Symmetrical harmonic progressions in the 12-tone music of Anton Webern"

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Abstract

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by Daniel d'Quincy

August 1997

The work of Heinrich Schenker revealed that the structural functions of tonal harmonic progressions are based on an underlying linear progression of key tones. This article demonstrates that Webern was able to recreate analogous structural functions in an atonal context with progressions of symmetrical harmonies. Evidently, the nature of tonality and atonality have much more in common than previously thought.

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Webern's harmonic progressions are based on a remarkably simple, and absolutely consistent principle of organization controlling the octave registration of chord tones. This method of procedure, while obvious, has never before been described to my knowledge.

Article Main Text

Classical Symmetry

Anton Webern's Quartet, Opus 22

"Symmetrical Harmonic Progressions in the 12-tone music of Anton Webern"

by Daniel d'Quincy

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Anton Webern was the third in the triumvirate of composers that have come down to us under the name of the Second Viennese School. This militant terminology, suggesting an inheritance passed from the era of Haydn, Mozart, and Beethoven, has lost none of its contentious flavor at this late date in the development of 20th century composition. The so-called atonal music of Schoenberg, Berg, and Webern still arouses a passionate distaste on one side, and a fervor of devotion on the other. A recent CD offering of Schoenberg's choral music calls him "the embarrassing composer."

Even more than the music of his comrades, Webern's music seems to be the consummate expression of everything that the loudly nay-saying majority seems to detest. It possesses an angularity of line that often dissolves into an absence of melody; it obeys a strictness of organization that is based on principles many consider arbitrary; and, in a democratic era, it expresses its content at a level of abstraction that is called pretentious in the absence of a comprehending public. Above all, however, it is unashamedly atonal, not at all entering into compromising relations with the vaguely tonal (i.e. triadic) harmonic structures that are characteristic of Berg's style, and even Schoenberg's. For, in the eyes of many, atonality itself is the original sin, a grotesque violation of nature. It is, they claim, completely incomparable with tonality, sharing absolutely nothing essential in common with it (a claim this paper will reduce to mere uniformed extravagance, as has been done before of course in other ways).

It is true, Webern's music is credited with inspiring a whole generation of younger composers after the last World War, and so his right to some sort of

place in the history of music is not disputed. Yet, it is at best doubtful that his music has become more comprehensible to the general public with the passage of time. This is a pity, for Webern's music can be endlessly intriguing for the open-minded music lover. Precisely because this music is uniquely uncompromising in its utilization of the entire chromatic without specific reference to any traditional sense of key, it can be said that, to a very high degree, it presents us with the essential musical experience of our own time, at least with respect to the organization and harmonic coherence of pitch. One may indeed wonder how, if this is true, it can then be so little appreciated in the present by the bulk of the listening public. But, it is as difficult to understand the music of one's own time as it is to understand the music of the dark past.

The Quartet, Op. 22, for Violin, Clarinet, Saxophone and Piano is typical of the music that Webern composed during his twelve-tone period. It is, like his freely atonal music, characterized by a determined scaling back of resources. Listening to this delicate chamber music, we feel that a mechanism of exquisite delicacy has been set in motion over a minute fulcrum. As Schoenberg noted, the slightest nuance in this music conveys almost unbearable significance. It presents what has come to be known in music as a pointillist surface, although Webern's own aesthetic may rule out this interpretation. It is known that, at the premiere of his Symphony, he complained about the lack of line in the parts as performed. Nevertheless, and despite the repeated use of intervallic and rhythmic motives with constant imitation between the parts, the many widely spaced intervals in the individual parts do tend to render the outward expression of linearity somewhat limited. Melody is, at best, fragmentary. No doubt, the closest correlative expression in poetry or prose would be the Haiku.

Closer examination of the opening bars reveals the most salient feature of the work: the unique significance of one pitch, namely, ***f-sharp***.*1 (Please click on number to see footnote, or scroll to the bottom of the page.)* Speaking in general of the first 15 bars from the point of view of twelve-tone construction, we may note that the following pitch rows are employed: **prime on *d-flat***, **inversion on *b***, **prime on *g***, **inversion on *f***, **inversion on *c-sharp***, and **inversion on *g***. With the exception of the last two rows, which are restricted to the saxophone after the double bar, we can see that the initial pitches of each of these series are related as inversional pairs (call them dyads) around the pitch ***f-sharp***. In fact, we soon discover that most (indeed, as we shall soon see when the merely apparent discrepancies are resolved, all) of the pitches throughout the entire piece are oriented symmetrically around ***f-sharp***. We come then to the conclusion that the musical phrases elaborate a variety of symmetrical chords, all oriented with respect to an ***f-sharp axis***. (It doesn't

immediately seem obvious that the composer is elaborating successive chordal harmonies, since the chord tones appear in the form of arpeggios distributed between the parts, but this should not deceive the listener. Also, in all that follows, it is to be understood that we are defining one specific ***f-sharp*** as the axis of this piece. It is the ***f-sharp*** appearing one augmented fourth above ***Middle C***.)

The properties of symmetrically constructed chords are rather curious. First of all, symmetrical harmonies do not discriminate on the basis of intervals. Any intervals may be employed, and none have prejudicial prerogatives, just so long as the intervals above the axis are matched by their inverted symmetrical partners below the axis. A ***c-sharp*** one perfect fourth below the axis of ***f-sharp***, in other words, must be matched with a ***b*** one fourth above the axis. Any other arrangement breaks symmetry. This, then, may be considered the defining "rule" of any symmetrical harmonic procedure.

From an abstract point of view, however, it immediately becomes apparent that all chords oriented around an axis are really just members of one all-encompassing chord containing ALL pitches. They are, in other words, incomplete representations of one single chord whose content is all the pitches above, and all those below whatever pitch is marked out to serve as the axis. Naturally, the closer we come to using this larger (ideal) chord, the more difficult it becomes to determine where the axis is, or even that there is an axis, and this must clearly defeat any purpose whatsoever that might otherwise have been served by symmetrical arrangements.2 Actually, the collection's character as a chord per se is diminished, making of it merely a tone cluster. Webern, who often used a rhetoric of symmetrically oriented harmonies in his music, never even remotely approached such limits.

The specific usage of symmetrical patterns with which we are here concerned confines itself to a method of progression that is based on a very simple principle that Webern himself devised. He knew that the greatest games have the simplest rules. The principle concerns the appearance of octaves. Call it the principle of "octave registration." Or, since theorists cannot do without reverence for their rules, call it the Rule of Octave Registration. In fact, there are only two rules at work in this music. The first, more general (indeed given) rule has already been stated in the paragraph above. This second rule dictates that no octaves will be present within any of these symmetrical chords - excepting those octaves composed of the tritone and the octave of the axis itself (above and below). (We may postpone for the moment the question of where the boundaries are properly drawn between the various chords in the actual music of the Quartet – admittedly, a matter not entirely obvious. This will

be made evident in due course. But for now, we will approach the matter from a completely abstract perspective.)

Of course, the first rule means that octave doublings could in principle be present only in pairs.*3* Looking at Example 1, for instance, we see that we cannot double either one of the white notes in another register, without of necessity doubling the other – if, that is, the symmetry is to be preserved. It should immediately be pointed out, however, that, as shown in Example 2, we may double either the ***c*** or the ***f-sharp*** without thereby requiring the simultaneous appearance of another pair of octave doubles. The ***c*** alone, or the ***f-sharp*** alone, or both together, may be doubled without destroying the symmetry of the chord. (The ***f-sharp***, of course, should ideally be doubled twice: if there is an ***f-sharp*** one octave above the axis, then only another ***f-sharp*** one octave below the axis, making three ***f-sharp***'s in all, can preserve symmetry.) It should be emphasized that these considerations are valid only so long as we wish to maintain a symmetrical arrangement. We are here considering a method of composition that is based solely and exclusively on progressions of symmetrical chords.*4*

At first, it may seem that the Rule of Octave Registration is only an extension of the more general rule that arises out of the definition of symmetrical pitch relations per se. And, it is. But, the genius of Webern is in the perception that it is more than that. As will be seen in what follows, by proscribing chords with any octave doublings at all (excluding the two specific pitches of special significance that we have noted above) he reaps surprising rewards.

The music preceding the double bar, between measures 1 and 6, is perfectly balanced from the point of view of symmetrical pitch relations. Let us define this balance as a characteristic of the category of consonance. For then we must see that the perfect consonance of the introductory bars only invites the possibility (which is also no doubt a necessity) of introducing a non-symmetrical feature, or in other words, a dissonance. Webern, therefore, invents a seemingly non-symmetrical melody to superimpose upon this pre-established background, or accompaniment, of symmetrical chords. In other words, with the entrance of the saxophone in bar 6, Webern injects an intriguingly dissonant element into a fundamentally consonant context. The initial pitches of the two rows on which the saxophone part is based (***c-sharp*** and ***g***) are not symmetrical in their relation to ***f-sharp***, nor indeed do the other pitches of the saxophone line seem to be disposed in a symmetrical relation to ***f-sharp,*** or indeed to any other axis.

Naturally, it is always possible, and rarely interesting, to introduce an intangible or irrational element onto an otherwise perfectly coherent context. Productive interest is engaged, and wisdom derived, only if it can be shown that the resulting dissonance is only apparent, and that a greater (if hidden) harmony underlies each and every one of the elements involved. In what way, then, is the dissonance of the saxophone line resolved so as to make it harmonious in its relation to the other parts? What causes its symmetry breaking dissonance to cohere with the music of the other instruments, which accompany the saxophone by moving along in the same symmetrical manner as before?

On one level, possibly the most exposed, these two elements (taken as the saxophone line first, and the combined lines of the other instruments second) are joined through the use of intervallic imitations.*5* Indeed, motivic imitation is a pervasive feature of this work - and a much remarked upon characteristic of Webern's other works also.

But, a variety of other factors implement cohesion on a level more profound than the specifically motivic.*6* Indeed these other factors work to strengthen the power of the motives by imposing order on the choice of the specific pitches used for their expression. It should not be supposed that this order is synonymous with, and merely a function of, the abstract order of the 12-tone row. That order exists of course as well, but this tack of analysis will take us only just so far. The author of this essay has asked the reader to expect more. The order we are concerned with here is revealed in the harmonic dimension and it is deeply analogous to the order of tonality. The motives in tonal music achieve close coherence by employing only those pitches that are at the same time harmonious with the harmonic progressions that are driving those motives. Can this really be accomplished in an atonal setting? Can the motives here partake of the same benefit that is imparted to motivic elements in traditional composition by way of the underlying grammar of tonality, even if they derive that benefit in a different way?

The answer to these questions will emerge easily after a closer examination of the apparent breakdown of symmetry in the sixth bar referred to above. Let us postpone this answer then, and return full circle to the issue of disharmony that was enjoined by the entrance of the unsymmetrical saxophone melody after the double bar. We need to understand why it is legitimate to say that this music is based on symmetrical harmony at all. What, if anything, preserves the symmetrical nature of the music throughout – and into its innermost parts, so that it can be said that it is able to generate one single principle or rule of progression between its various harmonic aggregates or chords? In short, we

must reveal a much more profound level of coherence. We come back, then, to the initial emphasis of this essay: i.e., the systematic nature of Webern's use of symmetrical harmonies.

To begin with, let us examine more closely the choice of pitches in bars 6 through 9. In bar 6, the saxophone plays two pitches: ***c-sharp*** and ***e***. The ***e*** is merely a unison doubling of another ***e*** that follows in the piano. As such, it cannot contradict (or be dissonant with) the harmony expressed by the pitches of the piano, violin and clarinet, which as previously noted are fully symmetrical with respect to themselves. The ***c-sharp***, however, seems to have no excuses. For one thing, it is not doubled at the unison in the other instruments. For another, we do not immediately find its symmetrical neighbor above the ***f-sharp axis***, namely ***b*** above ***Middle-C***. In a context of strictly symmetrical relations, then, it is for the moment in some sense dissonant, which is only another way of saying that it needs resolution (explanation). We naturally have to rule out, on grounds of ideal assumption, the possibility that some notes are only the gratuitous results of row structure and require no further explanation. In a style so terse as Webern's, the appearance of a gratuitous event would be very sad indeed.

Seeking out the explanation to which we feel ourselves entitled, we focus on the absence of the above mentioned ***b*** and we note that the ***c-sharp*** in question would be easily integrated into the whole simply by the addition of that ***b*** to the harmony of bar 6. We might, then, wish to assume that the harmony of bar 6 is actually an incomplete representation of the harmony given in Example 3. The perception of incomplete harmonies in traditional tonality has a hoary, if an admittedly disreputable, reputation in the literary history of music theory. The diminished 7^{th} chord on the seventh degree of the diatonic scale, for example, is sometimes considered an incomplete dominant on an implied fifth degree. In support of its usefulness as a concept here, let us simply say that at this point in the music itself there is nothing immediately present in these bars to contradict such a hearing.

What would constitute such a contradiction? An example would be the ***b-flat*** of Example 4, which would tend to displace any implied, but absent, ***b*** in the register that we require. For we must not only admit but assert that no merely implied (but actually absent) pitch can possibly make a stand against a very real and present semitonal neighbor of that pitch. The semitonal neighbor would crowd out the desired pitch like a weed in a flower garden. The ***c*** of Example 2 would likewise displace an implied ***b***, for, like ***b-flat***, it is also a semitonal neighbor of that pitch.

Creating a similar contradiction, but in a different way, if the ***b*** of Example 4 were a member of the harmony in bar 6, we would have the required pitch but in the wrong register. And, extrapolating still further, given the principle of octave duplication (defined above), the ***c-sharp*** of Example 4 would require the presence of this same other ***b*** which falls a perfect-5th below the axis, instead of a perfect-4th above it. Clearly, then, were any one of the diamond-shaped notes of Example 4 to be present in bar 6, we would tend to hear the collection not as an incomplete representation of a symmetrical chord, but simply as a harmony without symmetrical properties at all. Happily, none of these pitches are present in the music at this point.

We may follow the same line of reasoning with respect to the **d** in the saxophone in bar 7 (the ***f*** that precedes it is a unison with the ***f*** in the piano and so does not subvert symmetry). We can see that, in the same way described in the previous paragraph, any of the diamond-shaped notes of Example 5 would tend to contradict the possible (i.e. implicit and imminent) integration of the saxophone's ***d*** into the symmetrical harmony outlined in the accompaniment. Happily, again, none of these pitches are present in the music at this point.

Notice that ***d-flat*** (enharmonic equivalent of ***c-sharp***) and ***b*** are presented in bar 9 in the symmetrical registration required by bar 6. This is an explicit, if long range, integration of the ***c-sharp*** appearing in bar 6. (Such long-range resolutions are of course very common in tonal music.) Likewise, ***d*** and ***b-flat*** appear there also in the symmetrical relationship implied by bar 7, and with similar effect. Thus, bar 9 accomplishes the full rationalization of the dissonant pitches presented in bars 6 and 7. It provides the comforting assurance that comes with the appearance of something promised, in this instance of pitches that were implied previously but not actually present.7 (This, by the way, may suggest a convincing explanation for the cadential quality of the harmony in bar 9, noting also, however, the fact that ***b-flat*** and ***d*** and ***a-flat*** (in the saxophone) were also members of the cadential harmony of bar 5. This is also an important factor, as is their association with ***c-sharp*** and ***b*** in bar 9, and this for reasons above and beyond what has been said above, but we shall consider this again later from another point of view.8)

An observant reader will object, however, that we have left something out. What about the ***b-flat*** in bar 8? We had said that we may assume an implied pitch if there is no occurrence of a pitch which would tend to contradict it. But, the ***b-flat*** in the saxophone in bar eight, is just such an occurrence. In order to demonstrate that it does not actually contradict the symmetrical coherence of the saxophone's ***d*** in bar 7, we will have to invoke the Rule of Octave

Registration. In this way it will be shown that the symmetrical harmony in bar 8 is different from the symmetrical harmony of bar 7. The symmetrical chords are distinct entities. A succeeding harmony cannot possibly disrupt the symmetrical relations of the previous harmony, just as the triadic nature of a dominant chord does not disrupt the triadic nature of the preceding tonic chord.

In essence, we are entitled to consider the pitches of bar 8 to be harmonically distinct from those in bars 6 and 7 (excluding the ***d-sharp*** in the saxophone, which is part of the harmony of bar 8), *precisely because of the symmetrical contradictions created by the octave registrations of the pitches themselves*. Notice that three of the pitches in bar 8 are in sharp contradiction (in the sense of this word used above, i.e. unsymmetrical) with certain of the pitches in bars 6 and 7. The ***b-flat*** implies a ***d*** two octaves above the ***d*** in bar 7; the ***e-flat*** of the saxophone in bar 7 and its unison doubling in the piano of bar 8 imply an ***a*** which is semitonal neighbor of the ***a-flat*** in the piano, bar 6; finally, and this is the crucial point, this ***a*** is actually provided in bar 8 in the piano and saxophone. In fact, the instrumental reiteration at the unison of these two pitches, ***e-flat*** (or ***d-sharp*** in the saxophone) and ***a***, strengthens our sense that they actually displace their semitonal neighbors in bars 6 and 7 (a very salient point with far reaching implications to be discussed below). In bar 8, therefore, consider that we hear a new harmony which is an incomplete representation of the harmony expressed in Example 6. The utility of this method of analysis will become apparent when the entire movement is considered from this point of view.

It will now at least be clear why we have called the fundamental harmonic principle in this work the Rule of Octave Registration. When a pitch is repeated in unison, naturally, it signals no particular change in the harmony. It provides no new information. When a pitch is repeated in another register, however, it invariably indicates the presence of a new and distinct harmony.

In bar 7, both the ***e-flat*** in the violin, and the ***d-sharp*** in the saxophone could conceivably be a part of a single symmetrical harmony. We would require another ***a,*** of course, to provide a symmetrical neighbor for the ***d-sharp***. And, we will find that we have to greatly multiply the number of implied but absent pitches if we proceed in this manner. Fortunately, Webern never proceeds in this way. Instead, this is his method: he employs octave doubles within one and the same harmony only in the case of two specific pitches, namely the tritone of the axis, which is ***c***, (as doubled in bar 3, for example), and the axis itself, which is ***f-sharp*** (as doubled in bar 24). When an octave appears on any of the other pitches, it signals a change of harmony. The rule is as simple as that, and is consistent throughout. It imparts a pivotal function to the interval of

the octave – indeed, as will be seen, the octave is the engine of harmonic motion in this symmetrical context. Hence, the fundamental importance of the Rule of Octave Registration.

A further extension of this kind of reasoning into bar 9 will show that in that measure we move to a harmony distinct from, but similar to, that of bars 6 and 7. The phrase from bar 6 through 9 may then be thought of as one progression of three chords as follows: a---a '---b---c. (See Example 7.)

We may sum up our findings up to this point in the following way. The music resolves into groups of notes, which define themselves as (sometimes complete, sometimes incomplete) representations of symmetrical chords around an ***f-sharp*** axis. These chords do not normally permit octave doublings with the exception, naturally, of the doubling of the tritone and of the axis itself. In other words, in this case, there are no octave doublings within the individual chords with the exception of ***c*** and ***f-sharp***. Excepting these two pitches, octave doublings where they do appear signal the presence of a new chord, and are used in effect to demarcate the boundaries of these symmetrical harmonies.*9*

When this much is grasped, an even more startling revelation is granted. It is a revelation about voice-leading that comes in a thoroughly unexpected way. Does not the pointillist style of the work prohibit even the mention of the word voice-leading? We discover that it does not. And in the light of this new discovery, we dare to ask of this music the question that traditional tonal music answers so very well: i.e., what is the purpose of harmonic progression, if any? In tonal music, the answer certainly includes the desire to lend the character of necessity to the melodic material as embodied by the motives. Or, at least we could say that it is meant to bring necessity into fruitful intercourse with free invention. We need to feel not only that the parts want to play together, but that they must play together, that they compel each other's existence and create thereby a whole out of bits. If Bach, for instance, wishes to make a deliberate melodic descent from the Third Degree of the scale to the Tonic, he employs a dominant harmony. With it he compels the descent of the Third Degree to the Second Degree. Then comes a tonic harmony in order to compel the descent of the Second Degree down to the Tonic. This at least seems uncontroversial. But, is it possible to infer a similar mechanism at work in Webern's music, using the method of chordal progression described above, according to the Rule of Octave Registration?

Recall what was said earlier about the displacement of the pitch ***e*** by the pitch

e-flat, and the corresponding (and symmetrical) displacement of ***a-flat*** with ***a*** in the course of the progression between bars 6 and 8. The voice-leading cell that results is represented in Example 8. In essence, the harmonic mechanism fueled by the Rule of Octave Registration results in a progression of symmetrical harmonies *in the course of which prominent pitches may find themselves displaced by their stepwise neighbors*. There is another way of expressing this. When there is a desire to move a pitch down or up to its stepwise neighbor, the original pitch appears in the subsequent harmony in a different octave.*10* (At the same time, its symmetrical corespondent on the other side of the axis also moves to a new and corresponding registration.) This not only facilitates the displacement of the original pitch, but compels it – for how can the impression of the original pitch maintain itself without displacement in our mind, while its stepwise neighbor is sounding, and the original pitch is itself sounding in another octave registration (or sounds there immediately after).

Only one question remains: is the voice-leading cell of Example 8 significant only as a local event; may not similar events be found elsewhere and is there some way to grasp the whole with respect to the overall pattern created by these local linear events? Indeed, this symmetrical semitonal movement is only a part of a large-scale step-wise movement that begins with the beginning of the piece, and ends with its end.

Now, we can be glad that all those avid listeners who fail to hear Schenker's *urline* in the music of the traditional masters may now fail to hear it in Webern as well. It can be stated confidently, however, that an *urline* exists in this music as in any other music in our classical tradition – for those, that is, who have the ears to hear it. When this Quartet, at any rate, is studied in the light of the above considerations, it can be demonstrated that a stepwise linear progression embodying a coherent musical idea binds the music together on a deep level of structural coherence (see below). As in all the music of the classical tradition, space (in the vertical direction) is perfectly synchronized with time (in the horizontal). Spinning lines of force in many different dimensions, the organizational principles determine that nothing is left out, nothing forgotten, and everything in its place.

* * *

A musical graph of the harmonies and underlying linear structure in the first movement of the Quartet has been provided. The bar lines represent the

boundaries of the various harmonies (not the bar-lines of the music itself). The x-shaped note-heads represent the implied but absent pitches. The diamond-shaped note-heads denote the axis. The principles used above to expose the linear event in bars 6 through 9 (that is, finding the displacement of one set of pitches by their semitone or whole-tone neighbors) have been applied to the whole movement. The resulting linear progression is highlighted in selected instances by the use of open note-heads, for the purposes of the following discussion.

The reduction could of course be examined in great detail as it relates to the progress of linear events. It is not the purpose of this essay, however, to give an exhaustive analysis of the work. Our purpose is to reveal a principal of harmonic progression that is found to be at work in this piece, and which has very far-reaching implications for our understanding of music, tonal and atonal. We comment only briefly on the linear progression that is reflected by the open note-heads of the graph, in order to substantiate our claim that there is a coherent linear progression, expressing an intrinsically musical idea, which is unfolded in the course of this music from its beginning to its end.

Inspired as it is by classical norms, it is not surprising that the opening bars of the movement should contain the germ of the musical idea that is elaborated in all that follows. The movement begins with two groups of pitches that we will call dyads, since they contain but two pitches each, and since they are arranged symmetrically around an ***f-sharp*** axis. Thus, we have the combination of ***d-flat*** (or ***c-sharp***) and ***b***, as one dyad, and ***b-flat*** and ***d*** as the other. In a progression governed (as are all the other progressions in this piece) by the Rule of Octave Registration, the ***d-flat*** moves down a semitone to ***c*** (and there is a corresponding movement below the axis from ***b*** to ***c***).

The next move in a stepwise direction, say for the line above the axis, would be either to a ***b*** or to a ***b-flat***. Which will it be? So many musical ideas are presented in the form of a question. (And sometimes, they are answered with a question.) As a tentative answer given by the music itself, but one that has not had time to be tested, bar 5 suggests ***b-flat*** and ***d***. It does this by surrounding these pitches, or rather ensconcing them, with two other dyads that are defined by the musical context as stable, namely ***g*** and ***f***, and ***e*** and ***g-sharp***. The stability of these latter two dyads consists partly in the way they present themselves as semitonal neighbors of each other. Observe in the second and third bar of the reduction that they lead to and from each other simultaneously by stepwise motion. They are the perfect pair, bringing each other into existence according to a Buddha-like principle of mutual-arising.

All of this can be put another way. The first five bars have the quality of a complete statement. Three things happen. First, two dyads appear together, unprejudiced as to priority. Second, they pose a musical question by initiating a stepwise movement, which in a symmetrical context dictates that the continuation will choose one or the other of these dyads over its companion. And third, they resolve the issue by continuing the stepwise progression so that we pass through one of the dyads and to a conclusion with the other.

The music assumes a simple binary form. After the first double bar, an exposition per se begins, and the two dyads that initiated the movement (***c-sharp*** and ***b,*** and ***b-flat*** and ***d***) are brought into dynamic interaction again. The core of their rivalry is signaled once again by their juxtaposition together in bar 9, in which both together seem to be the logical implication of the problematic pitches in the saxophone line, a matter which was discussed at length above. In the course of this exposition, the priority of the second dyad (***b-flat*** and ***d***) is put to its first test. And it succeeds. Bar 15 repeats the cadential harmony of bar 5, giving ***b-flat*** and ***d*** priority once again.

In the meantime, over the same span of time, ***g*** descends one whole step to ***f***, in the soprano line (with a corresponding ascent from ***f*** to ***g*** in the bass). This is accomplished forcefully through the agency of the alto line (yes, we are dealing here with a kind of four-part harmony), which begins with ***g*** in the second bar of the reduction, and leads in a stepwise progression through ***b*** (significantly and necessarily not ***b-flat***) to meet the soprano at ***f*** at the second double bar. The choice of ***b*** instead of ***b-flat*** in the course of this alto line has to be taken up like a challenge. After the second double bar, in a rather traditionally conceived development section, we move in four bars from a chord in which the dyad ***g,f*** is paired first with ***d,b-flat***, and then with ***c-sharp, b***.

This is so much like going from the tonic to the dominant region of a tonality that we cannot help drawing the analogy. In this binary form, the exposition closes on the tonic. The development begins on the tonic, moves to the dominant, and then moves back (through a marvelous climax employing much denser chords) to the tonic to prepare for the recapitulation. Observe how decisively the tonic region is affirmed in the voice-leading. Beginning with bar 19 (bar 17 in the reduction), we see a descent from ***d*** through ***b*** to ***a*** and then back up again to ***b-flat***, plus the corresponding line from ***b-flat*** though ***c-sharp*** to ***e-flat*** and back down to ***d***. The dyad ***d,b-flat*** then moves forward without ceremony through an octave ***c*** to the pitches of the recapitulation at bar 26 (24 in the reduction).

There is a coda. How ironic it seems after all has been said and done to end meekly on a solo ***b*** and ***c-sharp*** in the piano. But, other movements follow.

Clearly, Webern has accomplished precisely the same kind of event previous composers achieved through the use of conventional harmony. For composers of the Second Viennese School, the taste for increasingly expansive tonal schemes left nothing lacking in their desire to put melody and harmony into happy, and above all necessary, harmonic congruence. In Webern, in the Saxophone Quartet, one may sense a new level or degree of fulfillment for this desire: one that perhaps offers a rationalization of the melodic and harmonic spheres fully on a par with the classical system of tonality.

It could hardly escape notice of the reader that this essay has said very nearly nothing about the twelve-tone row per se. In some instances, reference to the choice of this or that inverted or retrograde form of the row simply points to the salient facts in a different way from that chosen here. For example, the choice of row forms on ***b*** and ***c-sharp (d-flat)*** at the beginning of the piece presumably has something to do with the special significance of these pitches for the music that ensues - an importance that has been demonstrated above. But in most cases, preoccupation with the classification of row forms and their sequence in the music is rather like always taking care to point out that, in some tonal work, some particular scale in C has a semitone between the third and fourth degrees. One is almost tempted to say that criticism of twelve-tone works should avoid a catalog of the rows very nearly as a point of honor.

NOTES

1. If Webern abjures traditional expressions of key, he discovers new ones. Let it be said, then, without cavil: the Quartet is in the key of **f-sharp**. As will be seen, Webern has devised entirely new principles of organization in order to create a new system of keys. Why should this be so astonishing. Was not the traditional system of keys invented? In fact, is not the creation of a systematic approach to pitch the essence of what we mean by musical invention? And what is a key, if not a systematic approach to pitch? (Return)
2. A universal principle is revealed in the impression of dissonance that we get from a perfectly symmetrical chord containing all pitches. It is just one more example of the way in which perfect order never results in anything but total chaos. (Return)
3. What we give with one hand, however, we shall have to take back with the other. Schoenberg taught us that theorists make rules, and composers make music, a lesson that should never be forgotten. In the discussion that follows about the Rule of Octave Registration it should be kept in mind that we are only highlighting certain methods of procedure. The Rule cannot be stated in such a way as to prevent the admittance of exceptions. Exceptions do not prove the Rule in the modern sense of asserting its

truthfulness, but in the archaic sense of testing. These qualifications arise in tonal music before they do in atonal styles. If one makes a rule in tonal music saying that dominant chords must be followed by tonic chords, one very soon comes up against resolutions on subdominants or submediants. There is no rule, only a method of procedure. And methods of procedure may be altered when greater purposes are favorably served thereby. (Return)

4. In the abstract, the pitch which is related as a tritone to the pitch-axis in symmetrical structures has a unique nature among all the pitches other than the axis itself: the tritone is the only note that surrounds the axis with octaves of itself. In other words, the symmetrical counterpart of the tritone above the axis is the tritone below the axis. The emergence of symmetrical harmonies based on the diminished 7th chord and the augmented chord in tonal music, both containing the tritone, is a fascinating subject (see George Perle: The Listening Composer). (Return)
5. For example, in bar 6, the minor third in the saxophone is answered by two minor thirds (displaced actually into tenths) in the piano. In bar 7, a minor third in the saxophone is answered by two major sixths (inversions of minor thirds) in the violin and clarinet, etc. (Return)
6. These other factors operate in diverse ways, and have been recognized in the past in some respects. For example, the motivic similarity between the music in the violin and the saxophone beginning with the pick-up to bar 4, and the exchange between the violin and clarinet in bar 9, is also conditioned by the fact that in both instances these gestures precede the appearance of **f-sharp**, which as was noted previously, is the axis pitch of this piece**.** (The added accentuation in the notation of this pitch necessarily attracts notice). Other associations between pitches stand out. For example, this ***f*-sharp** of bar 10 appears as part of a motive including **c**. In fact, ***f*-sharp** and **c** turn out to be adjacencies in both rows employed by the saxophone. But, as noted previously, both of these pitches are of special weight in any rows which are paired around an ***f*-sharp axis**: one is the axis itself, and the other is the tritone, which is the only other pitch other than the axis itself that can be doubled at the octave without disrupting symmetry. Furthermore, we note the fact that **f-sharp** and **c** in bar 10 actually occur as part of a trichordal motive (**f-sharp**, **c**, and **g**), whose intervals of a tritone and a perfect fourth are constantly associated with cadence, or at any rate, the end of many phrases. This is also significant. And these factors by no means exhaust the field of interconnectedness between all the various musical elements employed in this music at this level of analysis. (Return)
7. A parallel progression is to found between bars 28 and 31 in the course of the recapitulation, or second part of the movement's traditionally inspired binary form. Once again, c-sharp and b, and b-flat and d are the relevant pitches. (Return)
8. The particular character of the cadence in bar nine is something like the half-cadence in tonal music, and it partakes of some of the essence of anacrusis to the following bar. As must be concluded from the entire analysis offered in this essay, the appearance of both sets of pitches together is unsettling at best, and ironic at least. (Return)
9. The power of the octave to demarcate boundaries has been noted in less rigorous twelve-tone music than that which is exemplified by this Quartet. A growing sense of the power of the octave to articulate the phrase is perhaps fulfilled in the systematic

approach that Webern applies in this Quartet. To observe just two examples from Schoenberg at his most rigorous with respect to 12-tone technique, see the use of **g** in bars 40 and 41, or the use of **b-flat** in bars 62 and 63 of Schoenberg's String Trio. The examples throughout the evolution of so-called atonal techniques are too numerous to merit special notice here, although the subject will be of interest to anyone who is interested in understanding something about the nature of octaves, either as seeker or composer, or both. (Return)

10. We should rather say down AND up in a symmetrical context, for both are happening simultaneously on both sides of the axis. (Return)