections on the same pitch class (the "diminished-seventh" component) are analytically trivial since the same pc is assigned to both collections. It is the temporal correspondences of the nonintersecting pcs that are extraordinary.

THE INTERSECTION-DIFFERENCE PARSING

The analytical procedure derived from the octatonic-chromatic model is straightforward: it begins by identifying chromatic "clusters," groups of chromatically adjacent pitches, on the reasonable assumption that these will contain the chromatic dyads represented in the model, dyads that link the forms of the octatonic summarized in Example 13. It then sorts each cluster according to two categories derived from the model: the set of intersecting pitch classes and the set of difference pitch classes. The numeric strings in Table 6 illustrate the procedure for p_{27} through p_{51}. It is important to notice that isolated clusters of sizes 1 and 2 are their own intersections. Intersecting clusters, on the other hand, produce a more complex and more interesting result, one that reflects the influence of context and does not merely associate chromatically affiliated note-pairs.

Example 14 gives the entire analysis in noteheads of two sizes: large noteheads represent the intersection pitches; cue-size noteheads represent the difference pitches. The beamed dyads in Example 14 are of course the analytically derived intersections. In the context of the complete octatonic universe, however, they are interpreted as differences. Thus, the first dyad, 2 1, is both a CI dyad and a difference dyad between CII and CIII.

As beamed dyads the alpha (2 3) and omega (0 1) dyads occur only once, at p_{56}–p_{58} and p_{66}–p_{67} respectively—both strategic locations in the movement. Other dyads with unique occurrences are 3 4 (alpha prime at p_{16}–p_{17}), 6 7 (p_{64}), 9 10 (p_6–p_8), 11 0 (omega prime at p_{54}–p_{55}), and 7 8 (p_{54}–p_{55})—the latter two within the analytically recalcitrant chords in mm. 8–9. Of these, only dyad 7 8 is not one of the dyads that occur as confluences between the three forms of the octatonic mentioned in connection with the octatonic-chromatic model. Thus, all three have "global" octatonic references. The triples cited in the same context occupy special locations in the

Table 6. Analytical procedure, p_{27}–p_{51}

&(91011,1011) = 10
– (91011,1011) = 911

&(67,78) = 7
– (67,78) = 68

&(91011, 1101) = 11
–(91011, 1101) = 91001

&(456,56) = 56

9 6 *7* *6* *5*

1 *1*

6 *5* *11* *10* *5* 3 *11* *1*

2 8 *4* 2

7 11 9 0 *11* *8* *9*

0 *10*

&(1101,12) = 1
– (1101,12) = 1102

&(56,567) = 56 – (56,567) = 7	&(91011,10110) = 1011 –(91011,10110) = 90	&(345,456) = 45 –(345,456) = 36	&(89,89) = 89 –(89,89) =
&(12,12) = 12 – (12,12) =	&(1,1) = 1 –(1,1) =		

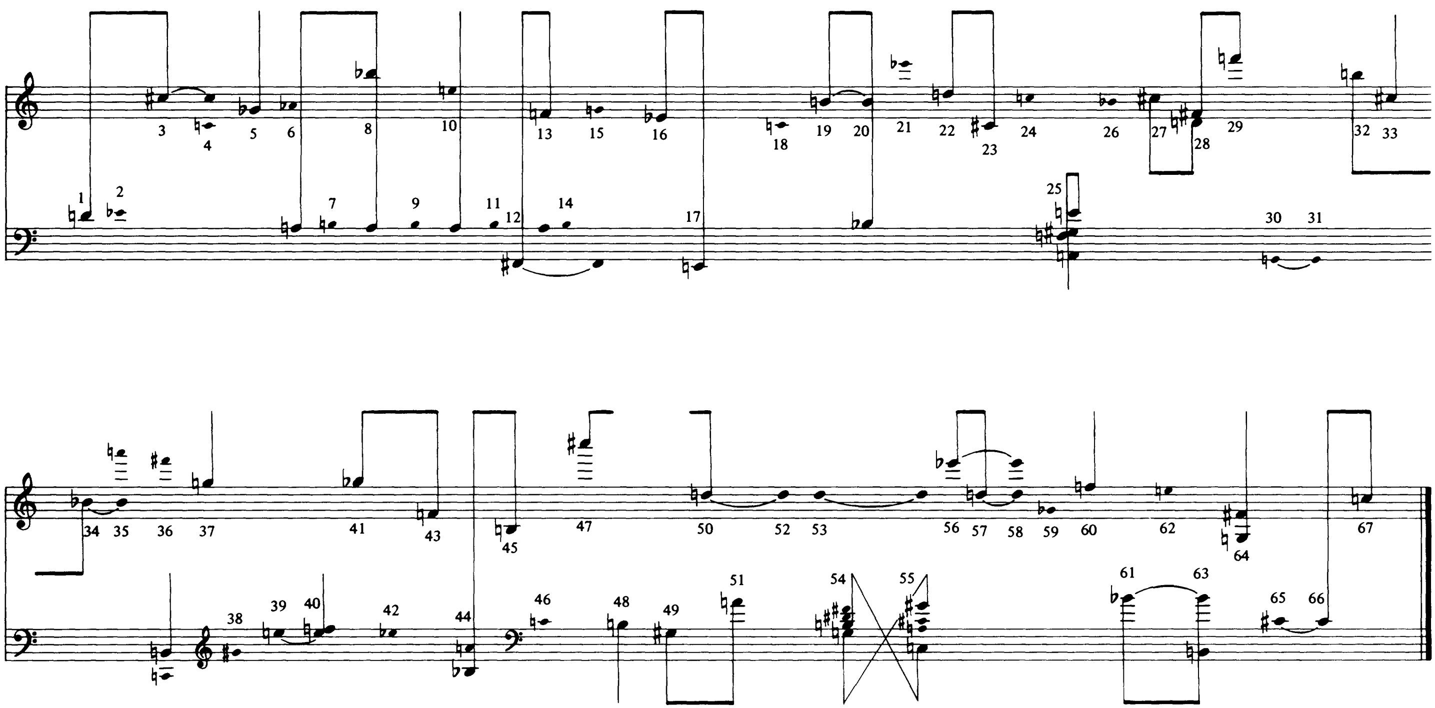
Arrangement of numerics follows layout of short score, Example 3.
Intersections are in italics.

movement: 1 2 3 occurs as the first three "generative" notes at p_1–p_3; 4 5 6 contributes significantly to the climactic music at p_{40}–p_{42}, and 7 8 9 forms part of the chordal structure at p_{54}–p_{55}. These occurrences substantiate the global presence of the octatonic as it undergirds the chromatic surface.

A special feature of that chromatic surface are the "singletons," the pitches not part of an intersection dyad (large notation). The first of these is $g\flat^1$ at p_5, the medial pitch in the total chromatic span, as will be recalled. Excluding that special pitch, the remaining singletons aggregate to a whole tone hexachord of the odd pitch-class integer variety: in order of appearance 9 (p_{10}), 11 (p_{36}, p_{48}), 7 (p_{37}), 1 (p_{47}), 2 (p_{50}), and 5 (p_{60}). While this array is not to be construed as a progression of some kind, the individual occurrences are all associated with important moments in the work. Finally, as suggested above, the analytical sort produces a high degree of differentiation among all the pitch components of the movement, in contrast to the underlying and stable unfolding of the octatonic strands.

A remarkable feature of this octatonic-chromatic parsing is the hierarchy it creates between the beamed "intersection" dyads and the complementary component: no pitch in small

Example 14. Intersections and differences



notation is without affiliation to a constituent in large notation. Example 15 shows these relations by means of brackets. Excluded altogether from these chromatic affiliates is the final section of the movement, from p_{63} through p_{67}. But although each of the three chromatic dyads there is "independent," its membership in the strands of the long-range global octatonic structure is clear, as shown in Example 13.

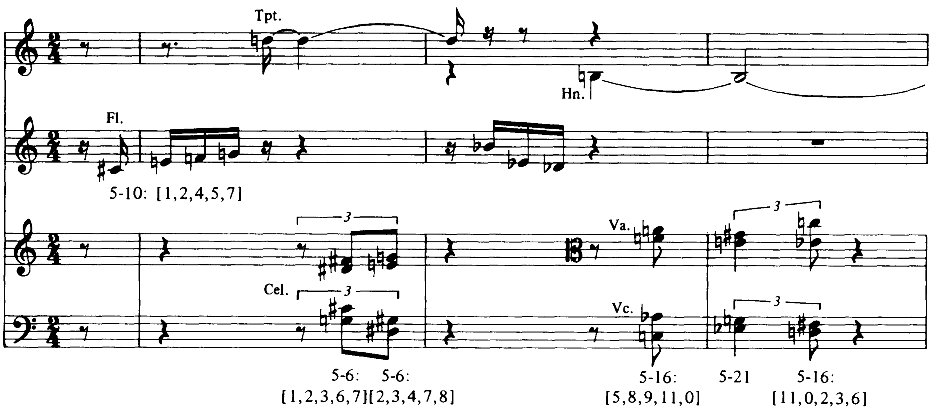
CLOSING REFLECTIONS

In his Op. 9 No. 1, Webern's deployment of the octatonic collection in its three pitch-class manifestations presents a surface that differs radically from that which we associate with more familiar octatonic music, where (usually) one of the three transpositions of 8–28 unfolds at a time. This usage, Example 15. Chromatic affiliations

which may also be characteristic of portions of his other atonal music, might be described as infra-octatonic, to reflect the subsurface operation of octatonic constituents and their interaction.

In the analytical presentation of the infra-octatonic feature of Op. 9 No. 1, emphasis has been placed on the mode of occurrence of octatonic subsets and, in particular, the way in which subsets are located in the octatonic scale; for expository reasons, we have concentrated on those segments that are "ordered," since their presence reinforces the prevailing notions of octatonic structure. These are of two kinds: the ordered set class, as pentad 5–10, which may or may not follow the strict ordering of the octatonic scale but whose constituents nevertheless sum to an instance of that set class, and the less frequent literal octatonic scalar segment that appears right at the surface of the music, such as 4–10 at p_4 through

Example 16. Webern, Op. 6 No. 1: octatonic traces



p_7 or the more frequent but easily recognizable forms of tetrachords in which the dyads are reversed, as 4–3 at p_{19} through p_{23}.

Occurrences of complete forms of the octatonic (8–28) or nearly complete forms (7–31), as shown in the tables, reinforce the octatonic reading. In this connection, Strand III in Table 3 is particularly striking, since each of its segments is of the complete or nearly complete form.

But the most important feature of this theoretical reading of Webern's Op. 9 No. 1 is the octatonic-chromatic model, which seeks to provide a comprehensive interpretation of relations between and among the octatonic strands and which reveals connections to the immediate surface configurations. Of course, alternative readings are possible. In fact, they already exist, and in published form, as indicated in footnotes 5 and 9. Whether the reading presented here withstands scrutiny over the long term, in view of the continuing interest in theoretical aspects of Webern's music, remains to be seen, as do its implications for our understanding of that music in its historical context.

Among several intriguing questions of a historical nature to which this study gives rise is one that is basic. Does this movement represent an effort on Webern's part to assimilate the octatonic language that he somehow knew to be current? The year of composition is significant, since it overlaps with a number of significant avant-garde works that show octatonic traces, by diverse composers, including for instance Bartók and Ravel (the latter in his setting of Mallarmé's *"Surgi de la croupe et du bond"* from 1913). And of course Debussy's octatonic usage, which begins much earlier, is exemplified in the most refined ways in the second book of *Préludes.* Finally, and coincidentally, 1913 is the year in which Stravinsky's octatonic tour de force, *Le Sacre du printemps,* was presented in Paris.[11]

But any investigation along these lines needs to take into account Webern's use of octatonic materials prior to the Op. 9 No. 1 essay. The octatonic trace at the end of the third of his *Four Pieces for Violin and Piano,* Opus 7 (Ex. 1) and the preceding complete statement of the octatonic collection 8–28, partitioned as two forms of 4–9, were mentioned at the beginning of this article. Another instance is provided by the first of the *Six Pieces for Large Orchestra,* Op. 6 (1909), which begins with a thematic statement based upon 5–10, the only ordered pentad of the octatonic scale, as will be recalled. Further, in mm. 2–3 of that movement two of the three verticals are of octatonic set-class 5–16, and they sum to a complete statement of Collection II (see Ex. 16). What these forays into the octatonic universe mean in terms of Webern's atonal music remains to be determined.

[11]See Pieter C. van de Toorn, *Stravinsky and "The Rite of Spring": The Beginnings of a Musical Language* (Berkeley and Los Angeles: University of California Press, 1987).

ABSTRACT

An analytical reading of Webern's Op. 9 No. 1 (1913) begins with the identification and explication of linear-octatonic strands that span the entire movement. From this there is developed a model that illuminates significant surface features of the music. The introduction places this extraordinary essay in the context of Webern's nonserial atonal music, and a brief conclusion suggests questions concerning historical implications.