

ABSTRACT

Reworking of Musical Material and the Reinterpretation of Musical Drama:
Luciano Berio's *Sequenza X* (1984) and *Kol Od [Chemins VI]* (1996)

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Luciano Berio wrote a series of pieces entitled *Chemins* for soloist and ensemble. Each *chemins* contains one entire solo line from one of his *sequenzas* for solo instruments. Numerous similarities and differences between *Sequenza X* and *Kol Od [Chemins VI]* cause the “musical drama” present in the *sequenza* to be variously preserved or altered in the *chemins*.

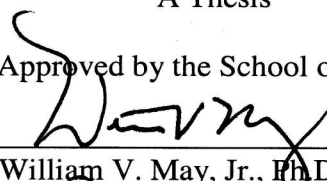
Reworking of Musical Material and the Reinterpretation of Musical Drama:
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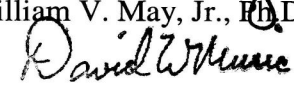
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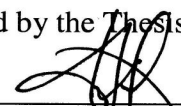
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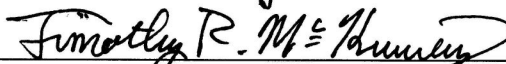
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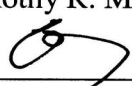
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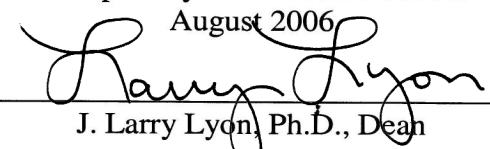


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To the Lord, my God – For your honor and glory
To Katie – I love you with all of my heart
To Mom and Dad – With love and respect

CHAPTER ONE

Introduction

1.1 – Introduction and Basic Information on the Sequenza and Chemins Series

Luciano Berio (1925-2003) exhibited a propensity for “reworking” or “commenting upon” works of other composers, using certain musical components of a piece as a starting point or framework for a new piece without necessarily employing exact quotation, and combining these materials with his own original music in unique and meaningful ways. Some of these projects resulted in an aural superimposition or juxtaposition of two (or more) distinctly different styles: the original style(s) and the unique style for which Berio came to be known over the course of his musical career. In some instances, the original material and Berio’s own material each remained distinct and easily perceptible. Other projects reveal a certain degree of stylistic fusion of the original material and Berio’s additions. There are still other projects that do not sound like what one would expect from a twentieth-century *avant-garde* composer, as if Berio achieved a complete synthesis with the style of the original material (such as the folk melodies utilized in *Folk Songs*). Most of these works can be considered as types of transcriptions or arrangements, and thus the original composer’s voice is allowed a greater degree of presence than in projects that are more appropriately considered reworkings. (In fact, although two of the eleven “*Folk*” *Songs* are actually original compositions by Berio, they maintain the same traditional style exhibited by the others.) There is little doubt that all of these results were intentional, for Berio was certainly a master musician.

The composers with whose materials Berio has chosen to work, the time periods in which those composers lived, the genres of the pieces, and the styles of those pieces all vary widely: *Rendering* is based on Schubert's sketches for an unfinished symphony, arrangements of The Beatles' songs *Michelle*, *Ticket to Ride*, and *Yesterday* were made in a neo-Baroque style, and the third act of Puccini's *Turandot* was "recomposed," to name only a handful.

When asked what he meant by transcription, Berio replied:

The history of transcription has yet to be written, and if I were still teaching, that is something that I'd like to go into with my students. . . . I'm interested in transcription when it's part of a design, a coherent and homogenous musical vision, even though at times it's primarily motivated by considerations of practicality and custom. . . . But the real object of this course would be to arrive at unconscious transcription, in other words, forms of transcription that are completely assimilated into the creative process. Here we are no longer dealing with transcription as genre (don't forget that for centuries the practice of transcription had a function analogous to that of records), but as part of the ups and downs of creativity: when, that is, you have a single musical vision (a single project, they say these days) going through different and self-sufficient formulations before arriving at the definitive realization, decanted from (or destroying) all the others. . . . Naturally, I would contribute to the project with my *Chemins*. . .¹

Two of Berio's most well-known and widely studied uses of reworking and quotation occur in *Sinfonia* (1968) and the seven *Chemins* based on his *Sequenza* series. A brief discussion of *Sinfonia* will provide insight into Berio's reworking of musical ideas. In the second movement of *Sinfonia*, Berio reworked *O King* (1967), his tribute to slain civil rights activist Martin Luther King, Jr. The scherzo from Gustav Mahler's *Second Symphony* serves as a framework for the entire third movement. Upon this framework, Berio composed original music while also inserting partial quotations of excerpts from various other composers. The fifth movement of *Sinfonia* echoes the

¹Luciano Berio, *Two Interviews with Rossana Dalmonte and Bálint András Varga*, trans. and ed. by David Osmond-Smith (New York: Marion Boyars, 1985), 112-113.

musical ideas of the third movement by using music from the first four movements as a framework.

Discussing his use of pre-existing music in *Sinfonia*, Berio has said:

This third part of *Sinfonia* has a skeleton which is the scherzo from Mahler's *Second Symphony* – a skeleton that often re-emerges fully fleshed out, then disappears, then comes back again . . . But it's never alone: it's accompanied throughout by the 'history of music' that it itself recalls for me, with all its many levels and references – or at least those bits of history that I was able to keep a grip on, granted that often there's anything up to four different references going on at the same time. So the scherzo of Mahler's *Second Symphony* becomes a generator of harmonic functions and of musical references that are pertinent to them which appear, disappear, pursue their own courses, return to Mahler, cross paths, transform themselves into Mahler or hide behind it. . . .

I'd had it in mind for a long time to explore from the inside a piece of music from the past: a creative exploration that was at the same time an analysis, a commentary and an extension of the original. This follows from my principle that, for a composer, the best way to analyze and comment on a piece is to do something, using materials from that piece. The most profitable commentary on a symphony or an opera has always been another symphony or another opera.²

Meaning “paths” or “ways,” “chemins” is the term given to a series of individual pieces, beginning with *Chemins I* (1964) and culminating with *Récit [Chemins VII]* (1996). For each of the *Chemins* Berio wrote a new piece “on top” of one of his fourteen *Sequenzas* for solo instruments, “embedding” the entire solo part from the *Sequenza* within the new material.³ According to Berio, the *Chemins* are “the best analyses of [his] *Sequenzas*, just as the third part of *Sinfonia* is the most developed commentary that [he] could have possibly produced on a piece by Mahler.”⁴

²Berio, *Two Interviews*, 107.

³There is one instance where the original *Sequenza* is not present in the *Chemins*. In *Chemins IIb*, the solo part that was present in *Chemins II* and *Chemins III* is removed. An optional bass clarinet solo is provided in the score of *Chemins II*, and when the solo is included, the piece is called *Chemins IIc*.

⁴Berio, *Two Interviews*, 107.

Berio also has said of the *Sequenza/Chemins* series that *Sequenza VI*, *Chemins II* (written on *Sequenza VI*), and *Chemins III* (written on *Chemins II*) are related to each other “like the layers of an onion: distinct, separate, yet intimately contoured on each other: each new layer creates a new, though related surface, and each older layer assumes a new function as soon as it is covered.”⁵ Berio has noted that one purpose of the *Chemins* is to “quote, translate, expand and transcribe” his *Sequenzas*.⁶

After *Sequenzas I-IX* had been written, Berio offered insight into the series as a whole, saying:

In my *Sequenzas* I have often tried to develop specific technical aspects of the instrument in greater depth, and sometimes I have also tried to develop a musical commentary between the virtuoso and his instrument by disassociating various types of behaviour and then putting them together again, transformed, as musical unities. This is the case, for example, in *Sequenza III* for voice . . . and *Sequenza V* for trombone . . . both of which, because of this process of disassociation, can also be experienced as dramatic entities.⁷

All the other *Sequenzas* [other than III and V] for solo instruments are intended to set out and melodically develop an essentially harmonic discourse and to suggest, particularly in the case of the monodic instruments, a polyphonic mode of listening. When I started the series, back in 1958, I wasn’t using the term “polyphonic” in any metaphorical sense, as I would now when working with monodic instruments, but literally. I wanted to establish a way of listening so strongly conditioned as to constantly suggest a latent, implicit counterpoint. . . . As often happens in scientific research when, in pursuit of what appears to be the principal objective, so many interesting side-issues emerge that the direction of the research becomes modified, so, in pursuing my ideal of implicit polyphony, I discovered melody’s heterophonic possibilities. The title was meant to underline that the piece was built from a sequence of harmonic fields (as indeed are almost all of the *Sequenzas*) from which the other, strongly characterized musical functions were derived.⁸ [The principal translation of *sequenza* from Italian is “sequence.”]

⁵Paul Griffiths, *Modern Music and After* (Oxford: Oxford University Press, 1995), 193.

⁶Berio, *Two Interviews*, 110. Though this statement was made before all of the *Chemins* were written, it holds true for the entire *Sequenza/Chemins* series.

⁷*Ibid.*, 92-93.

⁸*Ibid.*, 97.

Examination of a particular *Sequenza*/*Chemins* pairing is an intriguing prospect and the purpose of this study. Discovery of differences in musical material between the pieces can give rise to analytical/theoretical conclusions about each individual piece and about how the pieces relate to each other. Through elucidation of the differences in musical material between *Sequenza X* (1984, for trumpet and piano resonance) and *Kol Od [Chemins VI]* (1995-96, for trumpet solo and chamber orchestra), this study will reveal the functions of various musical elements and instrumental parts in both pieces. This information, coupled with an examination of the functions of the ensemble of *Chemins VI* as compared to the piano resonance of *Sequenza X*, will be presented in order to understand how the musical “drama” of each piece is unique, despite the fact that the entire trumpet part of *Sequenza X* is embedded within *Chemins VI*. In this study, the drama of *Sequenza X* is considered the original model against which the drama of *Chemins VI* will be compared.

The next two sections of this chapter will address general stylistic traits of Berio’s music and the concept of music as drama in order to provide necessary background information for the following introductions to *Sequenza X*, *Chemins VI*, and the ways that musical drama specifically relates to these two pieces. This chapter will conclude with an examination of the significance of the title *Kol Od*.

The second chapter will briefly discuss the various functions and roles of the ensemble in *Chemins VI* before revealing differences between *Sequenza X* and *Chemins VI* that are not addressed in this study. A discussion concerning the functions and roles of the ensemble in *Chemins VI* will then be taken up again and musical examples will aid in revealing these functions and roles.

The third chapter will briefly examine Berio's melodic and harmonic language in general and the language he used in *Sequenza X* in order to prepare for a discussion of pitch and the importance of pitch in relation to musical drama. The third chapter will conclude by examining the ensemble's apparent interruptions of the solo line, the importance of the ensemble trumpets, and how these matters alter musical drama.

1.2 – General Stylistic Traits of Berio's Music

The stylistic traits of Berio's music and the concept of "music as drama" will be discussed before *Sequenza X* and *Chemin VI* are specifically addressed. Berio's music defies a simple description, for, as Berio scholar David Osmond-Smith has noted:

The vivid, gestural idiom that [Berio] developed in the 1960s, and the creative consequences that he drew from other, often extra-musical aspects of the culture around him, established for him a world-wide reputation that sustained his subsequent exploration of a wide, and sometimes challenging, arc of musical resources. Of formidable creative energy, he proved one of the most prolific composers of the later 20th century.⁹

Furthermore, Berio's style is difficult to describe because his writing continually evolved in subtle ways throughout his career. It can be said, however, that much of Berio's music has retained the surface complexity that was prevalent in the electronic and serial music of the post-World War II generation of composers. Berio's own experiences composing in the electronic studio and briefly writing in a purely serial manner certainly contributed to the development of his non-electronic and non-serial writing styles. In addition to realizing the possibility for extreme complexity of the musical surface through these experiences, Berio also garnered from them ideas about sounds (especially texture and density), uses of extremes of register and sudden shifts of register, ways to exhaust the gamut of chromatic pitches without writing in a twelve-tone serial style, and a gestural

⁹David Osmond-Smith: "Berio," in *Grove Music Online* ed. L. Macy (Accessed 27 March 2006), <<http://www.grovemusic.com.ezproxy.baylor.edu>>.

style of rhythm. Osmond-Smith notes that Berio's work in the electronic studio led to "the experience of counterpointing complex layers of sound, and the gestural style of writing that provided rhetorical continuity in the absence of more traditional harmonic frames of reference," and these ideas significantly influenced the development of Berio's orchestral writing.¹⁰

Gestural writing, as presented in Berio's music, is characterized by the use of fairly short fragments of material that suggest motion and activity and that do not sound as if they are in a clearly defined and regularly recurring meter. According to Osmond-Smith:

The notion of "gesture" implies an imaginary physicality. The history of European music abounds with music derived from dance that is to be listened to, not acted upon, and that cultivates ideals of motion and gesture only imperfectly realized in the real world. . . Berio's own gestural world of the fifties and sixties was often violent and nervous, exploiting music's command of an imaginary physicality beyond the disciplines of dance.¹¹

While Berio only briefly explored the possibilities of total serialism such as that exhibited in the music of Boulez and Stockhausen, his study of the music of Dallapiccola and his own work in the genre led to a "fluid approach to 'pre-compositional systems,'" and he "took on board the exigencies of serial orthodoxy only in as much as they suited his creative needs."¹² As an example of Berio's use of serialism for his creative needs, Osmond-Smith notes that the pitch-class series for *Chamber Music* (1953) "is defined to furnish lyrical opportunities rather than to expunge tonal and triadic echoes. Indeed, its

¹⁰David Osmond-Smith, *Berio* (Oxford: Oxford University Press, 1991), 15-16.

¹¹*Ibid.*, 90.

¹²*Ibid.*, 6.

inverted form retrogrades a series of groupings within the prime form¹³ so that melodic lines derived from it will sound as permutational variants of each other.”¹⁴ Figure 1 provides the pitch-class series and its inverted form. Brackets show the series of groupings in the prime form that are presented in retrograde in the inverted form.

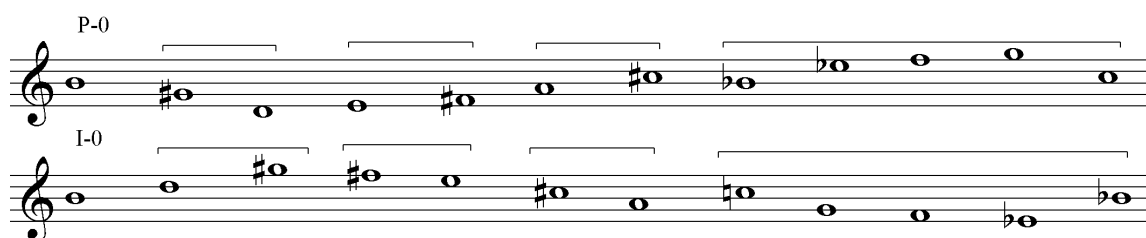


Figure 1. Prime form and inversion of the pitch-class series from *Chamber Music*. (Adapted from Osmond-Smith, *Berio* (1991), Ex. I.1, 6.).

Osmond-Smith also notes that one consequence of Berio’s use of select serial procedures and relationships is that “the analyst will often find in Berio’s scores only hints or remnants of a ‘system’ which has in effect been consumed in the process of composition.”¹⁵ Osmond-Smith’s writings also elucidate the synthesis of relatively simple processes such as the “transformation of pre-established materials” and the “permutation of limited resources” with rich surface detail in Berio’s music.¹⁶ Process is a very important concept to Berio, and the structure and form of many of his works appear to be defined or heavily influenced by the use of various processes. Berio has said, “Some composers are just interested in music as form. I am much more interested in

¹³“Prime form” is used here to refer to a twelve-tone row, and not the prime form of a pitch-class set.

¹⁴Osmond-Smith, *Berio* (1991), 6-7.

¹⁵*Ibid.*, 9.

¹⁶*Ibid.*, 1.

the formational aspect, in music as a process.”¹⁷ A simple example of process in Berio’s music is the use of pitch sequences made up of limited pitch materials and the gradual insertion of new pitches into various parts of the sequence or the removal of pitches from various parts of the sequence in order to alter the surface details of the pitch collection while still retaining a sense of the continuation of the sequence.¹⁸

Other features of Berio’s music that are often identified as characteristic of his style include writing for various superimposed “layers,” with each layer consisting of a number of voices or instruments that are grouped in some way – sometimes by like timbre, sometimes through characteristic register of the voice/instrument, sometimes through use of a particular timbral effect or articulation, etc.; ensemble unisons; short “pointillistic” presentations of complex harmonies that are spread throughout the ensemble (for example, a sixteenth-note chord whose pitches are played by a large number of ensemble members and whose pitch material is chromatically saturated); and extremes in the realms of dynamics, range, and density.¹⁹

Also present in nearly all (if not all) of Berio’s works is a sense of “the theatrical,” whether implied or actually present as in his works for the stage (such as *Passaggio*, *Opera*, and *Un re in ascolto*). According to Osmond-Smith, stage works became an increasingly important part of Berio’s output in the seventies and eighties, and Osmond-Smith also notes that Berio had long been aware of the existence of “a purely musical dramaturgy.”²⁰

¹⁷Theo Muller, “‘Music Is Not a Solitary Act’: Conversation With Luciano Berio,” *Tempo*, New Ser., no. 199 (January 1997): 17.

¹⁸See also Osmond-Smith, *Berio* (1991), 9-10.

¹⁹See also Osmond-Smith, “Berio,” *Grove Music Online*, <<http://www.grovemusic.com.ezproxy.baylor.edu>>.

1.3 – Music as Drama

In response to a question about the use of multiple layers in his music – not only layers of sound but also “layers” of interaction, relationships, and meaning – Berio posited:

The combination of layers, which are present in different degrees without obliterating each other, can create a very different magma. If these layers have real functions – harmonically, timewise, in terms of density – their coexistence creates an implicit “drama” that can be very meaningful.²¹

As Fred Everett Maus notes in his article “Music as Drama,” “Comparisons between drama and music, especially music of the classical period, are commonplace...”²² In modern-day language, “drama” is used in a variety of ways, so let us focus on two definitions of the word: (1) “a composition in verse or prose intended to portray life or character or to tell a story usually involving conflicts and emotions through action and dialogue and typically designed for theatrical performance,” and (2) “a state, situation, or series of events involving interesting or intense conflict of forces.”²³ In considering music as drama, and particularly *Sequenza X* and *Chemins VI* as separate and distinct dramas, some key points must be considered.

The purpose of analyzing these pieces as drama is to understand the music as a series of actions performed by agents that can be thought of as representing characters in a play. However, as Maus notes, the agents in a piece of music can be and often are indeterminate.²⁴ One might think of the composer, an instrument, the sound an

²⁰Osmond-Smith, *Berio* (1991), 90.

²¹Muller, “‘Music Is Not a Solitary Act’: Conversation With Luciano Berio,” 18.

²²Fred Everett Maus, “Music as Drama,” *Music Theory Spectrum*, 10 (Spring 1988): 70.

²³*Merriam-Webster Online Dictionary*, s.v. “Drama,” 2006. <http://www.merriam-webster.com> (31 March 2006).

instrument produces, etc., as agents. Furthermore, perceived agents can change throughout the course of a piece and can function in various ways. For this study, the instruments will be considered the agents, as if each instrument represents a particular character in a stage play. These agents/characters are thought of as fulfilling roles, having specific functions, and performing actions, and it is the actions of these agents/characters, the interaction between agents/characters (sometimes representing dialogue, sometimes representing working together, and sometimes representing conflict), and the specific series of events that arises from the “conflict” between agents/characters that create a *sense of drama* within the music, which is *representing an actual drama*. Before relating these ideas specifically to *Sequenza X* and *Chemins VI*, more information about the pieces must be revealed.

1.4 – Introduction to Sequenza X and Chemins VI

Sequenza X was written for trumpet in C and piano resonance, and the instructions in the score note that the piano must be a “perfectly tuned” grand piano.²⁵ The piano resonance in the piece is determined by which piano strings resonate at any given moment in response to certain pitches played by the soloist (discussed below) and the natural laws of physics and acoustics. The subjects of physics and acoustics are far too complex to address in detail in this study, though basic information about these sciences is necessary in order to understand which sounds are present in the piano resonance of *Sequenza X*.

²⁴Maus, “Music as Drama,” 72.

²⁵Luciano Berio, *Sequenza X per tromba in do (e risonanze di pianoforte)* (Milan: Universal Edition, 1984).

Humans perceive sound because the brain processes information pertaining to pressure fluctuations at the eardrum.²⁶ The pressure fluctuations are a result of air molecules moving, and these fluctuations can be represented graphically as a complex pattern or waveform.²⁷ The following information explains why particular pitches are perceived and how timbre is determined:

In 1822 the French mathematician Fourier showed that any waveform, however complex, could be decomposed into a set of simple sine wave components. If the waveform is periodic, corresponding to a regularly repeating pattern of pressure variation, then its sine wave components are members of a harmonic series. In this case it is difficult to perceive the components separately; they are fused into a single sound with a definite musical pitch. In contrast, a sound which has a set of components which are not harmonics (or close approximations to harmonics) will not normally be perceived as having a clear pitch, and the components can be heard separately. The pitch associated with a harmonic series is that of the fundamental or first harmonic; the frequency spectrum, which describes the relative strengths of the frequency components, helps to determine the timbre of the note, with an increase in the strength of upper harmonics giving an increased brightness to the sound.²⁸

The sine wave components of a note sounded on a trumpet are members of a harmonic series. The fundamental and first 15 overtones that make up the harmonic series of C₄ as played on a trumpet are presented in figure 2. The pitches that make up the overtone series can be referred to as harmonics (with the fundamental being the first harmonic) or overtones (with the fundamental not considered an overtone). This study will refer to overtones. Also, some of these pitches are approximate because the overtone series, a naturally occurring phenomenon, does not follow the conventions of equal-tempered tuning, a man-made tuning system.

²⁶Guy Oldham, Murray Campbell, and C. Greated: "Harmonics," in *Grove Music Online* ed. L. Macy (Accessed 1 April 2006), <<http://www.grovemusic.com.ezproxy.baylor.edu>>.

²⁷Ibid.

²⁸Ibid.

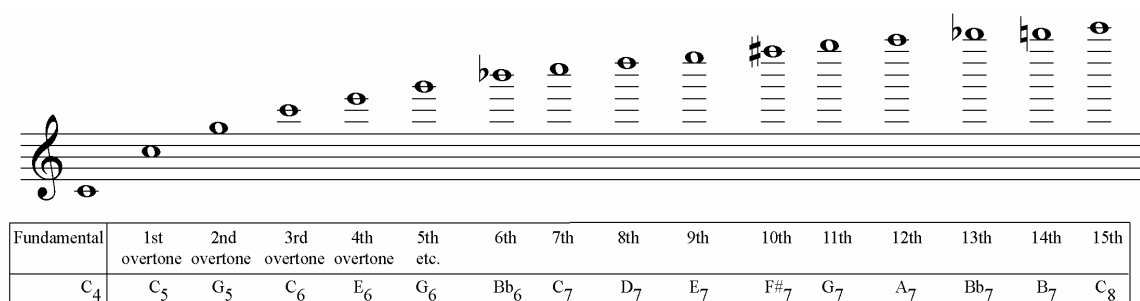


Figure 2. C₄ and the first fifteen overtones of the harmonic series based on C₄ as the fundamental.

As the above information reveals, when C₄ is played, all of the other pitches in the overtone series (simple sine wave components) are also present, but the components are not separately perceived by a listener. However, if a trumpet sounds a fundamental and piano strings corresponding to the pitches of the overtone series of that fundamental are free to resonate, those strings will vibrate and the pitches of the overtone series of the fundamental will sound “on” the piano strings.

In *Sequenza X*, when the piano strings vibrate in response to pitches played by the trumpet soloist, the piano resonance is amplified by a microphone placed under the piano and attached to a speaker that is not seen by the audience. When no pedals or keys on the keyboard are depressed, all of the piano strings are dampened (except for the highest strings, which have no dampers). In this situation, any sound created by vibrations of the piano string caused by the trumpet sounds would be so quiet that one can consider that virtually no audible sound is produced by the piano strings. Pitches of piano resonance will be audible when they are sustained by one of three methods: (1) silently depressing and holding specific keys so the strings corresponding to those keys are able to vibrate, (2) depressing and holding the damper pedal so that all strings are available to vibrate, and (3) silently depressing specific keys and then depressing and holding the *sostenuto* pedal (middle pedal) so that the strings corresponding to those keys will continue to be

allowed to vibrate as long as this pedal remains depressed (even if the keys are released). If, for example, the piano player silently depresses the C_4 key and the soloist plays C_4 , the strings corresponding to C_4 in the piano will ring and sound C_4 . The rest of the overtones of C_4 will be present but they will not be audible as individually perceptible pitches (they contribute to timbre). If the pianist depresses C_4 and C_5 and the soloist plays C_4 , the piano strings corresponding to C_4 and C_5 will ring, sounding C_4 and C_5 since both of these pitches are part of the overtone series of the trumpet note.

Determining which pitches are sounding on which strings can be complicated, however, since notes other than the note to which the piano strings correspond can sound on those strings. For example, if the soloist plays C_4 and the pianist silently depresses G_4 , allowing the strings corresponding to G_4 to ring, G_5 will sound on the G_4 piano strings. This occurs because, while G_4 is not in the overtone series of C_4 , G_5 is, and physics dictate that G_5 is able to sound on the G_4 strings. When the damper pedal is depressed, all piano strings are allowed to ring, and if the soloist plays C_4 , all strings that correspond to the fundamental or overtones of the fundamental, or are able to allow the fundamental or its overtones to ring on them, will theoretically ring and a large pitch collection will sound.

Further complicating matters is the fact that variable factors such as the exact dynamic of the trumpet notes as played, whether or not the trumpet plays directly into the piano, the articulations used by the soloist, and the specific tonal qualities of the soloist (that is, how prominent various overtones are in one particular soloist's characteristic sound) contribute to determining the sound produced by the piano at any given point in time.

The trumpet part is a virtuosic *tour de force*, demanding great technical and expressive feats from the performer. Notable features include the use of extremes of register and a rapid alternation between these extremes, quickly- and ever-changing characters, and timbral transformations. The piano resonance caused by the soloist's use of flutter tonguing (while the piano strings are allowed to vibrate freely) is louder and more prominent than that caused by any other articulation because of the rapid and percussive effect of this articulation. Doodle-tonguing (indicated by "DL" in the score), a type of articulation made popular by jazz trumpeter Clark Terry, involves moving the tongue in the same manner that one would when saying the word "doodle" while playing a pitch. The resulting sound is not nearly as explosive as that which occurs when flutter tonguing, essentially sounding like very smooth multiple-tonguing. Multiple tonguing is an articulation used by certain wind instrument players to rapidly articulate pitches.²⁹ This technique involves alternating the motion of the tongue between that required to make the sound "to" or "do" (used for single-tonguing) and that required to make the sound "ku" or "goo."

Valve tremolos (indicated in the score by "VT") involve rapidly alternating between two different fingering combinations for the same pitch. Only certain pitches are able to be produced with more than one fingering combination. The use of alternate fingerings for the same written note results in different timbres and slight changes in pitch for the various fingerings. This occurs because the use of different fingerings allows air to travel through different lengths of trumpet tubing. The use of the left hand to cover and uncover the trumpet bell (indicated in the score by the symbols "+" to cover and "o" to uncover the bell) also results in changes of both timbre and intonation.

²⁹For a number of reasons, some players of wind instruments use multiple-tonguing for passages that could very easily be single-tongued.

Sequenza X utilizes traditional notation but barlines are not used. In order to facilitate comparison between *Sequenza X* and *Chemins VI* for this study, the measure numbers of *Chemins VI* will be referred to when discussing material in either piece. The performance instructions indicated in the score of *Sequenza X* allow for a certain degree of indeterminacy: a single thirty-second note can be played as a grace note, a group of thirty-second notes with a slash through the beams of the first note is to be played “as fast as possible, but clearly articulated,” a single-beamed “squared” fermata is to last approximately five seconds, and the double-beamed version is to last approximately eight seconds.³⁰ Example 1 presents an excerpt from *Sequenza X* that demonstrates some key musical features.

Chemins VI contains the entire trumpet solo from *Sequenza X*. In *Chemins VI*, the piano resonance of *Sequenza X* has been removed and a chamber orchestra has been added. The score for *Chemins VI* contains barlines and attempts to fit the music into various meters, though there are a number of unmeasured bars that are denoted by dashed barlines (as opposed to solid barlines).³¹ Even though *Chemins VI* contains the entire trumpet part of *Sequenza X*, there are a number of discrepancies between the solo parts of the two pieces.

Most of these discrepancies involve slightly different note durations (for fairly lengthy notes) and slightly different rest durations in the solo line of both pieces.³² Table 1 includes all non-duration-related discrepancies (the durational discrepancies are too

³⁰Berio, *Sequenza X*.

³¹For this study, measure numbers in *Chemins VI* have been assigned based on the presence of either a solid or a dashed “barline” going through the solo staff.

³²There are six instances in *Chemins VI* where the soloist rests for a much longer period of time than the five-second indications in *Sequenza X*, and these instances will be addressed in chapter three.

Example 1. Opening “gestures” of *Sequenza X*, mm. 1-10. Solid notes in the piano part indicate pitches to be silently depressed and then sustained by the *sostenuto* pedal. Luciano Berio, *Sequenza X per tromba in do (e risonanze di pianoforte)* (© 1984 by Universal Edition).

Table 1. Non-durational discrepancies between *Sequenza X* and *Chemins VI*.

Measure Number	Original indication in <i>Sequenza X</i>	Indication in <i>Chemins VI</i>
53	C# ₅ : eight-second fermata	C# ₅ : five-second fermata
57	C ₅ : “ <i>pp</i> (<i>sempre</i>),” no articulation indicated	C ₅ : “ <i>sf-pp</i> ,” accented
60	Hairpin <i>decrescendo</i> to <i>p</i> (<i>p</i> appears with G# ₄)	Hairpin <i>decrescendo</i> , no dynamic indicated
102, 103, 106	C# ₃	C ₃
105	Bb ₅ : hairpin <i>decrescendo</i>	Bb ₅ : no hairpin <i>decrescendo</i>
121	C# ₅ : no doodle tongue, G ₅ : no staccato	C# ₅ : doodle tongue, G ₅ : staccato
138	G ₅ : tenuto mark	G ₅ : no tenuto mark
139	C# ₄ -D ₄ : dashed slur	C# ₄ -D ₄ : no slur
145	C ₄ , D ₄ : “ <i>p</i> ”	C ₄ , D ₄ : no dynamic indication
148	D ₄ : no accent	D ₄ : accent
167	C ₄ : “ <i>p</i> ”	C ₄ : no dynamic indication
207	C ₄ -F ₄ -B ₄ : triplet eighths	C ₄ -F ₄ -B ₄ : eighths
230	C# ₄ -F ₄ : slur	C# ₄ -F ₄ : no slur
264	G ₃ : no tenuto mark	G ₃ : tenuto mark
265	C# ₅ -E ₅ : no slur, E ₅ : staccato	C# ₅ -E ₅ : slur, E ₅ : staccato
268	F ₄ : tenuto mark	F ₄ : no tenuto mark
271	3 rd -6 th notes: no staccato	3 rd -6 th notes: all staccato
272	C# ₅ : no staccato	C# ₅ : staccato

numerous to list here, though one instance of an eight-second double-beamed squared fermata in *Sequenza X* being replaced by a five-second single-beamed squared fermata in *Chemins VI* is included). There are no readily apparent reasons for these discrepancies, save for the one pitch discrepancy (to be discussed in chapter three). Table 1 does not include differences between the scores that are simply visual and do not alter the audible results in any way.

The score for *Chemins VI* does not provide an indication for the lengths of the squared fermatas, and I have assumed the symbols to represent the same lengths as in *Sequenza X*. The score for *Chemins VI* also does not explain the “+” and “o” symbols that are used in both pieces (though these symbols are commonly used in contemporary trumpet music notation). Perhaps the biggest shortcoming of the score for *Chemins VI* is the lack of explanation of the accordion (*fisarmonica*) notation. The consultation of numerous resources, including the score for Berio’s *Chanson (Sequenza XIII)* for accordion (1995-96), has not clarified Berio’s notation. Thus, some notation remains unexplained. Fortunately, the various functions of the accordion part are clear throughout the piece, and at least some of the accordion pitches can be deduced in instances where unexplained notation is present.

I believe that a typographical error not related to the solo line is present in m. 56 of *Chemins VI*. In this measure, all of the notes played by the strings (excluding the sixteenth note of violin 1 that is tied over from the previous measure) would correspond to piano keys that are being held at this point in *Sequenza X* if the viola 1 part included a B₄ (the significance of the strings playing pitches corresponding to silently depressed and held piano keys will be discussed in chapter two). Instead, C₄ is included in the viola 1 part. This is the only instance in *Chemins VI* where the string section’s presentation of a

collection of pitches that corresponds to almost all of the silently depressed piano keys in *Sequenza X* can be explained as being incomplete because of the use of the wrong clef. If a treble clef were used for the viola 1 part in m. 56 (instead of an alto clef), the pitch on the staff would indeed be B₄.

1.5 – Drama as specifically related to Sequenza X and Chemins VI

If *Sequenza X* is considered as an actual drama with actual characters, the two “characters” are the soloist and the piano/piano resonance. The soloist is obviously the “main character” and, as in most dramas, the main character primarily occupies the “foreground” of the drama in terms of dramatic action and significance in relation to the plot. Due to the piano’s function as a resonator of the soloist’s pitches and the overtones of those pitches, and because of the soft volume of the piano resonance, this character spends most of the piece in the “background” of the musical drama as a “supporting character.” Furthermore, the soloist and piano resonance can be considered to function and exist on different planes of action, each occupying its own “space.” In *Sequenza X*, the soloist is always the “closest” character to the audience (downstage) and the piano resonance is always “farther” from the audience (upstage).

Drawing an analogy between music and drama allows for an understanding of how various musical components and voices function and fulfill roles and it can lead to a better understanding of the music – one significant goal of analytical studies. It is important to understand that conceptualizing music as drama is not an attempt to assign artificial meaning or representation to a piece, or to assign a specific program to a piece. It is not my intention to say, for example, “Berio meant for ‘note X’ to represent ‘thought A,’ ‘idea B,’ ‘emotion C,’ ‘feeling D,’ etc., and he meant for ‘gesture Y’ to conjure

‘image Z.’” Rather, I am suggesting that the *musical events* can be thought of as *actual actions*, and that the specific actions, arrangement of actions, and interaction between characters (the agents performing the actions) are *dramatic actions* that facilitate thinking of the music *as drama*.

As mentioned above, since the piano/piano resonance is a supporting character, this character almost always occupies the background of the action. The only time that the piano could be considered to be in the foreground of the action is when the soloist rests. By temporarily being in the foreground, the piano resonance occupies the same space as the soloist in the sense that it is on the same plane of action that the soloist was on. However, the piano resonance never occupies the space of the soloist when the soloist is present. Even when the piano resonance occupies the foreground, it is the action of the soloist (ceasing to play) that thrusts the piano resonance into the foreground. Since the presence or absence of the soloist always determines which character will be in the foreground, the soloist always dominates the dramatic action of *Sequenza X*.

As a result of the piano simply *allowing* particular strings to be free to resonate (this is the only true action that the piano/piano resonance can perform), the piano cannot interact with the soloist. Thus, the functions of the piano are limited; the piano can reinforce the solo line by doubling and sustaining pitches played by the soloist, it can allow for resonance in order for harmonies to develop over time in response to the pitches played by the soloist, and, with the soloist’s pitches acting as fundamentals, the piano can sustain pitches from the overtone series of specific pitches. Thus, the existence of piano resonance is entirely dependent upon the soloist and the particular pitches played by the soloist. As a result, the horizontal pitch dimension, which is presented by the soloist, determines the vertical pitch dimension sounds on the piano strings. For these reasons, I

consider the piano resonance to be not only a supporting character, but a subordinate character. In order to understand how the musical drama of *Chemins VI* differs from that of *Sequenza X* (considered the model to which *Chemins VI* will be compared), an examination of the functions of the ensemble in *Chemins VI* will be undertaken in the next chapter.

1.6 – Significance of the Title Kol Od

Finally, the significance of the title *Kol Od* needs to be addressed. The words “*kol od*” are a transliteration of Hebrew text, and the two words together translate as “as long as.” The words begin *Ha-Tiqva(h)* or *Hatikva* (“The Hope”), a Zionist anthem adopted as Israel’s national anthem in 1948. Figure 3 presents the music with text for the first stanza of *Hatikva*, the music of which is based on the first theme from Bedřich Smetana’s *Vltava* (*The Moldau*).³³ *Vltava* is one of six movements that comprise Smetana’s *Má vlast* (*My Fatherland*), and it takes its name from a river that runs through Prague. Figure 4 presents the transliteration of the Hebrew text of *Hatikva* and an English translation for the first stanza.

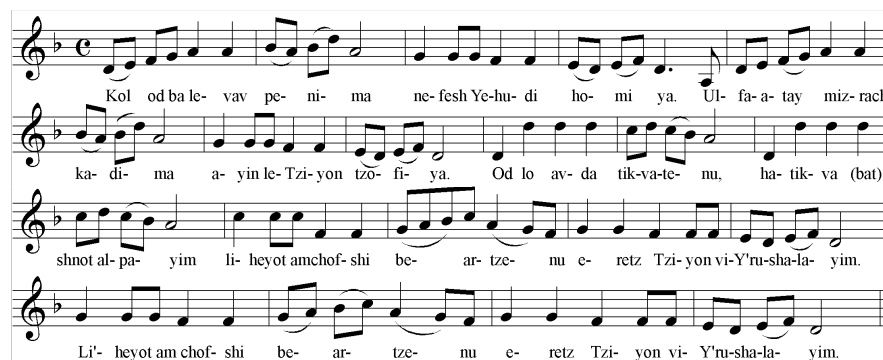


Figure 3. Music and text for the first stanza of *Hatikva* (*Ha-Tiqva*). (Transcribed by the author from “Hatikva – Israel’s National Anthem.” http://inhonor.net/hatikva_israelinationalanthem.php (Accessed 3 April 2006)).

³³Frank Petersohn, “Ha-Tiqvah.” <http://ingeb.org/songs/hatikvah.html> (Accessed 2 April 2006).

Kol od balevav penima
Nefesh yehudi homiya
Ulfatey mizrakh kadima
Ayin leTziyon tzofiya

As long as deep in the heart
The soul of a Jew yearns,
And towards the East
An eye looks to Zion

Od lo avda tikvateynu
Hatikvah bat shnot alpayim
Lihyot am khofshi beartzeynu
Eretz Tziyon vi'Yerushalayim

Our hope is not yet lost
The hope of two thousand years.
To be a free people in our land
The land of Zion and Jerusalem.

Kol od chomat machmadenu
L'eyneynu mofa'at
V'al churban mikdashenu
Ayin achat od doma'at.

Od lo avda tikvateynu
Hatikvah bat shnot alpayim
Lihyot am khofshi beartzeynu
Eretz Tziyon vi'Yerushalayim

Kol od regesh ahavat halom
B'lev hay'hudi poem,
Od nochal kevot gam hayom
Ki od y'rachmenu el zoem.

Od lo avda tikvateynu
Hatikvah bat shnot alpayim
Lihyot am khofshi beartzeynu
Eretz Tziyon vi'Yerushalayim

Sh'mot achai b'artsot nudi
Et kol achat chozenu
Ki rak im acharon hay'hudi
Gam acharit tikvatenu!

Figure 4. Transliteration of the Hebrew text for *Hatikva* and an English translation of the first stanza. From “Hatikvah.” <http://www.myisraelsource.com/content/hatikvah> (Accessed 3 April 2006).

It has been said that Berio’s concern with Jewish subject matter in the later years of his life “was stimulated by his third wife, the Israeli-born Talia Packer Berio, who was as important an influence on the music he wrote in his 60's and 70's as [Cathy] Berberian had been in his 20's and 30's.”³⁴ I have not come across any written information about why Berio chose to give *Chemins VI* the title *Kol Od*. One must be careful not to impose

³⁴Paul Griffiths, “Luciano Berio, 77, composer of mind and heart, dies.” *The New York Times*, 28 May 2003. <http://www.operaheb.co.il/news/enews/enews052803.html> (Accessed 2 April 2006). Some, including Osmond-Smith, spell Berio’s widow’s maiden name as “Pecker” instead of “Packer.” I believe “Pecker” to be the preferred spelling, and it is the spelling that I will use unless making a direct quotation that uses “Packer.”

a connection between the meaning of the words (in general and as they appear in *Hatikva*) and *Chemins VI* if such a connection does not exist. Furthermore, *Sequenza X* makes no mention of these words and not only does the trumpet solo of *Chemins VI* come from *Sequenza X*, but so too does much of the ensemble music, as will be seen later.³⁵ Berio did, however, marry Pecker (who was not only Israeli-born but was also an Israeli musicologist) in 1977, well before either *Sequenza X* or *Chemins VI* were written, and it is possible that Berio knew this music before writing *Sequenza X*. Furthermore, *Sequenza X*, which was commissioned by the Los Angeles Philharmonic Association, was dedicated to Ernest Fleischmann, the executive director of the Los Angeles Philharmonic at that time, who happens to be Jewish. It is entirely possible that on some level or levels, there are intentional links from *Chemins VI* and *Sequenza X* to *Hatikva*.

In light of this information and considering Berio's tendency to rework his materials, Berio's response to the question of whether there can be such a thing as the *degré zéro de la musique* is particularly intriguing:

No, there can be no *tabula rasa*, especially in music. But this tendency to work with history, drawing out and consciously transforming historical "minerals," and absorbing them into musical materials and processes that don't bear the mark of history, reflects a need – that has been with me for a long time – to organically continue a variety of musical experiences, and thus to incorporate within the musical development different degrees of familiarity, and to expand its expressive design and the levels on which it can be perceived. Excuse this rather cryptic and equivocal language, but I am talking about something that is so deeply rooted in me that I don't know where to begin. . . . Anyway, in 1976, I took a step forward in my research with *Coro*. With the many encounters and identifications that take place in it, it's a bit like a huge musical metaphor for a ballad. It's also my Jerusalem: a city whose marvelously beautiful white stones have been used across the centuries for different things, but are reunited in new buildings, with new functions, under different religions and different administrations. . . . This tendency to embrace a totality – always implicitly present but always "filtered" – is not just a form of musical behaviour like any other, but a way of

³⁵It is my hope that these matters will be explored in the future for further connections, especially since Berio's interest in and work with folk music is well documented and *The Moldau*, upon which *Hatikva* is based, is said to have been based on an Eastern European folk song. Also, Berio dealt extensively with themes of water in *Sinfonia* and *The Moldau* itself certainly deals with water.

thinking, and thus of being, that exists irrespective of any historical and cultural references that it may propose.³⁶

Similarities between the music of *Hatikva* and the trumpet solo of the two pieces are present, though they are subtle at best. The only notated version of *Hatikva* available for this study (see figure 4, p. 22) is written in the key of D minor (or, if thought of modally, in the Aeolian mode based on D), and it utilizes pitches from the D natural minor scale.³⁷ Inherent in this pitch collection is the importance of the intervals of a minor-third and a minor-second. The minor third between D and F and the minor second between A and B \flat contributes in large part to the characteristic sound of the mode. In the solo part of *Sequenza X* and *Chemins VI*, these same intervals pervade the entire piece, imparting a characteristic melodic sound. This occurs both as the result of adjacent pitch classes (not the least of which are D $_4$ and F $_4$, the two pitches that begin and end the piece and that dominate the entire piece) and on higher levels over longer periods of time. Also, the ensemble members of *Chemins VI* frequently “highlight” minor-third and minor-second intervals and also specifically highlight or present the pitch classes D and F. One final similarity to note between the trumpet part of *Sequenza X* and *Chemins VI* and the music of *Hatikva* is the expansion of the upper boundary of the pitch-class collection to the pitch D, followed by a somewhat narrow range with the pitch class C returning in the upper register towards the end. Let us now turn to a closer examination of the music of *Sequenza X* and *Chemins VI*.

³⁶Berio, *Two Interviews*, 66-67.

³⁷Smetana’s theme in *The Moldau* is in the key of E minor.

CHAPTER TWO

The Presence and Implications of Musical Drama in *Sequenza X* and *Chemins VI*: Part One of Two

2.1 – Introduction to Functions and Roles of the Ensemble

The ensemble of *Chemins VI* functions in a number of ways in which the piano resonance of *Sequenza X* does not function. With respect to the musical drama of the piece, the result of these functions is that the ensemble has a more active role in *Chemins VI* than the piano resonance does in *Sequenza X*. Furthermore, while the ensemble members of *Chemins VI* often serve in supporting roles (as does the piano resonance in *Sequenza X*), they are not limited to these roles. In *Chemins VI*, the ensemble members have the ability to interact with the soloist and even to become main characters, equal in prominence to the soloist, or even *the* main character, relegating the soloist to a supporting role.

Even when members of the ensemble function as supporting characters, they have the ability to enter the space of the soloist. Whereas the piano character of *Sequenza X* predominantly occupies a space that is “far” from the primary action of the soloist (as described in chapter one), ensemble members can seem “closer” to the soloist (and thus the foreground). Reasons for a particular voice sounding closer to the foreground include having a loud dynamic, presenting a moving line, occupying a particular register, or sharing musical material with the soloist. Due to the nature of the instruments used, the ensemble nearly always (if not always) sounds closer to the musical space of the soloist than the piano resonance does in *Sequenza X*. It is also possible for ensemble members to

“travel” back and forth between occupying the same space as the soloist and residing in the background.

Elucidating the functions of the ensemble will lead to an understanding of the roles played by the ensemble, and this information will help to determine how the presence of the ensemble alters the musical drama as compared to the musical drama of *Sequenza X*. Three separate but often intersecting categories of functions of the ensemble can be identified in *Chemins VI*: the function of the ensemble as related to the piano part of *Sequenza X*, the function of the ensemble as related to the soloist, and the function of the ensemble as an independent entity. From these three functions, two general modes of operation of the ensemble emerge: mimicking the piano resonance of *Sequenza X* and exhibiting independence. While both modes contribute to defining the musical drama of *Chemins VI*, the ensemble’s independence especially contributes to the uniqueness of the piece. The ensemble also has more specific functions and roles than does the piano resonance, and while the scope of this project does not allow for a thorough presentation of every instance of every function and role, relevant examples of each will be provided and discussed.

2.2 – Differences Between *Sequenza X* and *Chemins VI* That Do Not Significantly Contribute to This Study But Do Contribute to the Uniqueness of *Chemins VI*

A general discussion of the musical aspects that will not be discussed in detail in this study, but do contribute to the uniqueness of *Chemins VI* and that can be connected to musical drama, is in order. A detailed examination of functions and roles of the ensemble will follow this discussion.

As mentioned in chapter one, the score for *Chemins VI* contains barlines and the music is written in various meters, though there are a number of unmeasured bars denoted

by dashed barlines. It may seem that fitting the music into metered bars is only necessary so that the ensemble and soloist can be coordinated. Thomas Stevens, for whom *Sequenza X* was written while he held the principal trumpet chair of the Los Angeles Philharmonic Orchestra, has noted that many performers have missed the number of “‘in-time’ quasi-Basie or Stravinsky elements in [*Sequenza X*], which stand in contrast to the more aleatoric, *senza-* or relatively *senza-misura* sections.”¹ Mr. Stevens believes that Berio chose to correct this by making use of meters.² Regardless of Berio’s intentions, his use of specific meters and barlines for *Chemins VI* will almost certainly alter a performer’s use of subtle rhythmic nuances and decisions about stress placement since most Western musicians’ decisions about these matters are influenced (consciously or subconsciously) by hierarchical metrical relationships that have been established through history by meter, barlines, and upbeat/downbeat distinctions.³

Another musical dimension in *Chemins VI* that distinguishes it from *Sequenza X* is the timbral palette made available by the instruments of the ensemble. Timbral changes occur throughout the work on both a small-scale level (from one note to another) and over longer spans of time (for example, muted sections followed by non-muted sections). The brass use mutes, flutter tonguing, and timbral changes of repeated pitches. The strings make use of mutes, harmonics, *glissandi*, *pizzicati*, “snap” or “Bartók” *pizzicati*, and specific bowings (*sul ponticello* and down-bow and up-bow indications). The woodwinds are occasionally instructed to use specified non-standard fingerings, not only for timbral

¹Thomas Stevens. Interview by author, 27 January 2006. Electronic mail.

²Ibid.

³For more information on historical developments of rhythm see James Morgan Thurmond, *Note Grouping: A Method for Achieving Expression and Style in Musical Performance* (Camp Hill, PA: Journal of Music Theory Publications, 1982).

effect, but also to produce multiphonics. Additionally, specific orchestrational choices such as instrumental combinations, the use of particular registers of certain instruments (especially extremes of register), and indicated articulations all influence the music.

One final musical element to observe before moving on to a detailed examination of the ensemble functions, roles and influence on musical drama is the use of trills in *Chemins VI*. Trills are used extensively by ensemble members and, in general, these create a sense of unrest, tension, and activity that simply cannot be created by the piano resonance of *Sequenza X*. In moments of general repose in both pieces, the presence of trills in *Chemins VI* certainly changes the character of the music as compared to the corresponding music of *Sequenza X*. Furthermore, the trills serve additional functions throughout the piece – for example, sometimes one of the pitches of the trill is meant to mimic the piano resonance of one or more pitches in *Sequenza X*.

2.3 – Functions and Roles of the Ensemble I – Mimicking the Piano Resonance of Sequenza X

Let us turn now to an examination of the functions and roles of the ensemble as they relate to the piano resonance of *Sequenza X*. Throughout *Chemins VI*, it is clear that at times various ensemble members fulfill the role of mimicking the piano resonance of *Sequenza X*. This can be thought of as the ensemble's most basic function because, in many ways, this function retains musical elements that were present in *Sequenza X*. Although a general discussion of the overtone series and the use of overtones in *Sequenza X* and *Chemins VI* was included in chapter one, a brief discussion of overtones as they specifically relate to the ensemble's mimicking of the piano resonance is appropriate here. As mentioned in the first chapter, determining the exact pitches present in the piano resonance would be difficult, if not impossible. A number of factors will influence

exactly which pitches are present in the piano resonance and how prominently they are heard, including the timbral characteristics of a particular trumpet performer's instrument or sound. The prominence of particular overtones in a specific performer's sound is what creates a "bright" or "dark" sound, and there are many factors that determine which overtones are present in a performer's sound. However, it is safe to say that when the piano's damper pedal is depressed in *Sequenza X* and trumpet pitches are played, more pitches are present than there are voices available in the ensemble of *Chemins VI* to mimic those pitches. Unfortunately, a general statement about the number of pitches present or even the density of the overall texture of *Chemins VI* as compared with *Sequenza X* cannot be made since there are moments in *Chemins VI* when the ensemble presents more overtones than had been present in *Sequenza X*, and there are even moments when the ensemble presents overtones of the trumpet's pitches when there was no piano resonance at all in the corresponding location in *Sequenza X*.

Also, while the use of the damper pedal in *Sequenza X* to sustain a pitch played by the trumpet results in the presence of all overtones of that pitch (with the only limit being the range of the piano), *Chemins VI* primarily uses only the first four distinct pitch classes of the overtone series – in terms of scale degrees built on the fundamental, these pitch classes are scale degrees 1, 3, 5, and b7. Furthermore, the pitches that represent overtones in *Chemins VI* don't always appear in the proper octave – I have chosen to refer to these as wrong-octave overtones. One might consider, for example, the overtone series built on Bb₄. In this series, the pitch class D appears as D₇. If, in *Chemins VI*, the soloist plays Bb₄ and a number of pitches from the Bb₄ overtone series are sounded by the ensemble and D₆ is also sounded, the most logical explanation for the appearance of this pitch is that it is meant to represent a Bb₄ overtone pitch class (D) but (for some reason) it

happens to appear in the wrong octave. I do not, however, consider pitches that have a lower frequency than the fundamental to be wrong-octave overtones – I consider an *overtone* necessarily to appear *above* the associated fundamental. For this study, a pitch must have a higher frequency than the fundamental to be labeled a wrong-octave overtone. However, when a pitch class from the overtone series of a fundamental appears with a frequency that is lower than the fundamental, I do consider that appearance to support and suggest the harmonic series. The presence of wrong-octave overtones is interesting, for, as we will see in the next chapter, octave invariance is an important aspect of the pitch collection of *Sequenza X*, yet there seems to be a certain degree of octave equivalency in numerous aspects of *Chemins VI*.

Despite the ensemble mimicking the piano resonance at various points throughout *Chemins VI*, there are no examples of an exact recreation of the piano part's pitches and the durations of those pitches. Select examples showing the closest ensemble recreation of the piano resonance are presented and discussed below in order to reveal how the ensemble mimics the piano resonance. In these examples we see that the ensemble's mimicking of the piano resonance of *Sequenza X* can occur at either the exact moment that the soloist's pitches are sounded (simultaneously with the soloist) or immediately after the soloist's pitches (sounding somewhat like a response, but still functioning to support or highlight the soloist's pitches and/or overtones of those pitches).

In m. 57 of *Sequenza X*, presented in example 2, the piano's damper pedal is depressed at the moment that the soloist plays a *fortissimo* accented grace-note C#₅. With the damper pedal remaining depressed, the soloist immediately plays C₅ and begins a valve-tremolo on this pitch. This valve tremolo remains throughout the measure and is interrupted only long enough for the soloist to play accented (and *sf*) thirty-second notes

(F \sharp_4 , G \sharp_4 , and E $_4$). Because of the use of the damper pedal, all of these trumpet pitches are present in the piano resonance and would be audible (a possible exception is C $_5$, because of its soft dynamic; however, if the C $_5$ had been meant to have a *sf* marking and an accent, as in *Chemins VI*, then C $_5$ would be just as audible as the other pitches). Also sounding in the piano resonance would be pitches from the overtone series of each of the trumpet notes.

Example 2. Solo trumpet part from *Sequenza X*, pickup to m. 57 and m. 57.

In m. 57 of *Chemins VI*, shown in example 3, the C \sharp_5 is not sustained by the ensemble, but the other trumpet pitches are doubled and sustained by ensemble members: C $_5$ by trumpet 1 (with straight mute), F \sharp_4 by viola 1, and both G \sharp_4 and E $_4$ by the oboe. Obviously, since the oboe plays both G \sharp_4 and E $_4$, these pitches are not sustained for nearly as long as they were in *Sequenza X*, but the function of the oboe is clear.

Also presented and sustained are pitches from the overtone series of F \sharp_4 , G \sharp_4 and E $_4$. Each of these pitches appears when the corresponding “fundamental” is played by the soloist. F \sharp_4 overtones are played by woodwinds and the violins: the soprano saxophone plays F \sharp_5 (the first overtone), flute 2 plays C \sharp_6 (the second overtone), violin 4 plays F \sharp_6 (the third overtone), violin 3 plays A \sharp_6 (the fourth overtone), violin 2 plays C \sharp_7 (the fifth overtone), and violin 1 plays E $_7$ (the sixth overtone). G \sharp_4 overtones are played by woodwinds: flute 2 plays G \sharp_5 , the Eb clarinet plays Eb $_6$ (D \sharp_6), and the piccolo plays G \sharp_6 .

Example 3. *Chemins VI*, pickup to m. 57 and m. 57. Luciano Berio, *Kol Od [Chemins VI] per tromba sola e gruppo strumentale* (© 1996 by Universal Edition). (Note: In all examples reproduced directly from the score (indicated by the presence of a copyright notice), all instruments sound at written pitch except for the piccolo and celesta (which sound one octave higher than written) and the double basses (which sound one octave lower than written). In all examples either reproduced or adapted from the score, a “caret” symbol notated in the string parts indicates that there is to be a fast change of intonation accompanying the attack. Italian names and abbreviations are used for the instruments in the score (including *fisarmonica*, “accordion”).

The image displays a musical score for Example 3, showing the pickup to measure 57 and measure 57 for various instruments. The score is organized into three systems, each with a 4/4 time signature and a key signature of one sharp (F#).

System 1 (Pickup to m. 57): This system includes staves for Oboe (Ott.), Flute (1st, 2nd), Clarinet in Piccolo (Cl. picc.), Clarinet in C (1st, 2nd), Clarinet in Bass (Cl. b.), Saxophone in Soprano (Sax. s.), Saxophone in Alto (Sax. a.), and Fagott (Fg.). The notation shows various melodic lines and rests.

System 2 (m. 57): This system includes staves for Trombone (1st, 2nd), Horn in C (Cor. 1st), and Fisarmonica (Fisamn.). The notation includes dynamic markings such as *pppp* and *sf*.

System 3 (m. 57): This system includes staves for Trombone solo (Tr. sola), Violins (1st, 2nd, 3rd, 4th), Violas (1st, 2nd, 3rd), Cellos (1st, 2nd, 3rd), and Double Basses (Cb. 1st-2nd (un.)). The notation includes dynamic markings such as *ff*, *sf*, *pp*, and *sf-pp*, as well as a *stim.* marking.

E₄ overtones are also played by woodwinds: clarinet 2 plays E₅, clarinet 1 plays B₅, E₆ is played by the Eb clarinet, and the G₆ that is already being played by the piccolo (from the G₄ overtone series) can be thought of as serving a dual function as both a G₄ overtone and an E₄ overtone (the fourth overtone of E₄). Again, while the music here certainly does not contain all of the notes that are present in the piano resonance of *Sequenza X*, it is clear that the ensemble is functioning in essentially the same way that the piano resonance does.

A second example of the ensemble mimicking the piano resonance occurs in mm. 116-17. In *Sequenza X*, as shown in example 4, the damper pedal is depressed in m. 116, allowing the Eb₄, Eb₅, and Eb₆ that had been ringing in the piano to continue sounding until they fade. The use of the damper pedal also allows Ab₄, A₄, Bb₄, Db₅, and the overtone series of these pitches to ring. Once the *fortissimo* Bb₄ of m. 117 is played and held for eight seconds, the most prominent pitches in the piano resonance are Bb₄ and its overtone series.

Example 4. *Sequenza X*, mm. 116-17. The top staff contains the solo trumpet part, the middle staff indicates that the Eb₄, Eb₅ and Eb₆ keys are held by the fingers until m. 117, and the bottom line shows the use of the damper pedal. Luciano Berio, *Sequenza X per tromba in do* (© 1984 by Universal Edition).

m. 116

m. 117

FL

f *p* *ff* *p* *ff* (*senza dim.*)

ped.

The material in m. 116 of *Chemins VI* shows that the ensemble does not mimic the piano resonance exactly, so in comparing the piano resonance with the ensemble pitches, we will focus on m. 117. Both measures are presented in example 5. In m. 117 of *Chemins VI*, Bb₄ is already being played (and has been played since m. 116) by the alto saxophone. This sustained presentation of Bb₄ by an ensemble member mimics the piano-resonance sustaining of the soloist's Bb₄ in *Sequenza X* where the pitch is sustained by the use of the damper pedal. The pitches from the Bb₄ overtone series present in the ensemble in m. 117 all appeared in m. 116: flute 2 has Bb₅, viola 1 has F₆, violin 2 has Bb₆, violin 1 has Ab₇, and flute 1 has D₆, a wrong-octave overtone. The Ab₆ played by the piccolo appeared in m. 116 as an overtone of the soloist's Db₅, and its presence in m. 117 is likely to strengthen the sound of the pitch class Ab (supporting Ab₇).

The only other pitch in m. 117 is B₆ (violin 3). This pitch appeared with the soloist's presentation of Db₅ in m. 116, where it acted as a wrong-octave overtone of the Db₅ (B₇ or Cb₇ would be the sixth overtone of Db₅). The presence of B₆ in m. 117 makes sense because in the same location in *Sequenza X*, the damper pedal has not been released since it was depressed in m. 116, before the appearance of Db₅ and its overtone series. It is unclear, however, why Db₅ itself and its overtones are not also present in m. 117. The lack of Ab₄ and A₄ and pitches from their overtone series in mm. 116-17 is likely due to softer dynamics of Ab₄ and A₄ as compared with the other pitches in these measures.

The third example of the ensemble mimicking the piano resonance that we will consider occurs in m. 22 where the overtones of the soloist's pitch gradually fade to silence. Example 6 presents mm. 20-23 of *Sequenza X*. In m. 21, the piano's damper pedal is depressed, and when the soloist plays F₄ in m. 22, F₄ and pitches from the overtone series built on F₄ sound in the piano resonance (these pitches join the already-

Example 5. *Chemins VI*, mm. 116-17. Luciano Berio, *Kol Od* (© 1996 by Universal Edition). (Note: In all examples either taken from the score or adapted from the score, a measure that has a dashed left barline does not have a time signature).

m. 116 m. 117

Ott. *pppp*
 1^o *pppp*
 Fl. *pppp*
 2^o *pppp*
 Ob. *pppp*
 Cl. picc. *pppp*
 Sax. s. *pppp*
 Sax. a. *pppp*
 Tr. 2^a
 Fisamn.
 Tr. sola *f* *p* *ff* *p* *ff* (senza dim.)
 1^o (sord.) *pppp*
 Vl. *pppp*
 2^o (sord.) *pppp*
 Vl. *pppp*
 3^o (sord.) *pppp*
 Vl. *pppp*
 4^o (sord.) *pppp*
 1^a (sord.) *pppp*
 Va. *pppp*
 2^a (sord.) *pppp*
 Va. *pppp*
 3^a (sord.) *pppp*
 Vc. 1^o (sord.) *pppp*

m. 116 m. 117

sounding pitches that appeared beginning with the pickup to m. 21). It is impossible to say how long each pitch from the overtone series remains audible, though the higher overtones are less prominent and would decay faster than the lower overtones or the fundamental. Furthermore, the release of the damper pedal with the appearance of the soloist's first F_4 of m. 23 dictates that the overtones will no longer be sounding after that event, though F_4 continues to sound in the piano resonance because it corresponds to a piano key that was depressed in conjunction with the *sostenuto* pedal in mm. 11-12 and thus is still able to ring.

Example 6. *Sequenza X*, mm. 20-23. Luciano Berio, *Sequenza X per tromba in do* (© 1984 by Universal Edition).

The musical score for Example 6, *Sequenza X*, mm. 20-23, is presented on a single staff. The score includes measures 20, 21 (beginning with C#), 22, and 23 (beginning with C). The dynamics are marked as *fff* at the start of measure 20, *ff* at the start of measure 21, *p* at the start of measure 22, *mf* at the start of measure 23, and *sf-p* at the end of measure 23. Performance instructions include *FL* (Flute) and *DL* (Damper pedal) above the staff, and *3* (triplets) below the staff. A *Ped.* line is shown below the staff, indicating the damper pedal is held from the beginning of measure 20 to the end of measure 23.

In *Chemins VI*, when the soloist plays F_4 , the violins present pitches from the F_4 overtone series: F_6 , A_6 , C_7 , and Eb_7 . These pitches are released one after the other, with the highest pitch releasing first, similarly to what occurred in *Sequenza X*. This can be seen in example 7. Note, however, that this example shows how the ensemble doesn't mimic the resonance exactly, since F_6 should no longer be present after the damper pedal is released near the beginning of m. 23 in *Sequenza X*, but it remains present for a dotted quarter note in *Chemins VI*. Had the composer wanted F_6 to release exactly when it

would have in *Sequenza X*, he could have notated the violin's rhythm as a thirty-second note tied to a triplet eighth note.

One of the most interesting differences between *Chemins VI* and *Sequenza X* is the ensemble's sounding of the actual pitches that correspond to the silently depressed piano keys in *Sequenza X*. In some instances, the ensemble presents these pitches over time similarly to how the pitches would appear in the piano resonance over time in response to the playing of certain pitches by the soloist. At other times, the ensemble simultaneously presents or "verticalizes" those pitches that correspond to the silently depressed piano keys in *Sequenza X*.

Measures 24-27 provide a good example of this verticalization. Example 8 presents mm. 24-28 from *Sequenza X*. Two sets of pitches are allowed to ring in the piano resonance throughout these measures. The first set (D₄-F₄-B₄-C₅-D₅-F₅-G₅) appears in m. 11 and is allowed to sound through m. 35 by the *sostenuto* pedal. The second set (F₄-G₄-C₅-E₅-G₅) appears in m. 24 and is held by the fingers of the pianist until m. 35. Both sets are shown in figure 5. It is important to remember that these keys are all silently depressed and the notes associated with them do not sound unless the soloist either plays a note that corresponds to one of these keys (causing that note to sound in the piano resonance) or plays a note that contains one or more of the notes corresponding to these keys in its overtone series (causing those notes to ring in response to the soloist's fundamental).

I contend that in m. 24 of *Sequenza X*, the most prevalent pitches of piano resonance from the first set would be D₄ (sounding on the D₄ strings), F₄ (sounding on the F₄ strings), F₅ (sounding on the F₅ strings), and G₆ (an overtone of C₅, sounding on the G₅ strings). C₅ is not likely to be heard in the piano resonance until m. 25 because of

Example 8. *Sequenza X*, mm. 24-28. Luciano Berio, *Sequenza X per tromba in do* (© 1984 by Universal Edition). (Note: Measure 28 is incomplete).

The image displays a musical score for measures 24-28 of Luciano Berio's *Sequenza X* for trumpet. The top staff is the trumpet part, featuring complex rhythmic patterns and articulations marked as 'FL' (flutter-tongued), 'DL' (double-tongued), and '3' (triplets). Dynamics range from *ff* (fortissimo) to *pp* (pianissimo). The bottom staff shows the piano accompaniment with sustained chords. Below the main score, a separate diagram illustrates the piano strings' resonance. It consists of two staves: the top staff for measures 11-35 and the bottom staff for measures 24-35, both showing sustained chords with horizontal lines indicating the duration of the resonance.

Figure 5. Both staves show the pitches corresponding to the piano strings that are free to vibrate from m. 11 through m. 35 (top staff) and m. 24 through m. 35 (bottom staff) in *Sequenza X*. The pitches of the top staff are allowed to ring through the use of the *sostenuto* pedal. The pitches on the bottom staff are allowed to ring as a result of the silently depressed piano keys corresponding to those pitches. These keys are held by the fingers.

how softly it was played by the soloist in m. 23 (especially amidst the other resonance).

B₄ becomes more prominent as m. 24 progresses and the soloist's dynamic increases while flutter-tonguing. Once the second set enters, the only pitch that may be audible is F#₆, an overtone of B₄ that could sound on the F#₄ strings. The soloist's line causes other pitches to appear over time. The soloist's F#₄ of m. 25 will cause the F#₄ strings to sound F#₄ (instead of the previous F#₆), the G#₄ in m. 25 will cause the G#₄ strings to sound G#₄, the E₅ in m. 25 will cause the E₅ strings to sound E₅, and the G₅ in mm. 26-27 will cause the G₅ to sound on the G₅ strings.

Example 9 contains mm. 24-28 of *Chemins VI*. In m. 24, no pitches from the first set of piano keys are present except for F₄ which is sounded by flute 2 (playing an F₄-Gb₄

Example 9. *Chemins VI*, mm. 24-28. All instruments sound at written pitch (including the piccolo) except for the celesta (sounds one octave higher than written) and the contrabasses (sound one octave lower than written). (Note: Measure 28 is incomplete).

trill), showing that the ensemble is not limited to presenting the pitches of the piano keys. However, on the downbeat of that measure, the celli and saxophones simultaneously present all of the *actual pitches* that correspond to the silently depressed piano keys of the second set. The alto saxophone plays Gb₄ (F#₄), the soprano saxophone plays Ab₄ (G#₄), cello 3 plays C#₅, cello 2 plays E₅, and cello 1 plays G₅. In addition to F#₆ not being present here, instead of a vertical sonority developing over time as a result of the horizontal line of the soloist, the sonority is “verticalized” and presented all at once. In *Sequenza X*, the sonority that develops over time will contain both the soloist’s pitches (if the corresponding strings are free to ring) and some overtones (on other strings that are allowed to ring), and this sonority will change as one string may sound a number of different pitches throughout these measures. Thus, the sonorities of *Sequenza X* in these measures contain more pitch classes than the verticalized sonority in *Chemins VI*.

There are also examples of ensemble members presenting an incomplete set of pitches corresponding to the piano keys or presenting an incomplete set with the addition of pitches whose functions are unexplained. The piano strings that are allowed to ring in m. 32 of *Sequenza X* are shown in figure 5 (p. 39). In m. 32 of *Chemins VI* (example 24, pp. 93-94), ensemble pitches that are a verticalization of these piano keys are F₄, F#₄, C₅, C#₅, F#₅, and G#₅. The pitches that would make the sets complete are D₄, G#₄, B₄, and E₅. The unexplained pitches here are E₄, F₅, A₅, and Bb₅. C₆ and C#₆ could be explained as overtones of C₅ and C#₅, though the “overtones” here would precede the appearance of the “fundamentals.” The piccolo notes are part of a different process that will be discussed later.

One of the most striking aural results of the ensemble’s ability not to fulfill its role of mimicking piano resonance is that the pitches played by the soloist directly into the

piano at loud dynamics in *Sequenza X* (while the damper pedal is depressed) may or may not retain their importance in *Chemins VI*. In *Sequenza X*, these occurrences temporarily dominate the texture, have the ability to delineate form (in the sense that these occurrences stand out so much and create such a unique timbre and texture that they create a sense of division), and establish a single dominant sonority against which pitches that follow are heard (as long as the pitch that was played directly into the piano continues to sound as piano resonance at reasonably loud dynamic). When, in *Chemins VI*, these pitches are not sustained or are sustained at soft volumes, the events and the pitches do not retain the significance that they held in *Sequenza X*.

There are instances of a number of the thirty-eight notes⁴ that were played directly into the piano in *Sequenza X* being emphasized, supported, or highlighted by the ensemble in *Chemins VI*, and there are instances where these actions do not occur. This is especially true of the numerous instances of C₆ being played directly into the piano near the end of *Sequenza X*. To understand how the event of a note being played directly into the piano could be treated in the above-mentioned manner let us examine an instance where the ensemble's music resembles the piano resonance.

In m. 150 of *Sequenza X* (example 10 presents m. 150 from *Chemins VI*, and the only difference in the solo part as compared to *Sequenza X* is the missing indication to play D₄ directly into the piano), the soloist plays an accented D₄ at a *fortissimo* dynamic directly into the piano while the damper pedal is depressed. An F₄ is played immediately following the D₄, not directly into the piano but still *fortissimo* (a *decrescendo* is then indicated). These two notes are followed by a five-second pause during which time these

⁴In mm. 71-72, 92, 235-36, and 256, the soloist is to move the bell of the trumpet gradually into and then out of the piano. In each case, one pitch is to be played most directly into the piano, and these four pitches are the only ones of each group that are included in the identification of thirty-eight pitches played directly into the piano.

two pitches and the pitches from the overtone series of each pitch would sound prominently in the piano resonance (even though the focus of this example is D_4 , this examination will include F_4 as part of the event).

In m. 150 of *Chemins VI*, both clarinet 1 and the bassoon play a *forte* D_4 . This note is also accented by clarinet 1. Also in this measure, both the bass clarinet and horn 1 play and sustain D_4 at an unspecified dynamic (the last marked dynamics were *pppp* in m. 140 for horn 1 and *piano* in m. 137 for the bass clarinet). The accordion also briefly presents D_4 . Overtones and wrong-octave overtones of D_4 are played by various ensemble members (listed in score order): C_7 by the piccolo; $F\#_6$ by flute 1; A_5 by the oboe; D_6 by the Eb clarinet; D_5 by the alto saxophone; A_4 (wrong-octave overtone), D_5 , A_5 , D_6 , $F\#_6$, and C_7 by the accordion; A_6 by viola 1; and D_6 by viola 2. When the soloist plays F_4 , the F_4 - Gb_4 trill that flute 2 has been playing continues, clarinet 2 plays and sustains F_4 , and the accordion moves from its previous collection of pitches to a new one that includes two F_4 s for an eighth note. F_4 overtones and wrong-octave overtones are played by various ensemble members and some of the pitches that are still sounding as D_4 overtones (or wrong-octave overtones) could be seen as either D_4 overtones or F_4 overtones (listed in score order): C_7 by the piccolo (tied over from its appearance as a D_4 overtone); A_5 by the oboe (wrong-octave overtone, tied over from its appearance as a D_4 overtone); C_6 , Eb_6 and A_6 by the accordion; Eb_7 by violin 1; C_7 by violin 2; A_6 by violin 3; F_6 by violin 4; and A_6 by viola 1 (tied over from its appearance as a D_4 overtone).

Clearly, the actions of the ensemble support and highlight D_4 and F_4 similarly to the way the piano resonance did in *Sequenza X* when the soloist played directly into the piano. One significant difference exists in m. 151. As mentioned above, a five-second pause occurs at this point in *Sequenza X* and the piano's damper pedal is depressed, and

this allows a large number and variety of pitches to sound. In *Chemins VI*, the five-second pause in the trumpet solo is replaced by three beats of rest (at a metronome marking of quarter note = 84) and there is ensemble activity during the trumpet rest. Activity during trumpet rests will be discussed in greater detail both later in this chapter and in chapter three.

Measure 237 provides an example where the ensemble's music neither mimics the piano resonance nor reflects the pitches present in *Sequenza X*. At this point in *Sequenza X* (shown in example 11), the soloist plays an accented *fff* C₆ directly into the piano with the damper pedal depressed. The damper pedal is depressed in m. 235 and F#₄ (played *fortissimo* and directly into the piano) and F₄ (played *fff*) and their overtones will certainly be sounding in the piano resonance, but once C₆ is played directly into the piano, the loudest pitches in the piano resonance are C₆ and the pitches from its overtone series. After C₆ is played, there is a gesture of seven softly-played notes that are minimally audible in the piano resonance (if they are audible at all). A five-second pause follows these actions, and during the pause F#₄, F₄, C₆, and the pitches of the overtone series of these pitches continue to ring in the piano resonance (again, C₆ is the loudest pitch).

Example 11. *Sequenza X*, pickup to m. 236 through m. 237. Luciano Berio, *Sequenza X per tromba in do* (© 1984 by Universal Edition).

The musical score for Example 11 shows measures 236 and 237 of Luciano Berio's *Sequenza X* for Tromba in do. The score is written on a grand staff with a piano part and a trumpet part. Measure 236 begins with a piano (p) dynamic, followed by a fortissimo (ff) dynamic, and then a fortissimo (fff) dynamic. Measure 237 starts with a piano (p) dynamic and features a nine-measure phrase. The score includes a damper pedal (DL) marking and a nine-measure phrase in measure 237. The piano part has a damper pedal (DL) marking and a nine-measure phrase. The trumpet part has a nine-measure phrase. The score is written on a grand staff with a piano part and a trumpet part.

Example 12 presents these same measures as they appear in *Chemins VI*. In m. 237, the ensemble emphasizes, supports, highlights, and reacts to F_4 more significantly than to C_6 . Horn 1 changes from playing $F\sharp_4$ in m. 236 to F_4 on the downbeat of m. 237, and previously-sounding F_4 s in flute 2 and viola 2 (playing an F_4 - Gb_4 trill) are tied into m. 237. F_4 overtones and wrong-octave overtones are played on the downbeat by the Eb clarinet (C_6), violin 1 (Eb_7), violin 2 (C_7), violin 3 (A_6), violin 4 (F_6) and cello 3 (C_5 , a wrong-octave overtone). When the soloist plays C_6 , no new pitches are added in the ensemble and the only pitch in the measure that I would label as clearly and unquestionably mimicking the piano resonance of *Sequenza X* is the C_6 , played by the Eb clarinet, but this pitch entered before the soloist's C_6 and is clearly a reaction to the soloist's F_4 . The Eb clarinet does, however, continue to hold C_6 in the following measure, but the *pppp* dynamic is significantly softer than the C_6 in the piano resonance of *Sequenza X*. Other pitches that could be seen as supporting, highlighting, or emphasizing the soloist's C_6 or pitch classes from the overtone series built on C_6 are G_4 (contrabasses), C_5 (cello 3), G_5 (cello 2), and E_6 (flute 1). It was stated in the previous paragraph that m. 237 provides an example where the ensemble's music does not mimic the piano resonance. This is true in the sense that many C_6 overtones would have been present in *Sequenza X* and no overtones are present in *Chemins VI*. E_6 can be considered a wrong-octave overtone and the other pitches that were identified as supporting, highlighting, or emphasizing the soloist's C_6 lead to a significantly different sound and pitch collection than would be present in the piano resonance of *Sequenza X*.

Example 12. *Chemins VI*, pickup to m. 236 through m. 237. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

m. 236 m. 237

Ott.

1^a
Fl.

2^a

Ob.

Cl. picc.

1^a
Cl.

2^a

Cl. b.

Sax. s.

Sax. a.

1^a
Tr.

2^a

Cor. 1^a

Tr. sola

Dl.

p *ff* *p* *ffff* *pp*

1^a
(sord.)
Vl.

2^a
(sord.)
Vl.

3^a
(sord.)
Vl.

4^a
(sord.)
Vl.

1^a
(sord.)
Va.

2^a
(sord.)
Va.

3^a
(sord.)
Va.

1^a
Vc.

2^a
Vc.

3^a
Vc.

Cb. 1^a-2^a
(un.)

m. 236 m. 237

2.4 – Functions and Roles of the Ensemble II – The Ensemble’s Function in Relation to the Soloist

Since the piano resonance sounds only in response to the soloist’s actions, the previous discussion, concerned with how the ensemble functions as related to the piano resonance and how it did or did not fulfill the role of mimicking the piano resonance, necessarily included information about the ensemble’s role as related to the soloist. We will now examine more specifically how the ensemble functions in relation to the soloist. This relationship to the soloist is independent of the ensemble’s role of mimicking the piano resonance and reveals that the ensemble is not a mere resonator as was the piano in *Sequenza X*.

As some of the previous examples revealed, often the ensemble sustains the soloist’s pitches and pitches from the overtone series of the soloist’s pitches just as the piano resonance did in *Sequenza X*. Similarly, when the soloist’s pitches or overtones of those pitches are not sustained by piano resonance in *Sequenza X*, they are also often not sustained by the ensemble in *Chemins VI*. However, there are a number of instances in *Chemins VI* where the ensemble, if simply mimicking the piano resonance, “should” sustain the soloist’s pitches and/or overtones but does not, and “should not” sustain the soloist’s pitches and/or overtones but does.⁵

Some instances of the ensemble sustaining the soloist’s pitch when it “should not” are easily explained. In m. 10 of *Sequenza X*, as seen in example 1 (p. 17), all of the soloist’s pitches are played *piano* and, even if they were audible in the piano resonance (here, certain strings are allowed to ring through the use of the *sostenuto* pedal), F₄ would not appear at the beginning of m. 10 as it does in *Chemins VI* (shown in example 13, pp.

⁵I am assuming that because pitches played by the soloist at a soft dynamic level would be barely audible if audible at all in the piano resonance, they are not “supposed” to be sustained by the ensemble in *Chemins VI*.

51-52). F_4 appears in m. 10 of *Chemins VI* as a result of the sounding and “verticalization” of the pitches associated with the silently depressed piano keys.

There are, however, other instances that lack an explanation as lucid and logical as this one. One such instance occurs in m. 141 of *Chemins VI* (not shown) where the soloist’s accented $C\#_5$ grace-note pickup played at *fortissimo* is immediately followed by the oboe and clarinet playing $Db_5/C\#_5$. These instruments begin with a *mezzo-forte* dynamic and hold the pitch while they decrease their volume. Also, when flute 2 plays a C_5 - Db_5 trill through this whole measure, both the soloist’s $C\#_5$ and the alto saxophone’s C_5 are highlighted or sustained. These actions in *Chemins VI* would be expected if, in *Sequenza X*, the piano’s damper pedal were depressed, if piano strings that belonged to the overtone series built on $C\#_5$ were free to vibrate, or if piano strings that contained $C\#_5$ in their fundamentals were allowed to ring. However, at this point, only three sets of piano strings are free to vibrate: those whose pitches are B_3 , B_4 , and B_5 . Thus, there is no reason for the soloist’s pitch to be sustained (as far as the ensemble mimicking the piano is concerned). This instance provides yet another example of the ensemble’s independence.

Instances of the ensemble not sustaining the soloist’s pitches and/or overtones of those pitches as they were sustained by the piano resonance in *Sequenza X* are far more numerous than instances of the ensemble sustaining pitches and overtones when they were not sustained in *Sequenza X*. The purpose of these instances is unknown, but the result of this ensemble independence is that certain pitches that were emphasized, highlighted, or supported in *Sequenza X* are not treated in the same manner in *Chemins VI*, and vice-versa.

The first measure provides another excellent example of the differences between the two pieces concerning the relationship of the piano resonance/ensemble to the soloist. In m. 1 of *Sequenza X* (example 1, p. 17), the damper pedal is depressed, causing the soloist's pitches and the overtones of those pitches to ring on various piano strings. The first measure of *Chemins VI* (example 13) contains only the soloist's pitches. Doublings of those pitches, pitches from the overtone series of the soloist's pitches and other pitches whose functions are unexplained do not enter until m. 2.

2.5 – Functions and Roles of the Ensemble III – The Ensemble as an Independent Entity and Five Ways That the Ensemble's Independence Alters the Musical Drama of the Original Model

The above examples are all concerned with issues of dramatic background in the sense that the main actions discussed have been performed by the soloist, who remains in the foreground, while both the piano resonance and the ensemble as examined thus far have occupied a space that is separate from that of the soloist. Therefore, despite the number of musical differences between *Chemins VI* and *Sequenza X* that have been revealed, the activity of the ensemble as discussed has not significantly altered the musical drama that was present in *Sequenza X*. In *Chemins VI*, as discussed thus far, the ensemble has become the supporting character that was previously “played” by the piano resonance, “residing” in the background of the action. Another way to think of this conceptualized drama is to consider the drama of *Sequenza X* to be a “monologue,” with the soloist as the only character and the piano resonance and the ensemble (as discussed thus far) as “sets.” Changing the “set” from the piano resonance to the ensemble would not usually alter the drama of the monologue to a significant degree.

Example 13. *Chemins VI*, mm. 1-10. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

m. 1 m. 2 m. 3 m. 4 m. 5
 ♩ = 84 4/4 3/4 7/8 5/4

Ottavino
 1° Flauto
 2° Flauto
 Oboe
 Clarinetto piccolo
 1° Clarinetto
 2° Clarinetto
 Clarinetto basso
 Saxofono soprano
 Saxofono alto
 Fagotto
 1ª Tromba
 2ª Tromba
 1° Corno
 2° Corno
 Celesta
 Fisarmonica
 Tromba sola
 1° Violino
 2° Violino
 3° Violino
 4° Violino
 1ª Viola
 2ª Viola
 3ª Viola
 1° Violoncello
 2° Violoncello
 3° Violoncello
 1° Contrabbasso
 2° Contrabbasso

m. 1 m. 2 m. 3 m. 4 m. 5

Example 13 (cont'd).

m. 6 m. 7 m. 8 m. 9 m. 10
 4/4 6/16 3/4 3/8

Oboe
 Fl. 1
 Fl. 2
 Ob.
 Cl. picc.
 Cl. 1
 Cl. 2
 Cl. b.
 Sax. s.
 Sax. a.
 Fg.
 1^a (sord.)
 Tr.
 2^a (sord.)
 1^a (sord.)
 Cor.
 2^a (sord.)
 Cel.
 Fisann.
 Tr. sola
 1^a (sord.)
 VI.
 2^a (sord.)
 VI.
 3^a (sord.)
 VI.
 4^a (sord.)
 1^a (sord.)
 Va.
 2^a (sord.)
 Va.
 3^a (sord.)
 1^a (sord.)
 Vc.
 2^a (sord.)
 Vc.
 3^a (sord.)
 1^a (sord.)
 Cb.
 2^a (sord.)

via sord.
 sord.
 fff
 (pppp)
 pppp
 (pp)
 fff
 ff
 p < fff
 pp
 (pp)
 p

m. 6 m. 7 m. 8 m. 9 m. 10

However, as mentioned before, the ensemble members have the ability to interact with the soloist and occupy the same space as the soloist, making ensemble members as important as the soloist. This enables ensemble members to become other main characters or *the* main character(s), and to have the ability to create another plane of action where the ensemble acts independently of the soloist. This ability to act independently of the soloist is different from the independence revealed when the ensemble was able either to mimic the piano resonance or not mimic the piano resonance. This independence is true independence in the sense that the actions of the ensemble are not necessarily tied to anything that either the piano resonance or the soloist does and the ensemble can act in any way that it wishes, at times altering the original drama and at other times creating a second drama within the original drama. In these ways, what previously was either a monologue or a drama with two characters in which one of the characters was always reliant upon the other in order for any action to occur, can now be viewed as either a “dialogue” or a more complex, multi-layered and multi-faceted drama.

The ensemble’s independence causes the musical drama of *Sequenza X* to be altered in five ways in *Chemins VI*. The first two ways that the drama is altered concern a direct interaction between the soloist and the ensemble. First, the ensemble can “react” to the actions of the soloist by being active during or immediately after the activity of the soloist. Reactions include continuing or expanding upon the soloist’s line, echoing motives of the soloist, emphasizing intervals or pitches from the soloist’s music, and/or presenting material in “counterpoint” with the soloist’s material. This ability of the ensemble to react to the soloist was mentioned previously when examining the ensemble’s mimicking of the piano resonance.

Second, the ensemble can foreshadow the soloist's material. In some instances, this could be heard as the ensemble causing the soloist to react to the activity of the ensemble. This is an interesting role-reversal from *Sequenza X*, in which the soloist caused all of the activity in the piano resonance. In *Chemins VI*, this role-reversal can also be seen in the verticalization of the pitches corresponding to the silently depressed piano keys from *Sequenza X*; whereas the soloist's pitches caused certain notes to ring in the piano resonance of *Sequenza X*, when the pitches corresponding to the piano keys are sounded before the soloist plays those pitches, it sounds as if the ensemble presents a collection of pitches from which the soloist can "unfold" the material and "spin out" lines.

The last three ways that the musical drama is altered are all ways that the ensemble acts completely independently of the soloist. Third, ensemble members can sustain pitches played by other ensemble members, temporarily elevating the ensemble member whose pitch is sustained to a level of importance that is equal with that of the soloist. This changing of levels occurs because in *Sequenza X*, the soloist is necessarily the only character whose pitches are sustained, and in *Chemins VI* it is ordinarily the soloist whose pitches are sustained. Also included in this category are examples of an ensemble line "spinning out" of the activity of another ensemble member.

The final two ways that the drama of the original model is altered by the ensemble of *Chemins VI* are closely related to one another (the relationship will be discussed in detail when specific examples of the five ways the ensemble alters the drama are explored). The fourth means of altering the drama is the presentation of short gestures or interjections or moving lines that are not a response or reaction to the soloist. This activity of the ensemble appears to be "autonomous" and "unexplained," though the function will be elucidated later in this chapter. Finally, the most striking and easily

identifiable way of altering musical drama in *Chemins VI* occurs when the ensemble “interrupts” the solo line for a significant period of time (more than two or three measures).

Let us now turn to examples of each of the above ways that the ensemble of *Chemins VI* alters the drama as presented in *Sequenza X*. The first way that the ensemble alters the drama is by reacting to the actions of the soloist. The opening measures of *Chemins VI* provide examples of the ensemble both reacting to the actions of the soloist and acting independently (the ensemble’s independent activity will be discussed later). A detailed examination of mm. 1-10 will reveal the ways that the ensemble reacts to the soloist throughout the piece. All aspects of the ensemble’s reaction will be discussed simultaneously. The music of mm. 1-10 is shown in example 1 (p. 17) for *Sequenza X* and example 13 (pp. 51-52) for *Chemins VI*.

In m. 2, the entrance of a large number of ensemble members on the downbeat suggests an ensemble response to the soloist’s presentations of the primary motive of the piece, the D₄-F₄ dyad. As mentioned before, the entrance on the downbeat of the second measure is different from the appearance of the piano resonance in *Sequenza X*, which occurs when the soloist begins playing (though the piano resonance is somewhat difficult to hear clearly until the indicated *decrescendo* of the solo part in m. 2). Though the activity of the ensemble does not always coincide rhythmically with the soloist’s material (yet another example of independence), a good deal of the rhythmic activity is synchronized.

From m. 2 to m. 5, the ensemble doubles, sustains, supports, and highlights the pitches, pitch classes, and overtones of the pitches played by the soloist, and often

presents the only interval used by the soloist in these measures, a minor third.⁶ On the downbeat of m. 2, F_4 and F_4 overtones or wrong-octave overtones are played by the piccolo (F_6), the oboe (F_4), the soprano saxophone (A_5 , a wrong-octave overtone), trumpet 2 (F_4), horn 1 (F_4), the accordion (the top boundary of its cluster is C_7), violin 1 ($D\sharp_7/Eb_7$), violin 2 (C_6), violin 4 (F_5), viola 2 (C_5 , a wrong-octave overtone), cello 1 (C_5 , a wrong-octave overtone), and cello 2 (F_4).⁷ After the downbeat, a number of ensemble members move to pitches that are overtones or wrong-octave overtones: flute 2 moves to A_5 (wrong-octave overtone), the Eb clarinet moves to C_6 by way of half step,⁸ clarinet 1 moves to C_5 (wrong-octave overtone) by way of tritone,⁹ the accordion first moves to a chord containing F_4 overtones (C_6 , F_6 , A_6) and then to a chord containing F_4 overtones and one wrong-octave overtone (C_6 , Eb_6 , F_6), the movement to C_6 on the second eighth note of the measure occurs by way of tritone (from $F\sharp_6$), and viola 2 moves away from and back to a wrong-octave overtone. In mm. 3-4, more F_4 doublings and overtones are presented and arrived at by way of some type of movement.

Example 14 presents selected music from mm. 2-4 that shows the prevalence of the minor-third interval. In m. 2, vertical sonorities of a minor third appear between flutes

⁶Other prominent, important, and repeated intervals in the solo part will be discussed in the next chapter.

⁷I have chosen not to consider the A_4 played by clarinet 2 as a wrong-octave overtone because the pitch is two octaves below its correct location (if it were an overtone) and because it is so close to the fundamental. I have also not labeled the C_4 played by the bassoon as a wrong-octave overtone because it is below the fundamental. However, the function of this pitch could be to support the pitch class of C , and all C 's above and including C_6 are overtones of F_4 and I consider C_5 to be a wrong-octave overtone of F_4 . I have also chosen not to consider the Eb_5 played by viola 1 as a wrong-octave overtone of F_4 for the same reasons given above for not considering A_4 a wrong-octave overtone of F_4 .

⁸I have chosen to point out the half-step motion because I believe that approaching a particular pitch by half step in this piece draws attention to the later pitch by sounding like a resolution.

⁹I believe that approaching a pitch by tritone emphasizes that pitch because of the distinct sound of a tritone that stands out even in a chromatically saturated context. Furthermore, while m. 2 contains chromaticism, I would not consider this measure to be chromatically saturated, making the tritone a distinctive sound in this context.

1 and 2 on the downbeat ($E_6-C\sharp_6$), within the accordion part (a diminished triad, $G\sharp_4-B_4-D_5$ on the bottom staff and also between C_6 and Eb_6 on the top staff), between violins 3 and 4 ($G\sharp_5-F_5$) and between violas 1 and 2 on the downbeat and the second eighth-note of beat two (Eb_5-C_5). In m. 3, viola 2 plays F_4 followed by D_4 and from m. 3 to m. 4, a minor third is sounded between clarinets 1 and 2 ($A_4-F\sharp_4$) and by violin 1 (actually a major 6th, C_6-Eb_5). This Eb forms a minor third with the C_5 played by violin 3. Finally, in m. 4, a minor third is heard between the $F\sharp_6$ of violin 3 and the A_6 of violin 2 (also, viola 1 plays A_5 in this measure).

Example 14. Selected music from *Chemins VI*, mm. 2-4. All instruments sound at written pitch and all play at a *pppp* dynamic.

The musical score for Example 14, measures 2-4, from *Chemins VI*, is presented below. The score includes parts for Flute 1-2, Clarinet 1-2, Accordion (loco), Violin 1-3 (sord.), Violin 4 (sord.), Viola 1 (sord.), and Viola 2 (sord.). Measures are labeled m. 2, m. 3, and m. 4 at the top and bottom. Fingerings are indicated for measures 2, 3, and 4. The accordion part is marked (loco).

Measure 2: Flute 1-2 plays a half note E_6 (fingering 4, 4). Clarinet 1-2 plays a half note E_6 (fingering 3, 3). Accordion (loco) plays a half note E_6 (fingering 4, 4). Violin 1-3 (sord.) plays a half note E_6 (fingering 4, 4). Violin 4 (sord.) plays a half note E_6 (fingering 4, 4). Viola 1 (sord.) plays a half note E_6 (fingering 4, 4). Viola 2 (sord.) plays a half note E_6 (fingering 4, 4).

Measure 3: Flute 1-2 plays a half note E_6 (fingering 3, 4). Clarinet 1-2 plays a half note E_6 (fingering 3, 4). Accordion (loco) plays a half note E_6 (fingering 3, 4). Violin 1-3 (sord.) plays a half note E_6 (fingering 3, 4). Violin 4 (sord.) plays a half note E_6 (fingering 3, 4). Viola 1 (sord.) plays a half note E_6 (fingering 3, 4). Viola 2 (sord.) plays a half note E_6 (fingering 3, 4).

Measure 4: Flute 1-2 plays a half note E_6 (fingering 7, 8). Clarinet 1-2 plays a half note E_6 (fingering 7, 8). Accordion (loco) plays a half note E_6 (fingering 7, 8). Violin 1-3 (sord.) plays a half note E_6 (fingering 7, 8). Violin 4 (sord.) plays a half note E_6 (fingering 7, 8). Viola 1 (sord.) plays a half note E_6 (fingering 7, 8). Viola 2 (sord.) plays a half note E_6 (fingering 7, 8).

On the downbeat of m. 5, the soloist reaches a dynamic high point of the gesture being played. The arrival at this high point is supported in the ensemble by attacks on the downbeat from flute 1, the oboe, clarinet 2, the soprano saxophone, horn 1, the celesta (an event that stands out because of the timbre and register of the celesta and because of the use of a cluster), violin 1, and viola 2. Immediately after the downbeat, flute 1, the Eb clarinet, and violin 1 have moving lines, drawing attention to this point in the music. After the downbeat, the soloist's *decrescendo* is accompanied by a drastic thinning of the ensemble texture (similar to but not exactly the same as the fading of the piano resonance in *Sequenza X* during the five-second pause at the end of m. 5), and by the end of m. 5, the only remaining voice is horn 1, playing F₄ at a *pppp* dynamic. All of the moving lines in this measure converge on F₄ overtones: flute 1 approaches C₆ by half step, the Eb clarinet and soprano saxophone approach F₅ by half step (one from above, one from below), and violin 1 ends on F₅.

The soloist's next event, an accented D₄ thirty-second note played at a *fff* dynamic on the downbeat of m. 6, is the loudest and most forceful gesture in the piece thus far. In response, twenty-three of the twenty-four ensemble members sounding a pitch on the downbeat attack their pitch exactly on the downbeat (horn 1 is tied over). In addition to this nearly unified attack, the ensemble responds with changes of sonority, voicing, timbre, and rhythmic activity after the downbeat (as before, this sounds as though the soloist incites the activity of the ensemble). Some of the ensemble members present overtones of the soloist's pitches, and the presentation of the sixth overtone of the soloist's D₄ and F₄ by violin 1 (each overtone is two octaves and a minor seventh above the fundamental) also appears to be an instance of imitation of the soloist's minor-third motive because the violin's pitches appear at the same attack points as the soloist's

pitches and the interval between the soloist's pitches and the violin's pitches remains constant. The soloist's *fortissimo* F₄ is accompanied by articulated notes or changing pitches (with the new pitches being arrived at by way of slur from the first note) played by all flutes, the oboe, all treble clarinets (clarinet 1 plays at a *mezzo-forte* dynamic, by far the loudest dynamic from an ensemble member to this point), the alto saxophone, the bassoon, trumpet 2, horn 1, the accordion, and all four violins. Further rhythmic activity occurs as a result of changing pitches after the soloist's initial attack on beat three played by the piccolo, flute 1, clarinet 2, the soprano saxophone and the accordion. Also of note in this measure is the changing timbre of clarinet 1 and the alto saxophone with the second sixteenth-note of beat three (due to fingering changes).

Similar ensemble reactions to the soloist's activity occur in m. 7, and, also in this measure, the soloist's pitches are doubled and sustained by trumpet 2. However, mm. 8-10 contain the most significant example in these opening measures of how the ensemble alters the drama of the music as originally presented in *Sequenza X*. In m. 7 of *Sequenza X*, with the piano's damper pedal depressed, the soloist plays D₄ and C₅ at a *fff* dynamic, with C₅ being played directly into the piano. This is followed by a five-second pause, during which time D₄, C₅, and the overtones of those pitches sound in the piano resonance, allowing a listener to hear a cacophony of sounds and the decay of those sounds.

In m. 8 of *Chemins VI*, trumpet 1 answers the soloist's D₄ and C₅ with E₅ played in the same manner (an accented *fff* thirty-second note) and preserving the length of rest between notes of the solo trumpet line (D₄, C₅ and E₅ are all separated by an equal amount of time). It is certainly no coincidence that the first ensemble dynamic above *mezzo-forte* is a continuation of the solo trumpet line and that the timbre of the instrument producing

this pitch is the same as that of the solo instrument. The fact that E₅ is sustained and continues to sound through m. 10 also makes this pitch sound as if it is part of the soloist's line since it is treated in the same manner as the soloist's pitches (the topic of ensemble member's pitches being sustained will be addressed shortly).

An instance of motivic manipulation occurs following this event (the continuation of the soloist's line by trumpet 1) when the soloist once again plays D₄ and C₅ in mm. 8-9 and trumpet 1 answers with E₅ in m. 10. Differences between these two events do exist: the separations between pitches are not uniform as they were the first time, the E₅ is attacked at the same time as the soloist's D₄ in m. 10, the E₅ is to be played *pppp* while the soloist's D₄ is to be played *piano*, and trumpet 1 is muted here.¹⁰ Despite these differences, this figure and the function of trumpet 1 at this point are clearly similar to the figure and function of the figure in m. 8.

Concerning musical drama, not only is the surface level changed (the music sounds different), but the activity of trumpet 1 reveals the possibility for the ensemble to do more than react to the soloist – it is now clear that the ensemble can interact with the soloist and dramatically exist on the same plane of action. Furthermore, E₅ is a pitch that the soloist has not played in the first 9 measures, and because trumpet 1 plays this pitch and then returns to it in m. 10, the soloist's presentation of the pitch at the end of m. 10 introduces another possible musical dramatic alteration in *Chemins VI* – the ensemble's ability either to foreshadow the soloist's material or to cause the soloist to react to the

¹⁰The timbral difference between trumpet 1 (muted, with a straight mute that is presumed to be metallic since no specific indication is made) and the open soloist is minimized because of the soft dynamics utilized here. The characteristic metallic sound of a straight-muted trumpet is most prevalent at louder dynamic levels. Here, the primary effect will be a reduction of volume while keeping the timbre from blending too completely with the sounds of the other instruments. In terms of practicality of performance, the additional resistance provided by the mute will aid in a clean, focused, and centered attack of E₅. Furthermore, the differences in dynamics would seem to suggest that E₅ sounds significantly softer than D₄, but because of the differences in register, I hear E₅ as continuing the line of the soloist.

material presented by the ensemble (the ensemble's role of foreshadowing the soloist and/or inciting a reaction from the soloist will be discussed in depth later). At times throughout the entire piece, the ensemble reacts to the soloist in the dimensions of rhythm and pitch, continues the soloist's lines, emphasizes ideas of the soloist, etc., all independent of the role of mimicking the piano resonance of *Sequenza X*. However, this study does not allow for a complete examination of every instance.

The number of instances of the ensemble foreshadowing the soloist's material or seemingly causing the soloist to react to what the ensemble presents are far fewer than the instances of the ensemble reacting to the soloist. Thus, an examination of most of the instances of the ensemble foreshadowing material or eliciting a response from the soloist follows.

With the pickup to m. 48, trumpet 2 plays the same motive that the soloist plays at the end of m. 48, with the only differences being dynamics (*forte* for trumpet 2 and *fortissimo* for the soloist) and the use of flutter tonguing by the soloist (example 15 contains the music for trumpet 2 and the solo trumpet). As in m. 8 when trumpet 1 continued the line of the soloist, the relationship between ensemble member and soloist is particularly strengthened by the fact that the ensemble member has the same timbre as the soloist.

Example 15. *Chemins VI* mm. 47-48. Trumpet 2 and solo trumpet. (Note: Measure 48 is incomplete).

The image shows a musical score for two trumpet parts. The top staff is labeled 'Trumpet 2' and the bottom staff is labeled 'Solo Trumpet'. Both staves are in 2/4 time. Measure 47 is shown for both. Trumpet 2 has a whole rest in measure 47 and a pickup note at the start of measure 48. The Solo Trumpet part is continuous across measures 47 and 48. Dynamics include *p* (piano) at the start of measure 47 and *ff* (fortissimo) at the end of measure 48. A flutter tonguing (FL) marking is present at the end of measure 48. A triplet of eighth notes is marked in measure 48 for both parts.

The next example involves the ensemble seemingly causing the soloist to perform certain actions, and it pertains to pitch-class patterns. Repetitions of pitch-class patterns have appeared in the music of the soloist and of ensemble members throughout the piece. These patterns often undergo continuous change in that with each repetition, certain notes are inserted or removed from the pattern and certain segments can be repeated. Example 16 contains mm. 62-75, and a pitch-class pattern can be observed in mm. 66-74. These measures do not contain the complete process that the pattern undergoes, but they do provide an example of how an established pattern can be altered through a general process as opposed to a rigorous system. In m. 66 (beginning with the first C#₅) the soloist plays the following pattern: C#-D-F-B-C-F#-G-E-G#. This pattern is then altered by the insertion of Eb after B and the removal of the final note so that the pattern becomes C#-D-F-B-Eb-C-F#-G-E. The pattern is then altered again in m. 71: (E)-C#-D-F-B-Eb-C-F#-G-E-G#. At this point, the pattern appears to start again with C#-D-F. It would be reasonable to expect that the pattern would continue and that B-Eb-C-F#, etc. would follow or that a slight variation of this pattern would follow. However, the next pitches played by the soloist are E-C#-D-F, etc., revealing that a significant portion of the pattern has been skipped. Instead of hearing this change as simply reflecting an arbitrary skip of a portion of the pattern, it is possible to hear this occurrence as an instance of the brass section facilitating the soloist's skipping of pitches by presenting some of the pitches from the pattern in lieu of the soloist presenting those pitches (B played by the trombone, Eb played by the tuba, G played by trumpet 1). Another possibility is to hear the last two pitches of the line in trumpet 2 (E-C#) or the last vertical sonority between the two trumpets (also E-C#) as leading the soloist directly to the E and C# of m. 73 instead of to the logical next pitches of the pattern. Here, in m. 73, the soloist returns to a slightly

Example 16. *Chemins VI*, mm. 62-75. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

m. 62 m. 63 m. 64 m. 65

Ott. $\frac{4}{4}$ *(pppp)*
 1^o Fl. *(pppp)*
 2^o Fl. *(pppp)*
 Ob. *mf* *pppp*
 Cl. picc. *pppp*
 1^o Cl. *(pppp)*
 2^o Cl. *(pppp)*
 Cl. b. *(pppp)*
 Sax. s. *(pppp)*
 Sax. a. *(pppp)*
 Fg. *(pppp)*
 1^a Tr. *(pppp)*
 2^a (sord.) *(pppp)*
 1^o Cor. *(pppp)*
 2^o Cor. *(pppp)*
 Tbn. *f*
 Tuba *f*
 Fisann. *f*
 Tr. sola $\frac{4}{4}$ *fff* *mf p pp (sempre)* *sfpp sf-pp (sim.)* $\frac{3}{4}$
 1^o (sord.) *(pppp)*
 2^o (sord.) *(pppp)*
 3^o (sord.) *(pppp)*
 4^o (sord.) *(pppp)*
 1^a (sord.) *(pppp)*
 2^a (sord.) *(pppp)*
 3^a (sord.) *(pppp)*
 1^o (sord.) *(pppp)*
 2^o (sord.) *(pppp)*
 3^o (sord.) *(pppp)*
 Cb. 1^a-2^a *(pppp)*

via sord.

m. 62 m. 63 m. 64 m. 65

Example 16 (cont'd).

m. 70 $\frac{4}{4}$ m. 71 $\frac{3}{4}$ m. 72

Ott.
 1^o Fl.
 2^o
 Ob.
 Cl. picc.
 1^o Cl.
 2^o
 Cl. b.
 Sax. s.
 Sax. a.
 Fg.
 1^a Tr.
 2^a
 Tbn.
 Tuba
 Cel.
 Fisamm.
 Tr. sola
 1^o (sord.) VI.
 2^o (sord.) VI.
 3^o (sord.) VI.
 4^o (sord.) VI.
 1^a (sord.) Va.
 2^a (sord.) Va.
 3^a (sord.)
 Cb. 1^o-2^o (un.)

senza sord.
 Ped.
 4 (VT)
 3 4
 FL.
 VT

m. 70 m. 71 m. 72

Example 16 (cont'd).

Example 16 (cont'd) musical score, measures 73, 74, and 75.

Measures 73 and 74: The score is in 3/4 time. Measures 73 and 74 are marked with a vertical dashed line. The instruments listed on the left are: Ott., 1^o Fl., 2^o Fl., Ob., Cl. picc., 1^o Cl., 2^o Cl., Cl. b., Sax. s., Sax. a., Fg., 1^a Tr., 2^a Tr., Tbn., Tuba, Tr. sola, 1^o (sord.) VI., 2^o (sord.) VI., 3^o (sord.) VI., 4^o (sord.) VI., 1^a (sord.) Va., 2^a (sord.) Va., 3^a (sord.) Va., 1^o (sord.) Vc., 2^o (sord.) Vc., 3^o (sord.) Vc., and Cb. 1^o-2^o (un.).

Measure 73: The Tr. sola part features a melodic line with dynamics *mf*, *p*, *pp*, and *ff*. The Tbn. part has a sord. (straight) marking and a *pppp* dynamic. The Tuba part has a *f* dynamic.

Measure 74: The Tr. sola part continues with a melodic line. The Tbn. part has a sord. (sord.) marking. The Tuba part has a *f* dynamic.

Measure 75: The score is in 3/4 time. The instruments listed on the left are: Ott., 1^o Fl., 2^o Fl., Ob., Cl. picc., 1^o Cl., 2^o Cl., Cl. b., Sax. s., Sax. a., Fg., 1^a Tr., 2^a Tr., Tbn. (sord.), Tr. sola, 1^o (sord.) VI., 2^o (sord.) VI., 3^o (sord.) VI., 4^o (sord.) VI., 1^a (sord.) Va., 2^a (sord.) Va., 3^a (sord.) Va., 1^o (sord.) Vc., 2^o (sord.) Vc., 3^o (sord.) Vc., and Cb. 1^o-2^o.

Measure 75: The Tr. sola part features a melodic line with dynamics *f*, *p*, and *f*. The Tbn. (sord.) part has a sord. (sord.) marking. The Tuba part has a *f* dynamic.

altered version of the pattern: E-C#-D-F-B-C-F#-G-E-G#. The pattern then begins again: C#-D-F-B.

The ensemble appears to foreshadow the soloist in m. 75, as shown in example 16, when the violins and viola 1 present F#₄ and F#₄ overtones one sixteenth-note before the soloist plays F#₄: viola 1 plays F#₄; violin 4 plays F#₆; violin 3 plays A#₆; violin 2 plays C#₇; violin 1 plays E₇. The piano's damper pedal is depressed at this point in *Sequenza X* and one would expect F#₄ overtones to appear *after* the soloist's F#₄. This example could also be heard as the strings causing the soloist to play F#₄. The soloist's accent of F#₄ also supports hearing this as a reaction to the strings because the accent makes this particular pitch stand out.

On the downbeat of m. 81 (not shown), trumpet 1 plays C#₅ at a *fortissimo* dynamic at the same time that the soloist plays C#₅ at a *pianissimo* dynamic and with a valve tremolo. This makes trumpet 1 appear to foreshadow the soloist's isolated pitches in the following measures (the soloist's texture here is the same as in mm. 56-58, as shown in example 2, p. 31).

The next example occurs in m. 114, presented in example 17. Before the soloist plays an accented Eb₅ at a *fff* dynamic followed by repeated thirty-second notes (all on the pitch Eb₅), trumpet 1 begins to play accented thirty-second notes, all on Eb₅ (beginning at a *fortissimo* dynamic).

Yet another example occurs in m. 177, shown in example 18. Here, the soloist plays Eb₅, and after holding the note for a dotted quarter note (while flutter tonguing), the soloist plays thirty-second notes (on Eb₅) followed by E₅ (for eight seconds, a major event). On the second eighth note of the measure, trumpet 1 plays an accented thirty-second note E₅ at a *fff* dynamic, foreshadowing the soloist's E₅.

Example 17. *Chemins VI*, mm. 114-15. Trumpet 1 and solo trumpet. (Note: Measure 115 is incomplete).

Example 17 shows measures 114 and 115 of *Chemins VI*. The score is for Trumpet 1 and Solo Trumpet. In measure 114, Trumpet 1 plays a short melodic line. The Solo Trumpet plays a long, sustained melodic line across measures 114 and 115. The Solo Trumpet's line is marked with *ff*, *fff*, *pp*, *f*, *pp*, and *<f>pp*. There are also markings for *DL* (Dolce) and *VT* (Vibrato) in measure 115.

Example 18. *Chemins VI*, m. 177. Trumpet 1 and solo trumpet.

Example 18 shows measure 177 of *Chemins VI*. The score is for Trumpet 1 and Solo Trumpet. In measure 177, Trumpet 1 plays a short melodic line. The Solo Trumpet plays a sustained melodic line. The Solo Trumpet's line is marked with *ff*, *f*, and *pp*. There are also markings for *FL* (Forte) and *VT* (Vibrato) in measure 177.

The third way that the ensemble alters the drama is by certain ensemble members sustaining pitches played by other ensemble members. This occurs rather infrequently and the activity associated with these methods is fairly subtle as compared to other ensemble activities. The primary dramatic significance of this is that an activity that was performed in relation to the soloist only (in *Sequenza X*, the main character of the entire piece) is performed in relation to characters in *Chemins VI* that are not necessarily playing the role of a main character when this activity occurs. As a result, the ensemble is placed on a level of importance equal to that of the soloist.

The first instance of an ensemble member sustaining the pitch played by another ensemble member introduces an important aural change from *Sequenza X*. *Sequenza X* consists of treble sounds only (all are above G_3), save for two presentations of a pedal note played by the soloist roughly half-way through the piece (C_3). *Chemins VI* also begins with a pitch collection that is treble-dominated, but in m. 28 (as seen in example

19, which contains mm. 28-30), the tuba plays Eb_3 and the pitch is sustained by the bass clarinet. The tuba then continues with A_2 in m. 29 and F_2 in m. 30, and each of these pitches is supported by an ensemble member (the bassoon sustains A_2 and the bass clarinet sustains F_2). The result of this is that not only is the bass register utilized for the first time in either piece (other than the two presentations of C_3 in *Sequenza X*), but this marks the first time that a bass *line* is present in either piece.

Perhaps the best example of ensemble members sustaining pitches played by other ensemble members occurs in mm. 62-73 (example 16, pp. 63-66). Here, as in m. 28, tuba pitches are sustained by various ensemble members (bass clarinet, bassoon, and contrabasses). There are some differences as compared with the previous example: not all tuba pitches in these measures are sustained (tuba pitches in m. 72 and m. 74 are not sustained), a trombone pitch is sustained (by the bass clarinet in m. 69), and pitches played by a treble instrument are sustained (pitches played by trumpet 1 in m. 69 and m. 73 are sustained by the Eb clarinet and the soprano saxophone, respectively).

If the ensemble were mimicking the piano resonance in mm. 62-73, the soloist's C_4 and C_5 , $C\sharp_4$ and $C\sharp_5$, D_4 and D_5 , F_4 , G_4 and G_5 , and B_4 and B_5 should be sustained by the ensemble (these strings are allowed to ring at this point in *Sequenza X*) and A_5 should sound (in *Sequenza X*, the soloist's A_4 would cause A_5 to sound on the D_4 string). These pitches are not sustained in the ensemble, making even more significant the fact that the pitches played by trumpet 1 are sustained because this instrument has the same timbre as the soloist, plays in the same register, and in m. 69, both trumpet 1 and the soloist play isolated, accented, and loud (*mezzo-forte* for the soloist, *fortissimo* for trumpet 1) thirty-second notes.

Example 19. *Chemins VI*, mm. 28-30. All instruments sound at written pitch except for the contrabasses (sound one octave lower than written).

One final point to consider concerning these measures is that certain pitches played by the strings in m. 73 could be functioning as overtones of E₅ (played by trumpet 1), C#₅ (played by trumpet 2) and D₄ (played by the contrabasses): Ab₇/G#₇ (played by violin 1) is an overtone of both C#₅ and E₅, B₆ (violin 2) is an overtone of E₅ and is a wrong-octave overtone of C#₅, E₆ (violin 3) is an overtone of E₅, D₆ (violin 1) could be a wrong-octave overtone of E₅ (though it is two octaves below the correct octave), B₅ (viola 1) is a wrong-octave overtone of E₅, F#₆ (viola 2) is an overtone of D₄, and C₆ (viola 3) is a wrong-octave overtone of D₄.

Measure 81 was mentioned earlier because trumpet 1 plays a pitch in a manner that suggests that it foreshadows the manner in which the soloist will play pitches in the following measures. This event could also be heard as the soloist sustaining the pitch of an ensemble member because, as mentioned before, trumpet 1 plays C#₅ at a *fortissimo* dynamic on the downbeat and the soloist plays C#₅ at a *pianissimo* dynamic at the same time. Other locations where ensemble pitches are sustained, excluding the ensemble “interruptions,” include mm. 80, 82, 127, and 192 (none of these instances are shown as musical examples in this study).

Also included in this category is a related situation, in which ensemble lines spin out of other ensemble members’ notes. This occurs most frequently in the large-scale ensemble interruptions, where, a number of times, the bassoon has an ascending line that appears to “grow out of” a pitch played by the tuba. Example 20 presents an instance in which both the bassoon gesture and the piccolo gesture seem to grow out of or react to the tuba pitch (with the bassoon gesture being more directly related to the tuba note because of their common starting pitch). Immediately following is a bass clarinet gesture that echoes the bassoon gesture, sounding like a reaction to the bassoon gesture.

Example 20. *Chemins VI*, m. 132 (incomplete instrumentation). All instruments sound at written pitch except for the piccolo (sounding one octave higher than written).

An example that does not occur within a large-scale interruption can be seen in m. 72, presented in example 16 (pp. 63-66). Here, the tuba, which is the instrument that most often sounds as if it is causing other ensemble members to react to it and spin out of its pitch, is the one that appears to react to an ensemble pitch/gesture. In m. 71, many ensemble members have moving lines that lead to the downbeat of m. 72, and the bass clarinet's goal on the downbeat of m. 72 is Eb₂, the first pitch of the tuba line that is similar to the bassoon line examined above.

The fact that ensemble lines spin out of the notes/gestures of other ensemble members both during the large-scale ensemble interruptions and also at other times not pertaining to the interruptions helps to clarify the function of the fourth way that the ensemble alters the drama of the original. This way is through the presentation of gestures and lines that are initiated by the ensemble, autonomous pitches that are seemingly unexplained in their function, but in fact serving to foreshadow the large-scale ensemble interruptions of the solo line. This function can be better understood through an examination of specific examples.

The opening measures of *Chemins VI* have already been discussed above in terms of the ensemble mimicking the piano resonance of *Sequenza X* and in terms of the ensemble reacting/responding to the actions of the soloist. However, those discussions did not account for all of the activity of these measures. As early as the first pitch change by an ensemble member (the offbeat of beat one in m. 2), it becomes clear that, as mentioned before, the ensemble will not be a mere resonator as was the piano in *Sequenza X*. Measures 1-10 are presented in example 13 (pp. 51-52) and mm. 11-18 are shown in example 21. An examination of these measures reveals pitches that are neither the soloist's pitches nor pitches from the overtone series (or even wrong-octave overtones) of those pitches. Moreover, these sometimes form gestures and lines that do not appear to be reacting to, foreshadowing, or echoing the soloist's activity (in terms of pitch or rhythm) and are not rhythmically synchronized with the soloist. These gestures are also not a reaction to the activity of other ensemble members.

However, the presence of these gestures, lines, and pitches in *Chemins VI* certainly enriches the musical surface (despite their quiet dynamic levels). This enrichment of the musical surface introduces a level of musical drama that was not present in *Sequenza X* and it also provides yet another example of ensemble independence. Moreover, the function of this enriched musical surface and increased activity (the "explanation of the unexplained" gestures, lines, and pitches) is to foreshadow the significant large-scale ensemble interruptions of the solo line.

This understanding also offers further insight into the significance of the continuation of the solo line by trumpet 1 in m. 7 and m. 10. When these events occur, it is unclear whether they are isolated incidents, if the stage is being set for interaction between ensemble and soloist, or even if the ensemble can become the foreground

Example 21. *Chemins VI*, mm. 11-18. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

m. 11 m. 12 m. 13 m. 14
 $\frac{3}{8}$ $\frac{3}{4} \text{ ♩} = 76/80$ $\frac{3}{8}$ $\frac{4}{4}$

Ott.
 1^a
 Fl.
 2^a
 Ob.
 Cl. picc.
 1^a
 Cl.
 2^a
 Cl. b.
 Sax. s.
 Sax. a.
 Fg.
 1^a
 (sord.)
 Tr.
 2^a
 (sord.)
 1^a
 (sord.)
 Cor.
 2^a
 (sord.)
 Cel.
 Fisarm.
 Tr. sola
 1^a
 (sord.)
 VI.
 2^a
 (sord.)
 VI.
 3^a
 (sord.)
 VI.
 4^a
 (sord.)
 1^a
 (sord.)
 Va.
 2^a
 (sord.)
 Va.
 3^a
 (sord.)
 1^a
 (sord.)
 Vc.
 2^a
 (sord.)
 Vc.
 3^a
 (sord.)
 1^a
 Cb.
 2^a

m. 11 m. 12 m. 13 m. 14

Example 21 (cont'd).

m. 15 $\frac{3}{4}$ m. 16 $\frac{2}{4}$

Ott.
 1^o Fl.
 2^o
 Ob.
 Cl. picc.
 1^o Cl.
 2^o
 Cl. b.
 Sax. s.
 Sax. a.
 Fg.
 1^a (sord.) Tr.
 2^a (sord.)
 1^o (sord.) Cor.
 2^o (sord.)
 Cel.
 Fisamn.
 Tr. sola
 1^o (sord.) VI.
 2^o (sord.)
 3^o (sord.) VI.
 4^o (sord.)
 1^a (sord.) Va.
 2^a (sord.)
 3^a (sord.)
 1^o (sord.) Vc.
 2^o (sord.)
 3^o (sord.)
 1^o Cb.
 2^o

m. 17 $\frac{3}{4}$ m. 18 $\frac{2}{4}$

Ott.
 1^o Fl.
 2^o
 Ob.
 Cl. picc.
 1^o Cl.
 2^o
 Cl. b.
 Sax. s.
 Sax. a.
 Tr. 1^a (sord.)
 1^o (sord.) Cor.
 2^o (sord.)
 Cel.
 Tr. sola
 1^o (sord.) VI.
 2^o (sord.) VI.
 3^o (sord.) VI.
 4^o (sord.)
 1^a (sord.) Va.
 2^a (sord.) Va.
 3^a (sord.)
 1^o (sord.) Vc.
 2^o (sord.) Vc.
 3^o (sord.)
 1^o Cb.
 2^o

via sord.
mf *pp* *ff* *pp* *ff* *pp*

m. 15 m. 16 m. 17 m. 18

voice/main character and relegate the trumpet solo to the background. The function of the continuation of the line appears to signify the ability of the ensemble to exist on the same plane of action as the soloist and to be a character of equal importance. What is known for certain upon hearing the continuation is that the ensemble may elaborate the soloist's material.

Other examples of ensemble gestures that function in a similar manner occur throughout the piece, such as those of m. 40, presented in example 22. Here, members of the ensemble have "fleeting" gestures that rise and fall in pitch (except for the gesture sounded by the celesta which has the opposite contour). Fleeting gestures are fast-moving lines (not repeated pitches) consisting primarily of thirty-second notes and grace notes. These gestures certainly do not appear to be a reaction to the music of the soloist, for the soloist's material at the start of this measure is identical to that in the previous two measures, and neither of those measures elicited a response. Furthermore, the soloist presents one pitch with the only changes to the texture of the music being slight intonation changes (due to the use of valve-tremolo technique) and timbral changes (due to the use of flutter-tongue technique and also valve-tremolo technique). All of the soloist's material from mm. 38-40 is played at *mezzo-forte*. Clearly, the ensemble material presented in m. 40 is not significantly related to the solo material of the surrounding measures.

When introduced above, this fourth way of altering the musical drama was noted as being autonomous in the sense that the ensemble lines and gestures do not appear to be a reaction to the soloist's material and do not support the actions of the soloist. However, there are instances of ensemble lines and gestures that combine elements to suggest both being autonomous and being a reaction to the soloist (as seen above in the discussion of

Example 22. *Chemins VI*, mm. 38-40. All instruments sound at written pitch except for the celesta (sounds one octave higher than written).

Example 22. *Chemins VI*, mm. 38-40. The score shows the following details:

- Flute 1:** Rests in m. 38 and m. 39; enters in m. 40 with a pppp dynamic.
- Clarinet:** Rests in m. 38 and m. 39; enters in m. 40 with a pppp dynamic.
- Celesta:** Rests in m. 38 and m. 39; enters in m. 40 with a pp dynamic and a Ped. marking.
- Solo Trumpet:** Plays a series of chords in m. 38 and m. 39, marked mf. The chords are labeled VT, FL, VT, FL, VT, FL, VT, FL. There are 3-measure rests after the first and third chords. In m. 40, it plays a single chord marked VT.
- Violin 1:** Rests in m. 38 and m. 39; enters in m. 40 with a pont. (pppp) dynamic.
- Violin 2:** Rests in m. 38 and m. 39; enters in m. 40 with a pont. (pppp) dynamic.
- Violin 3:** Rests in m. 38 and m. 39; enters in m. 40 with a pont. (pppp) dynamic.
- Violin 4:** Rests in m. 38 and m. 39; enters in m. 40 with a pont. (pppp) dynamic.

ensemble reaction to the soloist). This duality is not surprising, for, as seen above when one pitch could be considered part of the overtone series of various fundamentals played by the soloist, Berio's compositional choices often layer and overlap perceived and/or understood function(s) of a particular musical event.

Thus, in *Chemins VI*, the ensemble activity of mm. 31-35 (included in example 24, pp. 93-94) can be understood as responding to the soloist and/or developing ideas of the soloist and presenting lines and gestures that are independent of the soloist's activity and the activity of other ensemble members. In these measures, the lines that react to the soloist or develop the soloist's materials are the celesta grace-note figure in m. 31 (the

pitch collection and order of presentation of pitches of this closely resembles that of the soloist, and the gesture is similar to that of the soloist), the repeated thirty-second notes in mm. 32-35, and the horn and trombone gestures of m. 31. Not only do the figures of mm. 32-35 share their rhythmic profile with portions of the soloist's material, but the pitch-class successions used are primarily adapted from the pitch-class succession played by the soloist in m. 31 (with the lone exception being D \sharp_6 and E $_6$ played by the piccolo, though even these pitches highlight an interval – the minor second – that pervades the pitch succession played by the soloist). The horn gesture sounds as a reaction to the soloist (or related to the soloist) because of the volume of both gestures and because they begin at the same time (as mentioned earlier, when ensemble members have gestures that begin at the same time as the soloist, they can be understood as being a reaction). The trombone gesture reacts to both the soloist (because of the common beginning tone and loud dynamic of both gestures) and the horn (because of the loud dynamic of both gestures and because the trombone gesture resembles a transposed inversion of the horn gesture).

The autonomous lines and gestures are the triplet eighth notes played by the piccolo in m. 31¹¹ (a rhythmic figure first introduced by violin 1 in m. 5) and the fleeting rising/falling lines of m. 35 that are clearly related to the similar figures in m. 40 (seen in example 22, p. 77). Instead of viewing these fleeting lines as being autonomous, it is also possible to consider them as a development of the repeated thirty-second notes, a sort of blossoming in the realm of pitch.

The final way that the ensemble alters the musical drama as it was presented in *Sequenza X* is through large-scale ensemble interruptions (interruptions that last for more

¹¹Though the presence of this gesture is unexplained in terms of being a reaction to activity of the soloist, the intervals used in this gesture are important throughout the piece. This gesture and the particular intervals it is made up of are similar to those in the ensemble activity of mm. 1-18 discussed above.

than two or three measures). These interruptions will be examined both here and in the next chapter. Here, a brief examination of general dramatic issues and implications will be undertaken, and the discussion in the following chapter will focus on matters of pitch and the actual dramatic changes of character that occur during the interruptions.

Therefore, the discussion concerning the interruptions in the following chapter will expose one of the results of all of the ways that the ensemble can alter the drama that were examined throughout this chapter.

To this point, the term “interruption” has been used to refer to the instances of significant ensemble activity during which the soloist rests and sounds as if it is interrupted. In actuality, these instances occur at a number of points where the soloist rested for five seconds in *Sequenza X*, and thus the ensemble does not actually interrupt the solo line. Furthermore, activity is always present at these moments in *Sequenza X* because the piano resonance is thrust into the foreground of activity by the soloist’s cessation of action, and the resonance continues to sustain pitches from the trumpet line/overtone of the pitches of the line during these rests. Thus, in *Chemins VI*, the ensemble “interruptions” only *appear* to be interruptions (though they will continue to be referred to as interruptions). Despite the fact that there is only the illusion of interruption, the aural result does alter the drama as compared to *Sequenza X*.

For example, the first ensemble interruption (pickups to m. 83 through m. 88, included in example 32, pp. 121-22) appears to be an instance of the ensemble becoming *the* main character (as opposed to *a* main character) and exercising the ability to force the soloist to rest. This interruption sounds this way for two primary reasons: first, the ensemble’s activity intensifies leading up to m. 83 (and this intensity can be sensed despite the sporadic activity from the ensemble); and second, the soloist appears to regain

its role as the main character and force the ensemble to rest and/or significantly reduce its activity in m. 88. This is the result of the soloist playing the same pitch (C#₅) in the same manner (accented and *fortissimo*) in m. 88 as it did in m. 83, the ensemble activity quickly dying down after the soloist's C#₅ in m. 88, and the soloist continuing its line after this pitch.

The understanding that the large-scale interruptions occur during moments of rest of the solo part further supports labeling certain autonomous ensemble activity as foreshadowing the large-scale interruptions. For example, the repeated thirty-second notes and fleeting thirty-second-note lines of mm. 51-52 (included in example 23) occur during soloist rests and are clearly related to the ensemble activity of mm. 38-40 (see example 22, p. 77).

Finally, in addition to the large-scale ensemble interruptions introducing the most significant change in drama between the two pieces, the first interruption carries a special significance for the alteration of drama *within Chemins VI*. This interruption is the first instance of the ensemble completely dominating the texture. This is also the first instance of such a dense texture (all ensemble members contribute to this interruption), of so many ensemble members playing loudly (the dynamics are mostly *forte* and *fortissimo*), and of a “violent” character for an extended period of time. While previous ensemble outbursts foreshadowed possibilities of ensemble domination, this interruption realizes those implications and even goes beyond what was previously suggested. This dramatic change creates a situation in which the soloist and ensemble are not only both set up as possible main characters, but it reveals the possibility for significant “conflict” between these two characters.

Example 23. *Chemins VI*, mm. 50-53 (incomplete instrumentation). All instruments sound at written pitch except for the celesta (sounds one octave higher than written).

m. 50 m. 51 m. 52 m. 53

Flute 1
 Flute 2
 Oboe
 Sop. Sax
 Bassoon
 Trumpet 1
 Horn 1
 Tuba
 Celesta
 Solo Trumpet
 Violin 1
 Violin 2
 Violin 3
 Violin 4
 Viola 2

m. 50 m. 51 m. 52 m. 53

CHAPTER THREE

The Presence and Implications of Musical Drama in *Sequenza X* and *Chemins VI*: Part Two of Two

3.1 – Berio's Melodic and Harmonic Language

A brief discussion of Berio's melodic and harmonic language is warranted before examining the large-scale ensemble interruptions in detail. Berio's melodic and harmonic language will be discussed both in general and specifically pertaining to *Sequenza X* and *Chemins VI*. Just as Berio's general style defies simple explanation, his melodic and harmonic language are difficult to understand fully without a close examination of his complete output. It is safe to say, however, that most of Berio's music does not follow the tenets of traditional functional harmony. This is exhibited in his music through a number of features such as the frequent use of chromatically saturated pitch collections and the use of all twelve pitch classes. However, as Osmond-Smith's statement pertaining to the pitch-class series represented in figure 1 revealed (p. 8), Berio's use of chromaticism did not always eliminate echoes of tonality. In fact, at times Berio's original music seems to embrace echoes of traditional tonality (for example, one of the primary processes at work in the third movement of *Sinfonia* is the re-establishment of tertian triads).¹

Berio was certainly influenced by the music of the Second Viennese School early in his career, as were many composers of his generation. Even after Berio abandoned strict serialism, the chromatic saturation of his melodic and harmonic language betrayed

¹For more information on this process in *Sinfonia* see David Osmond-Smith, *Playing on Words: A Guide to Luciano Berio's Sinfonia* (London: Royal Musical Association, 1985).

the influence of serial and non-serial atonality. Many syntactical aspects of the “language” remained with Berio, and what Osmond-Smith has noted about the effects of serialism on many post-World War II composers has proven to be true for Berio: “serial thinking had sensitized a whole generation of composers to an exhaustive use of the chromatic spectrum, and to the melodic potential of sevenths, ninths, and their transposed equivalents.”² To this I would add that prevalent in much of Berio’s music are continuous varied permutations of limited pitch material, a focus on particular intervals in both the melodic and harmonic dimensions, and an emphasis on chromatic relationships on various levels, from the surface to the “background.” These characteristics of Berio’s music recall early non-serial atonal concepts such as continuous variation and the use of pitch cells.

Osmond-Smith’s description of the melodic dimension of *Sequenza I* (for flute) provides insight into Berio’s general melodic language. The melodic material is based on “transpositions from a meandering chromatic ascent or descent,” and these transpositions of chromatic wanderings dictated the texture of “darting agility” that pervades the piece.³ The flute line was constantly altered through these transpositions of wandering chromatic pitch collections, the manipulation of pitch patterns, frequent shifts of register, and variations of the rhythmic profile.⁴ Furthermore, the sequences that are an integral aspect of the piece are varied throughout the course of the piece by the addition and subtraction of various pitches and the permutation of the order of pitches, and in this way, melodic

²Osmond-Smith, *Berio* (1991), 30.

³Ibid.

⁴Ibid., 30-31.

structures are constantly reworked in inconspicuous ways.⁵ Processes of subtle changes such as these may seem to provide an opportunity for a system to be implemented that would dictate the changes. However, what Osmond-Smith has observed about the changing chords of *Sequenza IV* (1965-66, for piano) holds true for a large number of Berio's works: "There is no systematic process at work here, simply attentive experiment with the changes in nuance that come from altering different notes."⁶

3.2 – *The Melodic and Harmonic Language of Sequenza X*

A number of the above traits are prevalent in *Sequenza X*, especially the use of a chromatic pitch collection and sequences of pitches whose internal structures are subtly transformed. These transformations lend a sense of process to the piece but do not appear to be systematized. In his Ph.D. dissertation covering *Sequenzas I-X*, Gale Schaub identifies transformational process, the use of harmonic fields, and pitch hierarchy as the primary organizational elements of all ten *Sequenzas*, with transformational process being the most significant compositional technique.⁷

Schaub uses the term "transformational process" in reference to continuous variations of musical parameters throughout a piece, and he identifies melodic transformation, rhythmic transformation, timbral transformation, and registral transformation as being present in *Sequenza X*.⁸ Schaub points to gradual increases and decreases of rhythmic activity in major sections as an example of rhythmic transformation. The use of the piano resonance throughout the piece is identified by

⁵Ibid., 32-33.

⁶Ibid., 39.

⁷Gale Schaub, "Transformational Process, Harmonic Fields, and Pitch Hierarchy in Luciano Berio's *Sequenza I* through *Sequenza X*" (Ph.D. diss., University of Southern California, 1989).

⁸Ibid., 239-40.

Schaub as transforming timbre. Registral transformation as discussed by Schaub will be discussed shortly as it coincides with my findings on the effect of register on drama in the two pieces.

Schaub believes that melodic transformation in *Sequenza X* draws upon pitches from a “harmonic field.” Schaub explains his understanding of “harmonic fields” and the “sequence of harmonic fields” that Berio once mentioned in reference to *Sequenza I*, saying:

Because of the embedded meaning of the terms “sequence” and “harmonic” it is difficult to prescribe an exact definition for “sequence of harmonic fields.” Based on my analysis of the sequenzas, I believe that Berio intends the term “sequence” to mean a succession or progression and that a “harmonic field” represents a linear extrapolation of a harmonically conceived group of pitches.⁹

The harmonic field used in *Sequenza X* is “a registrally fixed, non-adjacent series of nine different pitch classes [the initial nine pitch classes of the piece] which generates three pitch successions [pitch successions A, B, and C] and four invariant dyads which recur throughout the composition.”¹⁰ Schaub goes on to explain that the initial statements of the pitch successions are followed by restatements “which demonstrate a gradual transformational process involving permutations of pitch order, pitch substitutions, deletions and interpolations, and rhythmic variations.”¹¹ Figure 6 presents the initial nine-tone harmonic field, the three pitch successions, and the four dyads. An examination of the complete pitch collection of the solo part of *Sequenza X* reveals that while certain pitch successions usually appear in a fixed register, pitch classes are certainly not fixed for the entire piece. Figure 7 presents the entire pitch collection.

⁹Ibid., 251.

¹⁰Ibid., 252.

¹¹Ibid., 241.

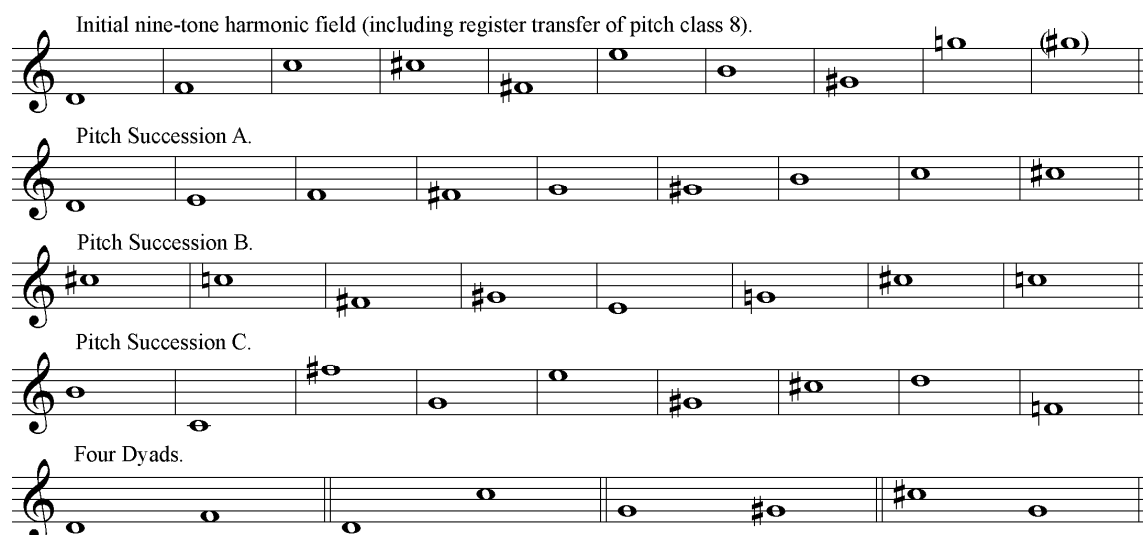


Figure 6. Initial nine-tone “harmonic field,” pitch successions A, B, and C, and four dyads derived from the harmonic field used in *Sequenza X* (as identified by Schaub, p. 211). Schaub includes a tenth pitch (G#₅) to show the registral transfer of pitch class 8, the only pitch class in the initial presentation of the nine-tone field that appears in more than one register.

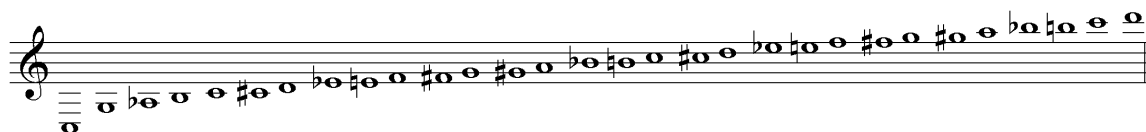


Figure 7. Complete pitch collection of solo part in *Sequenza X*. (The lowest note of this collection differs from Schaub’s – see footnote 14 below for an explanation).

Schaub also identifies a “pitch hierarchy” in *Sequenza X*, with the pitch classes 2 and 5 (D and F) being assigned to the highest level of pitch structure. These pitches and the dyad that they constitute are assigned to the highest level of structure because they are found as a linear adjacency in every section of the piece (Schaub, like me, identifies *Sequenza X* as having a tripartite structure with the first section being repeated in varied form after a contrasting middle section), they are found as a linear adjacency at several major structural dividing points (including the beginning of the first and last sections and at the end of the piece), the dyad appears as a melodic interval or is interpolated by another pitch in a number of successions and gestures throughout the piece, and because

one of its members, pitch class 2, represents the highest note of the trumpet's pitch collection.¹² In terms of linear adjacency, I would add that the pitches D₄ and F₄ are far more prevalent and important than the non-register specific pitch classes 2 and 5.

Schaub identifies the secondary hierarchical level as containing pitch classes 0, 1, 7, and 8. Pitch classes 0, 1, 2, 5, 7, and 8 belong to the two highest levels because these pitches are used throughout the piece as “invariant dyads which are generated by the nine-tone harmonic field” and because “five out of the six of these pitches are found in the registral extremes of the entire pitch structure [according to Schaub: C_#₃, G₃, G_#₃, C₆, and D₆. In actuality, the lowest pitch is C₃. See footnote 14 in this chapter].”^{13, 14} Pitch classes 4, 6, and 11 make up the moderate level of pitch hierarchy and pitch classes 3, 9

¹²Ibid., 255-56.

¹³Ibid., 259.

¹⁴In the footnote on p. 259 of his dissertation, Schaub states that two more reasons for pitch classes 0, 1, 2, 7, and 8 being of primary and secondary importance are that they are the only pitches in the entire structure that are separated from the chromatic block from B₃ to C₆, and because each of these pitch classes appear in three registers. He also notes that pitch class 11 is the only other pitch to appear in three registers, and he states that “if pc 11₃ [this should read 11₂] was used as the lowest note of the composition, as originally intended (see Chapter Ten, footnote 3, pages 220-221), it would have been the only pitch class to appear in four registers.”

According to chapter ten, footnote 3, pages 220-221, “In a conversation between the author and Thomas Stevens, for whom *Sequenza X* was written, Mr. Stevens explained that in the first version of this work Berio had originally written a pedal tone B. During a rehearsal of the work, Mr. Stevens explained to the composer that in most cases, a written B would sound sharp and would actually be closer to a C. He then suggested to Berio to change the pitch to a written C. Berio replied that he had already been made aware of this problem by another performer but he did not want the pitch C. Berio then proposed a compromise of C#. I surmise that Berio chose to avoid pc 0 at this point because of the overwhelming emphasis the pitch receives in register 6 throughout most of section 2. I would also speculate that pc 2 in register 3 would not be acceptable since it was used previously as the highest pitch in the composition.”

I must respectfully disagree with Schaub in this instance, for I too contacted Thomas Stevens about the lowest pitch in the piece, C_#₃. However, my question arose because this note appears as C₃ in *Chemins VI*, the only pitch discrepancy in the solo part between *Sequenza X* and *Chemins VI*. Mr. Stevens was contacted by Schaub about this pitch before *Chemins VI* was written and therefore Schaub did not have the insight that a published version existed with C₃, therefore making his claim that Berio did not want the pitch C invalid. According to Mr. Stevens, B₂ was never included in any version of the piece. The original part that Mr. Stevens received included C₃ as the lowest pitch. In rehearsals, Mr. Stevens was unable to produce this pedal tone with “enough volume to have the ‘disruptive,’ cadential effect he [Berio] had envisioned.” However, Mr. Stevens “could produce an awesome, very ugly and loud ‘D’ and ‘Db.’” Berio liked the sound of both, and the next day he informed Mr. Stevens that his choice was Db. As mentioned above, *Chemins VI* contains the original C₃.

and 10 make up the lower level. Pitch classes 4, 6, and 11 are given more importance than 3, 9, and 10 because 4, 6, and 11 are part of the initial nine-tone harmonic field and they recur more frequently than 3, 9, and 10.¹⁵ These pitch classes are not included in the higher levels of structure because they are not used to form “significant invariant dyads” and they do not appear at places that Schaub identifies as important junctures.¹⁶ In addition to justifying the identification of pitch classes 3, 9, and 10 as occupying lowest level of pitch hierarchy because of their absence from the initial nine-tone field, Schaub points out that these pitches rarely appear in pitch structures generated by the nine-tone field, they appear relatively late in the piece, and they recur less often than any other pitches in the composition.¹⁷ However, a certain sense of ambiguity exists in defining the pitch hierarchy, for these two lower-level groups of pitches are emphasized at times by being included at structurally important junctures.¹⁸

Schaub’s findings are useful in gaining a better understanding of *Sequenza X* in the sense that one can discover which pitch collections are being used at various points in the piece and one can trace alterations of the various pitch collections. Furthermore, one can examine the score for drama between pitches in terms of one pitch being dominant in a section or within a particular gesture (this would require viewing pitches of the solo line as agents). In comparing *Sequenza X* with *Chemins VI*, one could examine which pitches are or are not emphasized (through repetition, register, volume, agogic accent, and through the use of piano resonance) in *Sequenza X*, and then examine which of those

¹⁵Schaub, 260.

¹⁶Ibid.

¹⁷Ibid.

¹⁸Ibid., 261.

pitches are or are not emphasized, supported, or highlighted by the ensemble of *Chemins VI*. As we have seen above, there certainly are differences in these areas, and while not every difference can be examined in this study, it can be said that, more often than not, the pitch class collection at any given moment of *Chemins VI* is more varied and “richer” than that of *Sequenza X*.

3.3 – *Primary Intervals of Importance in the Solo Line of Sequenza X and the Retention of the Importance of Those Intervals in Chemins VI*

While Schaub’s findings and those which I have added to them make it possible to identify the basic materials of the trumpet solo in *Sequenza X*, I believe that understanding how these elements are synthesized is essential to understanding what the piece sounds like. Inherent in the primary dyads and the ordering of pitches in the various successions are particular intervals that appear both as linear adjacencies and on higher structural levels. A comparison of the two pieces can thus be made based on the retention of the importance of particular intervals from *Sequenza X* in *Chemins VI*.

All possible basic intervals and a number of compound intervals (in a system that divides the octave into twelve half-steps) appear in *Sequenza X*. Despite the presence of a large number of intervals, I contend that three intervals are of the highest importance: the minor second (occasionally the inversion of the minor second, the major seventh, is given prominence as well), the minor third, and the tritone (and their compound versions). These intervals, especially the minor second, appear throughout the piece as linear adjacencies (making them occur on a “low” or “surface level”) and they are highlighted over longer periods of time (making them occur on a “higher” or “background level”). These intervals are emphasized more than any other intervals throughout *Sequenza X*. This emphasis primarily occurs as a result of repetition and the appearance of these

intervals at important structural and climactic points. Therefore, these intervals are more important (in comparison to a particular pitch collection or pitch succession that is subject to continuous transformation) in defining the characteristic sound of *Sequenza X*.

Furthermore, the significance of the identification of a primary harmonic field is undermined by the fact that *Sequenza X* does in fact use *all twelve* pitch classes, and the pitch successions used could have just as easily been derived from a twelve-note field as from a nine-note field.

Examining *Chemins VI* in order to see if these same intervals are somehow emphasized would provide some insight into the drama as compared to *Sequenza X*, for if the ensemble undermines the importance of these intervals, a sense of conflict will ensue. On the other hand, if the ensemble also presents these intervals or somehow highlights the soloist's presentations, there will be a sense of agents working together. The independence of the ensemble also allows for the possibility of the ensemble neither highlighting/supporting nor undermining the importance of these intervals. If that were the case, there would be essentially no dramatic alteration from the original.

These intervals appear in nearly every measure of *Sequenza X*. Select measures of *Sequenza X* will be examined to expose these intervals. The ensemble activity of those measures in *Chemins VI* will then be searched for possible highlighting/supporting and/or undermining of those intervals. Let us begin by examining two excerpts from the first of three main sections in *Sequenza X*.

The first measures from *Sequenza X* that will be examined are mm. 1-10, presented in example 13 (pp. 51-52). This example, which presents the music of *Chemins VI*, contains the entire solo line from these measures in *Sequenza X*. The solo part of mm. 1-6 is made up exclusively of the minor third between D₄ and F₄, and m. 10 begins with

this same minor third. A minor-second relationship between the C₄s in mm. 7-9 and the C_{#5} in m. 10 can be heard on a higher level, as can the minor-second relationship between the F_{#4} and F₄ in m. 10 (with C_{#5} intervening). Also in m. 10, there exists a minor-third relationship between E₅, the highest note of the measure, and C_{#5} (with F_{#4} intervening). Additionally, D₄, C_{#5}, and E₅ stand out because of agogic accent (length), and the interval between the pitches D and C_# is yet another half-step relationship.

Figure 8 shows all of the occurrences of minor seconds, minor thirds, and tritones in m. 2 of *Chemins VI*.¹⁹ These intervals appear in vertical simultaneities, in linear adjacencies, and between the top and bottom pitches of the accordion cluster. The figure reveals how prevalent minor seconds, minor thirds, and tritones are in the second measure alone. The ensemble clearly highlights the minor third presented by the soloist and also exposes the most important intervals for the entire piece. Though mm. 2-9 will not be discussed in detail, minor seconds and minor thirds continue to pervade these measures. In m. 10, the minor-second and minor-third relationships in the solo line are not supported by the ensemble except for the F₄-G_{b4} trill played by the accordion.

Let us now turn to mm. 31-43. Example 24 (pp. 93-94) contains mm. 31-37, mm. 38-40 appear in example 22 (p. 77), and example 25 (p. 95) contains mm. 41-44. All examples are taken from *Chemins VI*, but they will be used to present the solo line of those measures from *Sequenza X*. Measure 31 of *Sequenza X* begins with the soloist playing C_{#4} directly into the piano (accented and played *fff*). This note represents a large-scale minor-second relationship with D₄, which is the lowest note of mm. 1-30 and one of the most important notes of those measures. After playing C_{#4}, the soloist presents an

¹⁹All intervals that contain three half steps will be referred to as minor thirds even if they are spelled as augmented seconds. Also, all intervals that contain one half step will be referred to as minor seconds even if they are spelled as augmented unisons.

Figure 8 shows three staves of music. The top staff is labeled 'Flute' and contains a sequence of notes. The middle staff contains notes for various instruments including Flute 1, Eb Clar., Eb Clar., Clar. 1, Clar. 2, Accordion, Accordion, Violin 3, Violin 4, Violin 1, Tpt. 1, Accordion, Clar. 1, and V.C. 1. The bottom staff contains notes for Clar. 1, Accordion, Accordion, Accordion, and Violin 2, Accordion. The score is for measure 2 of Chemins VI.

Figure 8. Minor seconds (top staff), minor thirds (middle staff), and tritones (bottom staff) in m. 2 of *Chemins VI*.

ascending nine-tuplet figure that Schaub identifies as pitch succession A. The intervals between adjacent notes of this figure are exclusively minor seconds and minor thirds, save for one major second. From this point through m. 41, the soloist plays pitch classes taken exclusively from this pitch collection. Adjacent pitches from the pitch succession are often presented together so that minor seconds are emphasized. Notable examples include the alternate presentations of F_5 and $F\sharp_5$ in mm. 31 and 32 and C_5 and $C\sharp_5$ through m. 41. Pitch succession A is repeated in mm. 36-37 (ending with $C\sharp_5$) and it is expanded in m. 37. This expansion retains the importance of minor seconds and minor thirds. The expansion begins with E, a minor third above the last note of the original form of the succession, and the remaining intervals between linear adjacencies are all minor seconds. Measures 42-43 contain an important minor second between B_5 and Bb_5 (also discussed later) that is highlighted here because of register. This interval is immediately repeated with an intervening pitch, but due to registral separation and close temporal proximity, this minor second remains audible and important. It is also possible

Example 24 (cont'd).

2
4

m. 34 m. 35

Ott.

1^o
Fl.

2^o

Ob.

Cl. picc.

1^o
Cl.

2^o

Cl. b.

Sax. s.

Sax. a.

Fg.

1^a
Tr.

2^a

1^o
Cor.

2^o

Tr. sola

VT VT VT

1^o (sord.)
Vi.

2^o (sord.)
Vi.

3^o (sord.)
Vi.

4^o (sord.)
Vi.

1^a (sord.)
Va.

2^a (sord.)
Va.

3^a (sord.)
Va.

1^o (sord.)
Vc.

2^o (sord.)
Vc.

3^o (sord.)
Vc.

Cb. 1^o-2^o (un.)

m. 34 m. 35

m. 36 m. 37

Cl. picc.

1^o
Cl.

2^o

Cl. b.

Sax. s.

Sax. a.

Fg.

1^a (sord.)
Tr.

2^a

Tr. sola

DL

pp

sf-p

1^o (sord.)
Vi.

2^o (sord.)
Vi.

3^o (sord.)
Vi.

4^o (sord.)
Vi.

1^a (sord.)
Va.

2^a (sord.)
Va.

3^a (sord.)
Va.

1^o (sord.)
Vc.

2^o (sord.)
Vc.

3^o (sord.)
Vc.

Cb. 1^o-2^o (un.)

m. 36 m. 37

Example 25. *Chemins VI*, mm. 41-44. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

m. 41 m. 42 m. 43 m. 44

Ott. 1^o Fl. 2^o Fl. Ob. Cl. picc. 1^o Cl. 2^o Cl. Cl. b. Sax. s. Sax. a. Fg.

Tr. sola 1^o (sord.) Vl. 2^o (sord.) Vl. 3^o (sord.) Vl. 4^o (sord.) Vl. 1^a (sord.) Va. 2^a (sord.) Va. 3^a (sord.) Va. 1^o (sord.) Vc. 2^o (sord.) Vc. 3^o (sord.) Vc. Cb. 1^o-2^o (un.)

Dynamics: *pppp*, *ff*, *p*, *f*, *p sf*, *ord.*

m. 41 m. 42 m. 43 m. 44

to hear a minor-second relationship between D_5 in m. 42 (at the start of the gesture that leaps up to the B_5 - Bb_5 minor second) and $C\#_5$ in m. 43.

In m. 31 of *Chemins VI*, I believe that the activity of horn 1 and the trombone covers the soloist's $C\#_4$ and detracts from one's ability to understand the function of this note. However, the first trombone pitch is also $C\#_4$ and the alto saxophone sustains Db_4 in m. 31. Both of these events support/highlight this pitch. Furthermore, the celesta presents a gesture on the downbeat of m. 31 that is similar to the gesture of the soloist. The pitches of the celesta's gesture are drawn from the pitch classes in pitch succession, and this gesture contains even more pitches than the soloist's gesture, providing more opportunity for an emphasis on the linear adjacencies of a minor second and minor third.

The gesture played by the piccolo on the downbeat of m. 31 contains a minor second (C_7 - B_6) and a minor third (B_6 - D_7), all within a minor-third span. A vertical minor second occurs between the $C\#_6$ played by flute 2 and the D_6 played by the oboe. The violins present pitches from the overtone series of $C\#_4$ (mimicking the piano resonance of *Sequenza X*), and minor seconds and minor thirds between these notes and other ensemble pitches result (such as between the C_7 of the piccolo and the B_6 of violin 1). Also, the arrangement of the viola pitches contains a minor second within a minor third (E_5 - $F\#_5$ - G_5). A compound minor second exists between the D_5 of cello 1 and the $C\#_4$ of cello 2. And finally, a minor third exists between the D_4 of the contrabasses and the F_4 of cello 3. The presence of these two pitches here continues the nearly constant presence of these pitches from the beginning of the work.

The remaining measures of this section (mm. 32-43) will not be examined in as great detail as was m. 31, but there certainly are examples of the ensemble presenting material that utilizes minor seconds and minor thirds. In m. 32, the piccolo plays repeated

thirty-second notes immediately following the repeated thirty-second notes of the soloist. The last two different pitches presented by the soloist in m. 31 were E and F, and the piccolo presents D[#] and E. When the soloist is alternating between C[#]₅ and C₅ in m. 33 and following, violin 1 has a trill between these two pitches and clarinet 2 softly sustains C₅. Not only is this C₅ a minor second below the C[#]s played by the soloist and violin 1, but it is also a minor second above the B₄ of trumpet 1.

The repeated thirty-second-note figures played by the woodwinds and trumpet 2 in mm. 34-35 all emphasize minor seconds and thirds, either linearly or vertically. The fleeting thirty-second-note lines of m. 35 also highlight minor seconds and minor thirds through the pattern of pitches that they present. The complete pattern that these lines constitute is D₄-F₄-C₅-C[#]₅-D₅-E₅-F[#]₅-G₅-G[#]₅-A₅. A minor third exists between D₄ and F₄ (again, the most important minor third of the piece). Minor seconds exist between C₅ and C[#]₅, C[#]₅ and D₅, F[#]₅ and G₅, G₅ and G[#]₅, and G[#]₅ and A₅. Additionally, the beginning pitches of two pairs of instruments form vertical minor thirds (D₄-F₄ between viola 1 and violin 4, and C[#]₅-E₅ between violin 3 and violin 2).

In m. 37, the soprano saxophone has a trill between C₅ and C[#]₅, foreshadowing the soloist's return to alternations between those two pitches from mm. 37-41. This trill begins while clarinet 2 is still sounding C₅, and in m. 38, another minor second appears when the oboe trills between C[#]₅ and D₅.

Another pitch pattern appears in the ensemble in m. 40 (example 22, p. 77). Here, two versions of the pattern appear. The first contains the pitches D₄-F₄-B_{b4}-C₅-C[#]₅-E₅-F[#]₅-G₅-B₅-D₆. The second, played by the celesta, replicates the first but with E_{b4} between D₄ and F₄, and A₅ between G₅ and B₅.

The important intervals also occur at the end of the two pieces. The solo part from the final measures is included in example 26. In *Sequenza X*, the soloist concludes the piece with a limited pitch collection that contains two of the dyads Schaub identified as being important: pitch classes 1 and 7, and 2 and 5. The pitches played by the soloist from m. 270 to the end of the piece are exclusively $C\#_5$ and G_3 , and D_4 and F_4 . The prime form of this pitch class collection is $[0,1,4,6]$. The final gesture brings the piece to a close just as the solo line began, with the D_4 - F_4 dyad.

In *Chemins VI*, the pitches played by the ensemble in these measures (not including the C_6 sixteenth note in the accordion that is tied over from the previous measure) are $A\flat_2$, B_2 , G_3 , F_4 , and $D\flat_5$. The prime form of this pitch class collection is $[0,2,3,6,8]$. Two major seconds (F to G and B to $D\flat$), a minor second (G to $A\flat$), a minor third ($A\flat$ to B), and a major third ($D\flat$ to F) are present in this collection as linear adjacencies (if the octave is included). The last linear adjacency in the ensemble is B_2 - $A\flat_2$, a minor third, foreshadowing the interval contained within the final linear adjacency played by the soloist.

Example 26. *Chemins VI*, mm. 269-73. All instruments sound at written pitch except for the celesta (sounds one octave higher than written).

The musical score for Example 26, *Chemins VI*, measures 269-273, is presented below. The score is for five instruments: Flute 1 & Bass Clarinet, Celesta, Accordion, and Solo Trumpet. The measures are labeled at the top: m. 269, m. 270, m. 271, m. 272, and m. 273. The Solo Trumpet part is highly melodic and complex, while the other instruments have more static or sustained parts. Dynamics are indicated below the Solo Trumpet staff.

Flute 1 & Bass Clarinet: Measures 269-273. The part is mostly static, with a few notes in measure 269 and 270.

Celesta: Measures 269-273. The part is mostly static, with a few notes in measure 269 and 270.

Accordion: Measures 269-273. The part is mostly static, with a few notes in measure 269 and 270.

Solo Trumpet: Measures 269-273. The part is highly melodic and complex, with many notes and rests. Dynamics are indicated below the staff: *mf*, *pp*, *(pp)*, *p*, *ppp*, *pp*, *ppp*, *p*, *pp*, *ppp*, *p*, *pp*, *ppp*, *p*, *pp*, *ppp*, *p*, *pp*, *ppp*, *p*.

There are moments in *Chemins VI* when the ensemble does not present any material that draws attention to minor seconds and minor thirds, but the ensemble does emphasize these intervals with enough regularity to suggest that one function of the ensemble is to do so. Measure 31 contains an instance of the ensemble undermining an important minor-second relationship (the soloist's presentation of C#₄ being covered by the horn and trombone), but as we saw above, even this instance had activity that supported both the pitch C#₄ and minor seconds). In terms of drama, there is a certain fluidity of change throughout the piece (due to the ensemble independence), but more often than not, the surface material of the ensemble highlights/supports the intervals that pervade the solo part.

By now it has become clear that the differences in musical drama between the two pieces at hand cannot be succinctly and neatly explained. It is apparent that the drama of the two pieces can be different, and in many places we have seen those differences. We can now turn to an examination of a particular dramatic feature in *Sequenza X* and the differences that arise in *Chemins VI*. The previous information presented in this study has revealed how changes may occur and has explained a number of functions and different roles of the ensemble, and now that information may be put to use.

3.4 – The Drama of Registral Expansion of the Solo Line and the Addition of Pitch Classes to the Solo Line of *Sequenza X*, and the Retention or Alteration of this Drama in *Chemins VI*

One important dramatic process at work in *Sequenza X* is registral expansion. Figure 9 contains a graphic representation of the expansion. The most significant expansion starts at the beginning of the piece and continues to the highest and lowest pitches of the piece in mm. 97, 99, 102-03, and 106. This expansion is followed by a

constriction of the range, a return of a pitch from near the upper boundary of the previous expansion (registrally separated from the constricted range), a downward expansion of the lower boundary of the restricted range, a connection between the restricted range and this high pitch, and finally, a return to the original two pitches of the piece.

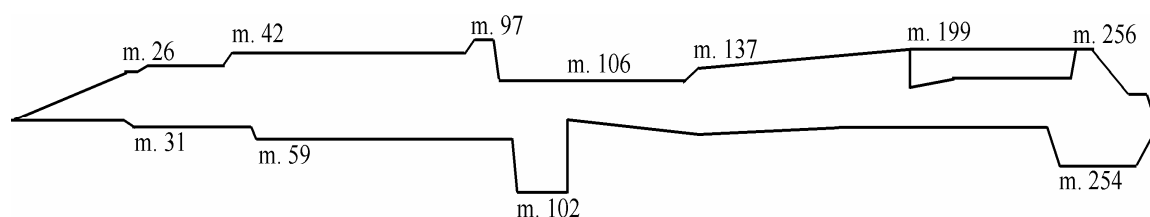


Figure 9. Graphic representation of the registral expansion of the solo line.

Sections of musical activity that are important to the understanding of this process of registral expansion will be examined as necessary. While examining registral expansion, the appearance of certain important pitch classes will also be discussed. Registral expansion and the addition of pitch classes to the solo line in *Sequenza X* will be examined, followed by an examination of *Chemins VI* in order to discover whether or not these processes are supported or undermined.

The processes of registral expansion and expansion of the pitch-class collection of the trumpet line can be traced through the first twenty-eight measures of *Sequenza X*. The examples used are taken from *Chemins VI* since the solo part from the corresponding measures of *Sequenza X* is included. The current discussion will only deal with the pitches of the solo line (the ensemble will be addressed shortly). Example 13 (pp. 51-52) contains mm. 1-10, and examples 20 (p. 74), 7 (p. 39), 9 (p. 42), and 19 (p. 72) contain mm. 11-18, 20-23, 24-28, and 28-30, respectively. The processes of expansion are introduced in the first measures of the piece where, after playing D₄ and F₄ only in mm. 1-6, new pitches are added in m. 7 (C₅) and m. 10 (F₄♯, C₅♯ and E₅). The initial appearance

of C_5 suggests the possibility for a melodic process to develop that will gradually add pitch classes to the collection and expand the register. These possibilities are realized in m. 10. The expansion of the pitch class collection continues through m. 27.

By m. 27, all pitch classes from the nine-tone harmonic field on which the piece is based have appeared. $G\#_5$ appears in m. 28 (example 9, p. 40, and example 19, p. 70). This marks the first instance of a pitch class appearing in more than one register and it also marks a temporary upper limit to the pitch expansion. During this upward expansion (from m. 1 to m. 28), the lower boundary of the pitch collection (D_4) has remained constant. Thus, the registral expansion of these measures can be described as an oblique wedge-shaped expansion. G_5 and $G\#_5$ can be considered one “pitch area” that is the temporary goal of the expansion – neither pitch is treated as a point of arrival more than the other. Both pitches are emphasized through agogic accent, both are presented at loud dynamic levels, and both appear throughout mm. 26-30. Notice that the identified important intervals of the trumpet line are emphasized here, at an important structural point, on both the surface level and on a higher level. On the surface level, the minor second between G_5 and $G\#_5$ is emphasized. On a higher level, the interval between the lowest pitch (D_4) and the highest pitch ($G\#_5$) presented thus far is a tritone (plus one octave).

The lower boundary of the wedge-shaped expansion is finally extended in m. 31 when the soloist plays $C\#_4$ directly into the piano. This is an important event for a number of reasons. First, as mentioned above, D_4 had been the lower limit for the first thirty-one measures of the piece. Second, this expansion by minor second reinforces the high-level structural importance of the minor second interval in the piece (this was also mentioned above). And finally, because $C\#_4$ is played directly into the piano while the

damper pedal is depressed (and because $C\#_4$ is accented and played *fff*), the pitch sounds for a few measures. In a sense, this pitch functions as a pedal point against which the following material is heard.

The next pitch class added to the collection, Bb, appears with a change of the upper boundary of the registral expansion in m. 42 (example 25, p. 95). This pitch class was identified by Schaub as being on the lowest hierarchical level of importance, yet here it appears in an important structural role. Though Bb is an important note here, the upper boundary of the registral expansion is B_5 , which immediately preceded Bb_5 in m. 42. The appearance of these pitches as an adjacency and at the temporary high point of the pitch expansion imparts further importance to the interval of a minor second. Bb_5 and B_5 stand out not only because of their register, but also because of agogic accent (the first appearance of Bb_5 is held for 5 seconds), because their initial appearance is followed by a repetition of these pitches, and because the gesture in which the repetition occurs is significantly different from the surrounding material. The appearance of these two pitches also further highlights the importance of the minor third because they are each a minor third above one of the two pitches that previously marked the upper boundary.

The lower boundary of the pitch collection is further extended in m. 59 (example 27) with the appearance of B_3 , emphasized by agogic accent, dynamic (*fortissimo*) and timbre (flutter tongue combined with using the hand to cover and uncover the bell repeatedly). The first appearance of the pitch class A in the solo line occurs subtly in m. 65 (example 16, pp. 63-66). This pitch class had been systematically avoided from the beginning of the piece – this is clearly evident in the presentations of pitch succession A that avoid the three pitch classes identified by Schaub as being on the lowest hierarchical level of structure (Eb, A, Bb). Not only does the exclusion of these pitch classes prevent

Example 27. *Chemins VI*, m. 59. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

m. 59

Ott.
 1^o
 Fl.
 2^o
 Ob.
 Cl. picc.
 1^o
 Cl.
 2^o
 Cl. b.
 Sax. s.
 Sax. a.
 Fg.
 1^a
 (sord.)
 Tr.
 2^a
 (sord.)
 1^o
 Cor.
 2^o
 Tuba

The score for measures 59-60 shows a complex orchestration. The woodwinds (Oboe, Flute, Clarinet, Bassoon, Saxophone, and Fagotto) and strings (Violins, Violas, Cellos, and Double Basses) are all active. The woodwinds play a melodic line, while the strings provide a harmonic foundation. The score is written in a key with one flat and a 4/4 time signature.

m. 59

Fisamn.

The score for measure 59 shows the Fisamni instrument playing a melodic line. The score is written in a key with one flat and a 4/4 time signature.

m. 59

Tr. sola

1^o
 (sord.)
 VI.
 2^o
 (sord.)
 VI.
 3^o
 (sord.)
 VI.
 4^o
 (sord.)
 1^a
 (sord.)
 Va.
 2^a
 (sord.)
 Va.
 3^a
 (sord.)
 1^o
 (sord.)
 Vc.
 2^o
 (sord.)
 Vc.
 3^o
 (sord.)
 Cb. 1^o-2^o

The score for measure 59 shows the Tr. sola instrument playing a melodic line. The score is written in a key with one flat and a 4/4 time signature.

m. 59

a presentation of all twelve pitch classes, but the absence of A and B \flat allows for a minor-third gap in the pitch collection between G \sharp and B. The first appearance of A in m. 65 can also be tied to the most important intervals of the piece, as A is preceded by F \sharp and G. Intervals present within this pitch-class collection include a minor second (F \sharp -G) and a minor third (F \sharp -A). After this subtle appearance of A in the solo line, the pitch does not return until m. 105.

By m. 56, another half-step pair of pitches has been established as being a “focal point” of the solo line – C $_5$ and C \sharp_5 . While not part of the pitch expansion as it has been discussed thus far, these pitches are roughly in the middle of the temporary boundaries of the wedge-shaped expansion (extending from B $_3$ on the bottom to B $_5$ on the top), and they appear with such regularity and are emphasized in such a convincing manner that it is possible to consider that once C $_5$ and C \sharp_5 enter the pitch collection of the solo line, the pitch expansion occurs around this pair of pitches.

After the appearance of B \flat_5 and B $_5$ in mm. 42-43, the solo line plays only three notes above G \sharp_5 until m. 97 (all three notes are short presentations of B $_5$ and they appear in mm. 79, 82, and 89). Example 28 presents mm. 96-99. The appearance in m. 97 of D $_6$, the soloist’s highest pitch in the entire piece, reveals that the general avoidance of this register results in the appearance of D $_6$ standing out sharply. The importance of this pitch is further highlighted by the soloist’s sounding of the pitch for eight seconds and through its reappearance in m. 99 where it is held for five beats (at a tempo of quarter note = 84). The important intervals of the piece are influential in these measures as well, for D $_6$ is preceded by the pitch one octave and one half-step below it (C \sharp_5) and it is followed by the pitch a minor third below it (B $_5$). A minor third appears between B $_5$ and the following G \sharp_5 , and a minor second appears between this G \sharp_5 and the G $_5$ immediately following.

Example 28. *Chemins VI*, pickup to m. 96 through m. 99. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

The musical score is divided into two systems, each covering measures 96 through 99. The top system includes woodwinds and strings, while the bottom system includes Tr. sola, Vl., Vc., and Cb.

Top System:

- Measures 96-99:** Woodwinds (Ott., Fl., Ob., Cl. picc., Cl., Sax. s., Sax. a., Fg., Cel., Fisamn.) play various parts, often marked *pppp*. The Sax. a. part includes a section marked *mf* and *pppp*. The Cel. part is marked *p* in m. 96 and *pp* in m. 98.

Bottom System:

- Measures 96-99:** Tr. sola, Vl., Vc., and Cb. parts. The Tr. sola part includes a section marked *sf-p* in m. 96 and *ff (non dim.)* in m. 97. The Vl. part includes a section marked *pppp* in m. 96. The Vc. part includes a section marked *pppp* in m. 98. The Cb. part includes a section marked *pppp* in m. 98.

A tempo change to 84 bpm is indicated at measure 98.

After multiple presentations of G_5 , $C\#_5$ reappears (this tritone relationship also appeared in mm. 95-96 just before the $C\#_5$ - D_6 gesture). $C\#_5$ is then followed by the above-mentioned return of D_6 . Note that all of the pitches appearing from m. 97 through most of m. 99 have all been important pitches in the registral expansion (including $C\#_5$ as the approximate middle of the total span).

The lowest pitch of the entire piece, C_3 , appears in m. 102, as may be seen in example 29.²⁰ Like the first appearance of D_6 , this note is held for eight seconds (plus an eighth note). This note is immediately preceded by D_4 and F_4 (not shown in example 29) and it is immediately followed by a *fff* presentation of a new pitch/pitch class, Eb_5 (notice the two-octaves-plus-a-minor-third distance between C_3 and Eb_5). As Schaub notes in his study, Eb , A , and Bb appear throughout this middle section of *Sequenza X*. Minor seconds, minor thirds, and tritones continue to be important in these measures. Minor thirds, sometimes displaced by one or two octaves, appear between Eb_5 and C_4 in m. 104, G_4 and E_4 in m. 105, and Eb_5 and C_3 in mm. 105-06. A tritone appears between C_4 and $F\#_4$ in m. 104, and the first gesture in m. 105 spans a tritone (E_4 - Bb_4). A minor second appears between $F\#_4$ and G_4 in mm. 104-05, $G\#_4$ and A_4 in m. 105, and A_4 and Bb_4 in m. 105. C_3 is sounded twice, as is D_6 .

The boundaries of the soloist's pitch collection from m. 106 to m. 140 are C_4 and G_5 (the expansion of the registral boundaries of the solo line after m. 106 can be traced in figure 11, p. 116). From m. 140 through m. 198, the soloist's range is largely restricted to these pitches plus occasional appearances of B_3 , $G\#_5$, and B_5 . After the appearance of G_5 in m. 186, the solo line is confined to an even more restricted range, extending from C_4 to E_5 . In these measures, E_5 appears only twice, and the range of the solo line is actually

²⁰See footnote 14 in this chapter for an explanation of the pitch discrepancy associated with this note.

Example 29. *Chemins VI*, pickup to m. 103 through m. 106. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

The musical score is presented in two systems, each spanning two measures (m. 103-104 and m. 105-106). The instrumentation includes:

- Woodwinds:** Oboe (Ob.), Clarinet in C (Cl. picc.), Clarinet in Bb (Cl. b.), Saxophone Soprano (Sax. s.), Saxophone Alto (Sax. a.), Flute (Fl.), Bassoon (Fg.), and Trumpet (Tr.).
- Brass:** Horns in C (Cor.), Trombone (Tbn.), and Tuba (Cb.).
- Strings:** Violins (Vl.), Violas (Va.), Cellos (Vc.), and Double Basses (Cb.).
- Percussion:** Cymbals (Cym.), Snare Drum (B.), and Tom-tom (T.).

Key performance markings and dynamics include:

- Dynamic markings:** *pppp* (pianissimo), *mf* (mezzo-forte), *pp* (piano), *ff* (fortissimo).
- Performance instructions:** "senza sord." (without mutes), "sord. (straight)" (straight mutes), and "via sord." (remove mutes).
- Tempo/Character markings:** "pont." (ponticello) and "ord." (ordine).

The score shows a complex interplay of textures, with various instruments playing sustained notes, rhythmic patterns, and dynamic shifts throughout the measures.

better described as extending from C_4 to $C\sharp_5$ with the exception of these two appearances of E_5 . These boundaries emphasize minor seconds and minor thirds.

Because of the restricted range of the solo line after m. 106, the impact of the appearance of a *fff* C_6 in m. 199 (included in example 30) is similar to that of the first appearance of D_6 (m. 97, included in example 28, p. 105) which was also registrally separated from the immediately preceding pitch collection of the solo line. Beginning with this C_6 and continuing through m. 254, the soloist plays this pitch a total of fifteen times. All other pitches played by the soloist until m. 254 are restricted to the pitches between (and including) C_4 and E_5 , as in the measures immediately preceding the first appearance of C_6 . The result is the establishment of two distinct and separated registers in which the soloist's pitches appear.

Schaub identifies the pickup to m. 254 as delineating the beginning of the coda to the final section of the piece.²¹ Measure 254 is included in example 31. The coda is significant because it marks a downward expansion of the restricted range that has been in place since m. 106. This expansion results in the appearance of the second and third lowest notes in the piece, G_3 and Ab_3 . The coda is also important because C_6 continues to be prominent (it is played five times), the space between E_5 and C_6 is filled in by an ascending thirty-second-note figure in m. 256, D_4 and F_4 are prominently featured as linear adjacencies throughout the coda, and D_4 and F_4 , the first pitches of the piece, are also its final pitches. The prominent intervals of the piece continue to be important on various levels in the coda. As always, the appearance of D_4 and F_4 highlights the minor third between them. The expansion to G_3 and Ab_3 is important not only because these two pitches are a half step apart, but also because a minor third separates Ab_3 and B_3 , and

²¹Schaub, 228.

Example 30. *Chemins VI*, m. 199. All instruments sound at written pitch except for the contrabasses (sound one octave lower than written). The trills played by the violas and the alto saxophone are between the written note and a minor second above the written note.

m. 199

The musical score for Example 30, m. 199, is arranged in a vertical format. The instruments and their parts are as follows:

- Piccolo & Flute 1-2:** Treble clef, key signature of one flat. The part starts with a forte (*f*) dynamic and ends with a pianissimo (*pp*) dynamic.
- E♭ Clarinet & Sop. Sax:** Treble clef, key signature of one flat. The part starts with a forte (*f*) dynamic and ends with a pianissimo (*pp*) dynamic.
- Horn 1:** Treble clef, key signature of one flat. The part starts with a fortissimo (*ff*) dynamic and ends with a piano (*p*) dynamic.
- Horn 2:** Treble clef, key signature of one flat. The part starts with a forte (*f*) dynamic and ends with a piano (*p*) dynamic.
- Accordion:** Treble and Bass clefs, key signature of one flat. The part starts with a pianissimo (*pp*) dynamic and ends with a piano (*p*) dynamic.
- Solo Trumpet:** Treble clef, key signature of one flat. The part starts with a fortissimo (*fff*) dynamic and ends with a piano (*p*) dynamic.
- Violin 1:** Treble clef, key signature of one flat. The part starts with a forte (*f*) dynamic and ends with a pianissimo (*pp*) dynamic.
- Violin 2:** Treble clef, key signature of one flat. The part starts with a forte (*f*) dynamic and ends with a pianissimo (*pp*) dynamic.
- Violin 3:** Treble clef, key signature of one flat. The part starts with a forte (*f*) dynamic and ends with a pianissimo (*pp*) dynamic.
- Violin 4:** Treble clef, key signature of one flat. The part starts with a forte (*f*) dynamic and ends with a pianissimo (*pp*) dynamic.
- Viola 1-3 & Alto Sax:** Treble clef, key signature of one flat. The part starts with a fortissimo (*fff*) dynamic and ends with a piano (*p*) dynamic.
- Contrabass 1-2 (unis.):** Bass clef, key signature of one flat. The part starts with a fortissimo (*fff*) dynamic and ends with a piano (*p*) dynamic.

m. 199

Example 31. *Chemins VI*, mm. 254-58. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

The musical score is divided into two systems, each spanning measures 254 to 258. The first system includes woodwinds and strings, while the second system includes percussion and strings.

System 1 (Measures 254-258):

- Woodwinds:**
 - Ott. (Oboe): Measures 254-255, 256-257, 258.
 - Fl. (Flute): Measures 254-255, 256-257, 258.
 - Ob. (Oboe): Measures 254-255, 256-257, 258.
 - Cl. picc. (Piccolo Clarinet): Measures 254-255, 256-257, 258.
 - Cl. 1^e (Clarinet 1): Measures 254-255, 256-257, 258.
 - Cl. 2^e (Clarinet 2): Measures 254-255, 256-257, 258.
 - Cl. b. (Bass Clarinet): Measures 254-255, 256-257, 258.
 - Sax. s. (Soprano Saxophone): Measures 254-255, 256-257, 258.
 - Sax. a. (Alto Saxophone): Measures 254-255, 256-257, 258.
 - Fg. (Fagotto): Measures 254-255, 256-257, 258.
 - Tr. 1^a (Trumpet 1): Measures 254-255, 256-257, 258.
 - Tr. 2^a (Trumpet 2): Measures 254-255, 256-257, 258.
 - Cor. 1^e (Cornet 1): Measures 254-255, 256-257, 258.
 - Cor. 2^e (Cornet 2): Measures 254-255, 256-257, 258.
- Strings:**
 - Violins 1^e and 2^e: Measures 254-255, 256-257, 258.
 - Violas 1^e and 2^e: Measures 254-255, 256-257, 258.
 - Cellos 1^e and 2^e: Measures 254-255, 256-257, 258.
 - Double Basses 1^e and 2^e: Measures 254-255, 256-257, 258.

System 2 (Measures 254-258):

- Percussion:**
 - Tr. sola (Solo Trumpet): Measures 254-255, 256-257, 258.
- Strings:**
 - Violins 1^e and 2^e: Measures 254-255, 256-257, 258.
 - Violas 1^e and 2^e: Measures 254-255, 256-257, 258.
 - Cellos 1^e and 2^e: Measures 254-255, 256-257, 258.
 - Double Basses 1^e and 2^e: Measures 254-255, 256-257, 258.

Dynamics and Articulations:

- Woodwinds:** *pppp* (pianissimo) in measures 254-255 for Fl., Ob., Cl. picc., Cl. 1^e, Cl. 2^e, Sax. s., Sax. a., Fg., Tr. 1^a, Tr. 2^a, Cor. 1^e, and Cor. 2^e.
- Strings:** *pppp* (pianissimo) in measures 254-255 for Violins 1^e and 2^e, Violas 1^e and 2^e, Cellos 1^e and 2^e, and Double Basses 1^e and 2^e.
- Percussion:** *mf* (mezzo-forte) in measure 254, *p* (piano) in measure 255, *mf* (mezzo-forte) in measure 256, *p* (piano) in measure 257, *pp* (pianissimo) in measure 258, *fff* (fortissimo) in measure 259, *p* (piano) in measure 260, *sf-p* (sforzando-piano) in measure 261.

neither of the pitches between $A\flat_3$ and B_3 appear anywhere in *Sequenza X*. The minor third is also highlighted in the coda when $C\sharp_5$ and E_5 appear as a linear adjacency. Also, the repeated instances of $C\sharp_5$ and G_3 appearing as a linear adjacency highlight the interval of a tritone (plus an octave). The twelfth-to-last note of the piece is $C\sharp_5$, and it is held for five seconds. Of the remaining eleven intervals appearing between adjacent notes, eight are a tritone plus an octave, one is a unison (G_3), one is a major seventh ($C\sharp_5$ - D_4), and the final one, as mentioned above, is a minor third.

Figure 10 shows the registral expansion in *Sequenza X* to the highest and lowest pitches of the solo line, D_6 and C_3 . This figure only displays pitches that extend the upper or lower boundary of the pitch collection.

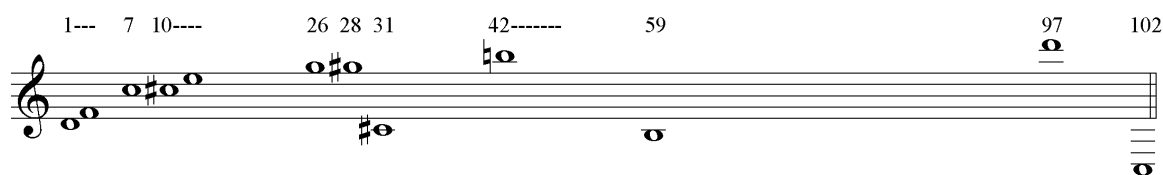


Figure 10. Registral expansion to the highest and lowest pitches of the solo line in *Sequenza X*. Numbers above pitches indicate the measure in which a particular pitch first appears.

Figure 11 summarizes the boundaries of the pitch collection of the solo line in *Sequenza X* after the appearance of the extremes of register. A vertical line between two pitches does not necessarily indicate that all pitches between the given pitches are included, but that pitches in these measures are distributed throughout the entire range. When a solid note appears above the highest open note or below the lowest open note, this indicates that the pitches between the open note and the closed note do not appear. Pitches are not present between any solid note and an adjacent note. Thus, the last collection of pitches (labeled “256-273 (end)”) represents all pitches played by the soloist from m. 256 to the end.

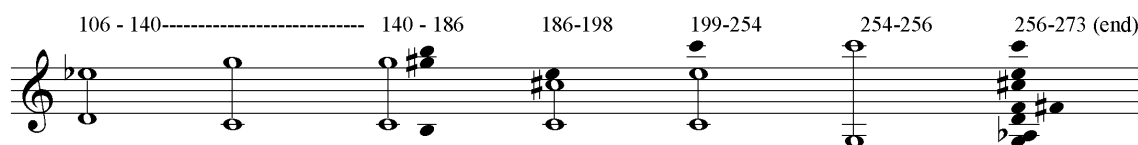


Figure 11. Registrational boundaries of the solo line in *Sequenza X* after the extremes of register are reached. Numbers above pitches indicate the measures in which those pitches define the boundaries of the pitch collection of the solo line.

Figure 12 represents the rapid contraction of both the pitch collection and the registrational boundaries of the solo line at the end of *Sequenza X*.

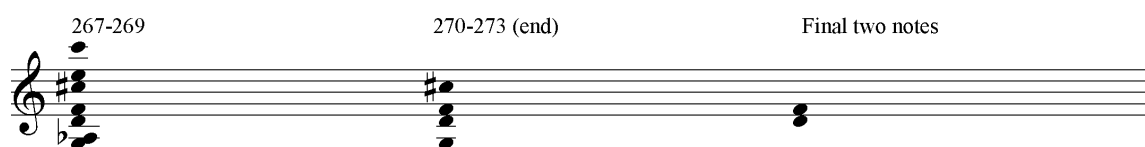


Figure 12. Pitch collection of the solo line in the final measures of *Sequenza X*. Numbers above pitches indicate the measures in which those pitches are present.

The purpose of examining *Chemins VI* in light of the above information is to determine whether the ensemble supports, highlights, and/or draws attention to the process of registrational expansion in *Sequenza X* or if the ensemble undermines the process. If the ensemble does not influence the way one hears the pitch expansion of the solo line, then the drama of the process of registrational expansion will be unaffected.

On the highest level, one could view the ensemble activity of the second measure as undermining the entire process of pitch expansion of the solo line since members of the ensemble present pitches higher than the highest pitch played by the soloist. An ensemble pitch lower than the lowest boundary of the soloist's pitch collection is not presented until m. 29 (where A_2 is played by the tuba), but C_4 does appear in m. 2 (played by the bassoon), and the presence of this note undermines the important downward expansion in m. 31.

One might question whether the piano resonance in *Sequenza X* would have undermined the pitch expansion of the solo line. However, the sound of the ensemble is much more clearly audible than that of the piano resonance, despite the soft volume of the ensemble, and therefore the dramatic impact of the ensemble is greater than that of the piano resonance. Additionally, the activity of the ensemble in these measures makes the pitches of the ensemble seem to carry greater dramatic importance than did the piano resonance, which sounds as if it is a passive character because of its lone function as a resonator.

The expansion of the soloist's range to E₅ in m. 10 is also undermined because of the previously-examined presentation of E₅ by trumpet 1 in m. 8 (mm. 8-10 are included in example 13, pp. 51-52). Not only does this pitch appear at an earlier point in time than it did in *Sequenza X*, but the fact that it is played by an instrument with the same basic timbre as the soloist could cause one familiar with only *Chemins VI* (that is, not having listened to *Sequenza X*) to hear this pitch as actually being played by the soloist. This is significant because not only does this appearance of E₅ cause an alteration of the perceived drama of the pitch expansion as it appears in the foreground, but it causes an alteration of the perceived drama of the actual solo line. This point will be discussed in greater detail when the relationship between the soloist and the ensemble trumpets is more closely examined.

The next significant registral expansion of the solo line occurs with the presentation of G₅ in m. 26. Measure 26 is included in example 9 (p. 40). The ensemble supports/highlights this pitch as it is doubled by the soprano saxophone and clarinets 1 and 2, all of whom observe the marked "*crescendo*" with the soloist to a *fortissimo* dynamic. When the soloist reaches the *fortissimo* dynamic, trumpet 1 of the ensemble

plays a short, *fortissimo*, and accented G₅. Viola 1 and violin 2 present G₅ at a softer dynamic as they carry out their role of mimicking the piano resonance of *Sequenza X*.

In the examination of the registral expansion of the solo line, it was noted that both G₅ and G[#]₅ are important pitches. Flute 1 plays G[#]₅ and flute 2 plays G₅ in m. 27 just before this pitch is played by the soloist (example 9, p. 40). This does not undermine the expansion as did the early appearance of E₅ in m. 7 because no other pitches or registral expansion occur in the solo line before the soloist plays G[#]₅ (thus the flute simply foreshadows G[#]₅). The soloist's presentation of G[#]₅ is supported/highlighted by doublings (Eb clarinet, flute 1, and eventually flute 2 in m. 30) and a *crescendo* by flutes 1 and 2 (example 18, p. 68).

Despite this support of the soloist's registral expansion, certain events also undermine the expansion as it appeared in *Sequenza X*. In m. 28 (example 19, p. 70), trumpet 1 plays a *fortissimo* Bb₅ immediately after the soloist plays a *fff* G₅. This occurs well before the soloist ever plays Bb₅, undermining the importance of the addition of Bb to the pitch-class collection of the solo line and also undermining the soloist's registral expansion in m. 42 (which includes Bb₅). Measure 42 is included in example 25 (p. 95). Furthermore, the appearance of Bb₅ before the soloist's loud G[#]₅ undermines the significance of the soloist's presentations of G[#]₅ in mm. 29-30 (example 19, p. 70). Also undermining the registral expansion of the soloist's line is the tuba's presentation of Eb₃, A₂, and F₂ in mm. 28-30, which enters the register of the soloist's lowest pitch (C₃) far earlier than that pitch is played by the soloist (in m. 102).

The soloist's local downward expansion of register to C[#]₄ is both supported/highlighted and undermined. While the tuba pitches of mm. 28-30 have already undermined the impact of the soloist's downward expansion on a large scale, the

local occurrences of undermining downward expansion remain significant. The C₄ played by the trombone in m. 29 undermines the importance of the soloist's presentation of that pitch because the trombone plays the pitch while the soloist is still playing pitches that point out the upward expansion of register. On the downbeat of m. 31 (example 24, pp. 93-94), when the soloist plays C₄, horn 1 plays a *fortissimo* G₃ followed by a glissando ending on F₄. This activity "competes" with the soloist's C₄, undermining both the sonic impact of and the importance of C₄. The celesta supports C₄ by playing a *fortissimo* C₄ on the downbeat of m. 31 with the soloist. However, the impact of this may be fairly inconsequential due to the dynamic limitations of a celesta. The trombone glissando from C₄ to G₃ in m. 31 both highlights C₄ (by reiterating the pitch) and undermines the importance of the pitch (by also reiterating G₃ (played by horn 1 on the downbeat)).

Though the presentation of B₅ by trumpet 1 in m. 28 undermines the importance of that pitch when it is played by the soloist in m. 42, ensemble activity that occurs after the soloist plays B₅ and B₅ in m. 43 signals that something important just occurred (mm. 42-43 are included in example 25, p. 95). This activity functions as a "musical punctuation" and it is played by piccolo, flutes 1 and 2, bass clarinet, soprano saxophone, and violins 1 and 2. This musical punctuation is the first *forte* figure played by the ensemble since m. 31, and the rhythmic structure and metric placement in relation to the soloist's note causes them to sound like a pickup and downbeat. Because of this volume and rhythmic function, this gesture causes ensemble members to enter the foreground of the musical space, and this is how a signal that something important has just occurred is given.

The expansion of the soloist's register to include B₃ in m. 59 (example 27, p. 103) is neither strongly supported nor undermined. Minimal support occurs when B₃ is also played by horn 1 (mimicking the piano resonance of *Sequenza X*), and the appearance of C₄ and Db₄ in the bassoon and bass clarinet before the soloist's B₃ may draw attention away from B₃ (though these pitches are played at a much softer dynamic than B₃). Also, the E₂ played by the tuba towards the end of the measure minimizes the sense that the soloist's pitch is low and thus it loses some of the significance that it had in *Sequenza X*.

Neither appearance of D₆ in the solo line garners any reaction from the ensemble (both appearances are included in example 28, p. 105). The damper pedal of the piano was depressed during the first appearance of D₆ in *Sequenza X* and the D₄, D₅, and D₆ piano strings were allowed to vibrate while the second D₆ was played. Thus, D₆ sounds prominently in the piano resonance at these points in *Sequenza X* and the pitch is sustained for a long time. In *Chemins VI*, D₆ is played by the Eb clarinet on the downbeat of m. 97 (before the soloist plays D₆). D₄ is played at a *mezzo-forte* dynamic on the downbeat of m. 97 by the alto saxophone, perhaps for the purpose of reinforcing the pitch class. D₄ overtones also appear on the downbeat of m. 97, as do other pitches not related to D₆. When the soloist's second D₆ is sounded in m. 99, that pitch is being played at a soft dynamic by the Eb clarinet and viola 2, and the pitch class is reinforced at a soft dynamic by viola 3 (D₅) and cello 1 (D₄). It is clear that neither D₆ of the solo line is significantly supported or highlighted by the ensemble. However, one would expect that a dramatic event of such importance in *Sequenza X* would be supported and/or highlighted when the expanded forces of the ensemble are available in *Chemins VI*.

Even though the upper boundary of the soloist's registral expansion is not significantly supported or highlighted, and even though the tuba's earlier presentation of

pitches in the same register as (and lower than) the lower boundary of the soloist's
 registral expansion undermines the soloist's downward expansion throughout the piece,
 both of the soloist's presentations of C_3 are supported and highlighted by the ensemble
 (both presentations are included in example 29, p. 107). On the downbeat of m. 103, an
 eighth note after the soloist begins to hold C_3 , the trombone plays C_3 at a *mezzo-forte*
 dynamic (while muted), the bassoon sustains C_3 at a *pianissimo* dynamic, and viola 1
 plays C_3 (with a *crescendo* from *pianissimo* to *forte*). The soloist's presentation of C_3 on
 the downbeat of m. 106 is accompanied by an accented *pizzicato* quarter note played at a
fortissimo dynamic by the contrabasses. The bassoon plays and sustains C_3 throughout
 the measure at a *pianissimo* dynamic and the bass clarinet plays and sustains C_3 at
pianissimo while flutter tonguing throughout the measure. The appearance of C_3 certainly
 carried more dramatic importance in *Sequenza X*, but here in *Chemins VI* there is clearly
 an attempt made to support and/or highlight these appearances of this pitch.

The ensemble is not limited to the restricted ranges of the soloist's line after the
 appearance of the extremes of register of the solo line. This undermines the significance
 of the restriction in *Sequenza X* (due to this restriction, the appearance of C_6 in the solo
 line carries greater impact in *Sequenza X*). None of the soloist's presentations of C_6 (first
 appearing in m. 199, included in example 30, p. 109) are particularly
 supported/highlighted by the ensemble. The first appearance of C_6 , accented and played
 at a *fff* dynamic, is accompanied by ensemble members playing pitches at a *forte* dynamic,
 but all of these pitches are *higher* than C_6 , thus undermining the importance of the pitch.
 A number of the appearances of C_6 are doubled at soft dynamics but none of these
 instances draw as much attention to the pitch as did the soloist repeatedly playing this
 pitch directly into the piano while the damper pedal was depressed in *Sequenza X*.

There is no reaction to or support of the soloist's expansion to G_3 and Ab_3 in m. 254-55 (example 31, p. 110). The soloist's filling in of the space between E_5 and C_6 in m. 256 is undermined by the appearance of $F\#_5$, Bb_5 , C_6 , and D_6 in that measure before the soloist's gesture (played by flute 1, the Eb clarinet, violin 2, and violin 1, respectively). Furthermore, trumpet 1's presentation of F_5 in m. 250 (example 39, p. 141) undermines the intentional registral separation that was present between E_5 and C_6 in *Sequenza X*. Also, A_5 was played by trumpet 1 in m. 82, undermining the significance that Schaub noted of this first appearance in the solo line of the pitch class A in this register.

The ensemble's pitch collection in the coda (m. 254-end) is not as limited as the soloist's pitch collection, undermining the significance of each pitch of the solo line (though all of the pitches of the solo line are presented by the ensemble at some point in the coda except for Ab_3 and $F\#_4$, and a number of these pitches are emphasized. The bass clarinet's presentation of G_3 from m. 269 to m. 270 (example 26, p. 98) supports/highlights the soloist's numerous presentations of this pitch in the final measures of the piece. Finally, by playing notes lower than the soloist's lowest note in the coda, the bass clarinet undermines the soloist's focus on two registrally separated pitches (G_3 and $C\#_5$) that finally give way to the final D_4 - F_4 adjacency.

3.5 – Large-Scale Ensemble Interruptions

Let us return now to the ensemble interruptions that were introduced in chapter two. There are a total of twenty-five ensemble "interruptions" of the solo line. Again, these interruptions are not actual interruptions of the original solo line since all twenty-five occur where the soloist had a five-second rest in *Sequenza X*. Thus the longest of the interruptions simply extends the length of time that the soloist is absent from the texture

as compared to *Sequenza X*, and the shortest interruption actually occurs for less than the original five-second rest. Six of these interruptions are of a significant length and I have chosen to refer to them as “large-scale interruptions.”

In chapter two, it was revealed that the basic function of the short interruptions was to foreshadow the large-scale interruptions. The texture and characteristics of the ensemble material during both the short interruptions and the large-scale interruptions vary greatly. However, all contain a great deal of activity and moving notes. This significantly changes a listener’s perception of both the form and the pacing of *Chemins VI* as compared to *Sequenza X* because the twenty-five moments of soloist inactivity in *Sequenza X* created distinct local and large-scale sections and allowed for numerous instances of repose of dramatic activity. The piano resonance is thrust into the foreground during the soloist’s five-second rests in *Sequenza X*, and one can hear a sustained cacophony of sounds that do not change (beyond decaying) and that contain no rhythmic activity. The absence of moments when activity ceases in *Chemins VI* creates a sense of constant action and drama.

The large-scale interruptions are even more significant than the short interruptions in altering the pacing and perceived form of *Chemins VI* as compared to *Sequenza X*. The first large-scale interruption (pickup to m. 83 through m. 89, presented in example 32) was briefly discussed in chapter two (pp. 79-80). During this interruption, the ensemble material continues to highlight minor seconds and minor thirds, including the trombone’s loud glissando that highlights D₄-F₄, the most significant linear adjacency of the solo line, by beginning on D₄ and ending on F₄. Also present in these measures is an apparent struggle within the ensemble to maintain the supremacy of a particular pitch, C#₅, established by the soloist. This pitch is played *fff* by the soloist at the start of the

interruption, and this is followed by ensemble activity that avoids focusing on or particularly emphasizing this pitch. However, trumpet 1 (with straight mute) then plays and holds $C\#_5$ beginning at a *fortissimo* dynamic (followed by a *decrescendo*). By the end of the first beat of m. 86, all but one of the instruments that are present end their gestures on $C\#_5$. The lone exception is horn 1, holding $A\flat_4$ while observing the *decrescendo* indication. $C\#_5$ is not emphasized in m. 87, but trumpet 2 plays and holds $C\#_5$ on the downbeat of m. 88 (followed by a *decrescendo*). This is followed by gestures similar to those in m. 86, with all ensemble members that are present ending on $C\#_5$ except for the soprano sax (the soprano sax holds B_5 throughout this measure). The soloist re-enters with the pickup to m. 89 and plays a *fff* $C\#_5$. This pitch is held at *pianissimo* throughout the measure by the alto saxophone, and all of the ensemble members present in this measure except for the accordion have gestures that end on $C\#_5$. The accordion holds overtones and wrong-octave overtones of $C\#_5$ throughout this measure.

The second large-scale interruption occurs from m. 107 to mm. 113/114 (example 33), and it has a drastically different character from that of the first one due to the soft volume (though the texture is very dense, just as was the case in the first interruption). This interruption appears shortly after $E\flat_5$ is played by the soloist for the first time (m. 104). $E\flat_5$ is then present for every beat of each measure during the interruption, clearly highlighting this pitch and foreshadowing the prominence this pitch will play in the soloist's line of the following measures. At the end of this interruption, the soloist blends into the texture of the ensemble, and the *fortissimo* repeated $E\flat_5$ s played by trumpet 1 in m. 114 seem to end the interruption similarly to the way the soloist's $C\#_5$ ended the first interruption. Minor seconds and minor thirds are not emphasized during this interruption.

Example 32. *Chemins VI*, mm. 83-92. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

[illegible]

Example 32 (cont'd).

24 m. 88 m. 89 m. 90 m. 91 m. 92

Ott.

1^o

Fl.

2^o

Ob.

Cl. picc.

1^o

Cl.

2^o

Cl. b.

Sax. s.

Sax. a.

Fg.

1^a

Tr.

sord. (straight)

via sord.

2^a

1^o

Cor.

2^o

Tbn.

sord. (straight)

Tuba

Cel.

m. 88 m. 89 m. 90 m. 91 m. 92

Fisamm.

Tr. sola

24

1^o

VI.

2^o

VI.

3^o

VI.

4^o

1^a

Va.

2^a

Va.

3^a

1^o

Vc.

2^o

Vc.

3^o

Cb. 1^a-2^a

m. 88 m. 89 m. 90 m. 91 m. 92

Example 33. *Chemins VI*, mm. 107-15. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).
(Note: Measure 115 is incomplete).

m. 107 m. 108

$\frac{3}{4} \text{ } \text{♩} = 104$

Ott.

1^o

Fl.

2^o

Ob.

Cl. picc.

1^o

Cl.

2^o

Cl. b.

Sax. s.

Sax. a.

Fg.

1^a

Tr.

2^a

1^o

Cor.

2^o

Fisamn.

Tr. sola

1^o
(sord.)
Vi.

2^o
(sord.)
Vi.

3^o
(sord.)
Vi.

4^o
(sord.)
Vi.

1^a
(sord.)
Va.

2^a
(sord.)
Va.

3^a
(sord.)
Va.

1^o
(sord.)
Vc.

2^o
(sord.)
Vc.

3^o
(sord.)
Vc.

Cb. 1^o-2^o
(un.)
arco

m. 107 m. 108

Example 33 (cont'd).

m. 109 m. 110 m. 111 m. 112 m. 113

rall. 5/8 $\text{♩} = 84$

Ott. *pppp*

1^a Fl. *pp* *pppp*

2^a Fl. *pppp*

Ob. *mf* *pp* *mf* *pp* *pppp*

Cl. picc. *pp* *pppp*

1^a Cl. *pp*

2^a Cl. *pp*

Cl. b. *pp*

Sax. s. *mf* *pp* *mf* *M*

Sax. a. *pp* *pppp*

Fig. *pp*

1^a Tr. *p* *(p)*

2^a (sord.) *via sord.* *senza sord.* *p* *(p)* *pppp*

1^a Cor. *mf* *pp* *p* *(p)*

2^a Cor. *p* *(p)*

Tbn. *senza sord.* *p* *(p)*

Tuba *p*

Fisamn. *rall. 5/8 $\text{♩} = 84$*

Tr. sola *pp* *ff p*

1^a (sord.) VI. *mf*

2^a (sord.) VI. *mf* *pppp*

3^a (sord.) VI. *mf*

4^a (sord.) VI. *mf*

1^a (sord.) Va. *mf*

2^a (sord.) Va. *mf*

3^a (sord.) Va. *mf*

1^a (sord.) Vc. *pp* *mf* *mf*

2^a (sord.) Vc. *pp* *mf* *mf*

3^a (sord.) Vc. *pp* *mf* *mf*

Cb. 1^a-2^a (un.) *pp* *mf* *mf*

m. 109 m. 110 m. 111 m. 112 m. 113

Example 33 (cont'd).

m. 114 m. 115

Ott.

1º
Fl.

2º

Ob.

Cl. picc.

Cl. 1º

Sax. s.

Sax. a.

1ª
Tr.

2ª

Cor. 1º

Fisamn.

Tr. sola

1º
(sord.)
VI.

2º
(sord.)
VI.

3º
(sord.)
VI.

4º
(sord.)
VI.

1ª
(sord.)
Va.

2ª
(sord.)
Va.

3ª
(sord.)
Va.

Vc. 1º
(sord.)

m. 114 m. 115

ff *ff* *pppp* *pppp* *ff* *pp* *f* *pp* *f* *pp*

DL VT

The third large-scale interruption occurs from m. 130 to m. 135 (example 34).

This interruption begins with loud material, providing a significant contrast to the soft material that immediately precedes the interruption. There is not a focus on a particular pitch, but minor seconds and minor thirds are emphasized by the ensemble, and trumpet 1 outlines a tritone in m. 130. Of greatest importance in this interruption is the exposure of the ensemble's soloistic ability – realized here by the clarinets. Also of note is the change in volume from loud material at the start of the interruption to soft material at the end. Finally, in m. 135, trumpet 2 foreshadows the soloist's D₄ of m. 136.

The fourth large-scale interruption occurs in mm. 159-65 (example 35). The ensemble is very loud and aggressive throughout these measures and four pitches appear to be of primary importance: E₄, C#₅, F#₅, and G₅. Minor seconds are prominent as linear adjacencies and tritones are emphasized by the trombone's glissando figures and by trumpet 1. The accelerating figures played by trumpet 1 (indicated by feathered notation in m. 159, 160, and 162) foreshadow the soloist's texture that is dominated by these figures in mm. 168-73 and m. 175. When the soloist re-enters in m. 165, the brass instruments are still playing loud figures, covering up the soloist. The orchestration of the ensemble and the volume of the solo line upon re-entry result in the solo line sounding as if it begins as part of the ensemble and then emerges from the texture to reclaim its position as the main character.

The fifth large-scale interruption occurs from m. 178 to m. 185 (example 36). The ensemble is loud and aggressive, similarly to the way it was in the first and fourth large-scale interruptions. The beginning of this interruption continues the struggle between Eb₅ and E₅, a struggle that appeared in the measures just before the interruption. Eb₅ plays a prominent role in the soloist's pitch collection in mm. 173-77. Trumpet 2 sustains Eb₅

Example 34. *Chemins VI*, mm. 130-36. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

Example 34. *Chemins VI*, mm. 130-36. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

The score is divided into two systems, each covering measures 130 through 133. The left system includes measures 130 and 131, while the right system includes measures 132 and 133.

Measure 130: The tempo is 5/4, marked *accel.* The dynamics are *f* (forte) for the woodwinds and *f* (forte) for the strings.

Measure 131: The tempo is 3/4, marked $\text{♩} = 104$. The dynamics are *p* (piano) for the woodwinds and *pp* (pianissimo) for the strings.

Measure 132: The tempo is 3/4, marked $\text{♩} = 104$. The dynamics are *p* (piano) for the woodwinds and *pp* (pianissimo) for the strings.

Measure 133: The tempo is 3/4, marked $\text{♩} = 104$. The dynamics are *p* (piano) for the woodwinds and *pp* (pianissimo) for the strings.

The score includes parts for the following instruments:

- Orchestra (Ort.)
- Clarinet piccolo (Cl. picc.)
- Clarinet 1st (Cl. 1^o)
- Clarinet 2nd (Cl. 2^o)
- Clarinet bass (Cl. b.)
- Fagotto (Fg.)
- Trumpet 1st (Tr. 1^a)
- Trumpet 2nd (Tr. 2^a)
- Cor Anglais 1st (Cor. 1^o)
- Cor Anglais 2nd (Cor. 2^o)
- Trombone (Tbn.)
- Tuba
- Fisarm. (Fisarm.)
- Tr. sola (Tr. sola)
- Violin 1st (Vi. 1^o)
- Violin 2nd (Vi. 2^o)
- Violin 3rd (Vi. 3^o)
- Violin 4th (Vi. 4^o)
- Viola 1st (Va. 1^o)
- Viola 2nd (Va. 2^o)
- Viola 3rd (Va. 3^o)
- Viola 4th (Va. 4^o)
- Violoncello 1st (Vc. 1^o)
- Violoncello 2nd (Vc. 2^o)
- Violoncello 3rd (Vc. 3^o)
- Violoncello 4th (Vc. 4^o)
- Contrabasso 1st-2nd (Cb. 1^o-2^o)

The score also includes various performance markings such as *acc.*, *pp*, *p*, *f*, *ord.*, *arco*, and *pp*.

Example 34 (cont'd).

[illegible]

Example 35. *Chemins VI*, mm. 159-65. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

m. 159 m. 160 m. 161

Ott.
 1^o
 Fl.
 2^o
 Ob.
 Cl. picc.
 1^o
 Cl.
 2^o
 Cl. b.
 Sax. s.
 Sax. a.
 Fg.
 1^a
 Tr.
 2^a
 1^o
 Cor.
 2^o
 Tbn.
 Tuba
 Cel.
 Fisamm.
 Tr. sola
 1^o
 Vl.
 2^o
 Vl.
 3^o
 Vl.
 4^o
 1^a
 Va.
 2^a
 Va.
 3^a
 1^a
 Vc.
 2^a
 Vc.
 3^a
 Cb. 1^a-2^a
 (un.)

m. 159 m. 160 m. 161

Example 35 (cont'd).

m. 162 $\frac{2}{4}$ m. 163 m. 164 $\frac{3}{4}$ m. 165 $\frac{4}{4}$ $\text{♩} = 104$

1^o Fl. ff
 2^o Fl. ff
 Ob. ff
 Cl. picc.
 1^o Cl. ff
 2^o Cl.
 Cl. b. ff
 Sax. s.
 Sax. a.
 E♭.
 Tr. 1^a p ff p ff f p
 2^a
 Cor. 1^o
 2^o $flz.$
 Tbn.
 Tuba
 Cel.
 Fisamn.
 Tr. sola $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$ $\text{♩} = 104$
 1^o VI.
 2^o VI.
 3^o VI.
 4^o VI.
 1^a Va. $sord.$
 2^a Va. pp $sord.$
 3^a Va. pp $sord.$
 4^a Va. pp $sord.$
 1^o Vc. $sord.$
 2^o Vc. $sord.$
 3^o Vc. $sord.$
 Cb. 1^a-2^a (un.) $sord.$

m. 162 m. 163 m. 164 m. 165

beginning in m. 175 and releases this note on the downbeat of m. 178 (the downbeat of the interruption). The soloist repeatedly presents Eb₅ in various rhythmic profiles from m. 176 through m. 177 before ending m. 177 with an eight-second presentation of E₅. Trumpet 1 played a *fff* E₅ in m. 177 (on the second eighth note of the measure), and this E₅ could be heard as foreshadowing/causing the soloist to play E₅ and also foreshadowing the fifth large-scale interruption. Trumpet 2 continues to sustain Eb₅, as mentioned before, despite both trumpet 1 and the soloist emphatically presenting E₅ in m. 177. Trumpet 1 plays E₅ on the downbeat of m. 178 while trumpet 2 is still playing Eb₅. Then, trumpet 1 plays Eb₅ at the end of m. 178 before playing E₅ on the downbeat of m. 179. Eb₅ does not appear in the rest of the interruption.

Many members of the ensemble play in rhythmic unison in m. 179 and mm. 181-83. The first large-scale interruption is also characterized by rhythmic unisons, but the instance of rhythm unison in the first interruption primarily employs fleeting figures whereas this interruption primarily employs rhythms that are not as rapid. Once again, the soloist's re-entry is covered by ensemble activity. Here, horn 1 alternates between open and stopped presentations of a *forte* G₄. This is the pitch played with the same texture that the horn presented at the start of the interruption – in fact, horn 1 had been playing this pitch in the manner since m. 171. After the soloist re-enters, the ensemble has one final outburst in m. 185.

The final large-scale interruption is the longest of the interruptions (mm. 219-29, presented in example 37), it is very aggressive in character, the texture is very dense, and there is a great deal of rhythmic activity, with the rhythms being similar to what the soloist played before the interruption. Certain pitches are highlighted through the number of ensemble members playing each pitch and through gestures ending on particular

Example 36. *Chemins VI*, mm. 177-85. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).
(Note: Measure 185 is incomplete).

m. 177 m. 178 m. 179 m. 180 m. 181

The musical score is arranged in two systems. The top system includes parts for Oboe (Ott.), Flute (1^o, 2^o), Ob., Clarinet (Cl. picc., 1^o, 2^o), Cl. b., Sax. s., Sax. a., Fig., Tr. 1^a, Tr. 2^a, Cor. 1^o, Cor. 2^o, Tbn., Tuba, Cel., Fisam., and Tr. sola. The bottom system includes parts for Violin (1^o, 2^o, 3^o, 4^o), Viola (1^a, 2^a, 3^a), and Cello/Double Bass (1^o, 2^o, 3^o, Cb. 1^o-2^o). The score features various dynamics such as *pppp*, *f*, *ff*, *p*, and *pp*, as well as articulations like *via sord.* and *ff*. The time signature is 2/4, indicated by a '2' over a '4' in measures 178 and 181.

m. 177 m. 178 m. 179 m. 180 m. 181

Example 36 (cont'd).

m. 182 $\frac{3}{4}$ m. 183 $\frac{4}{4}$ m. 184 $\frac{2}{4} \text{ } \text{♩} = 104$ m. 185

Ott. ff
 1^o Fl. ff
 2^o Fl. ff
 Ob. ff
 Cl. picc. ff
 1^o Cl. ff
 2^o Cl. ff
 Cl. b. ff
 Sax. s. ff
 Sax. a. ff
 Fg. ff
 1^a Tr. ff
 2^a Tr. ff
 1^o Cor. ff
 2^o Cor. ff
 Tbn. ff
 Tuba ff
 Cel. ff
 Fisamn. ff
 Tr. sola mf p
 1^o Vl. ff
 2^o Vl. ff
 3^o Vl. ff
 4^o Vl. ff
 1^a (sord.) Va. pp
 2^a (sord.) Va. pp
 3^a (sord.) Va. pp
 1^o (sord.) Vc. pp
 2^o (sord.) Vc. pp
 3^o (sord.) Vc. pp
 Cb. 1^a-2^o (un.) pp

m. 182 m. 183 m. 184 m. 185

pitches. $C\#_5$ is highlighted in m. 223 by the flutes, oboe, clarinets, alto saxophone, trumpets, violins, violas, and celli. $C\#_5$ and C_5 are highlighted in m. 226 by the flutes, oboe, clarinets, saxophones, accordion (the cluster that it last plays has $C\#_5$ as the bottom note), violins, violas, and celli. A_5 is highlighted in m. 227 by the flutes, Eb clarinet, accordion (the highest note of the gesture is A_5), violins, and cello 1. $C\#_5$ is highlighted once more in m. 229 by the flutes, oboe, clarinets, alto saxophone, and violins. The pitch class C is highlighted to an extent in m. 229 by the approach to C_5 by half-step from both above and below (alto saxophone and trumpet 1), and by the celli playing C_4 , C_5 , and C_6 .

The soloist re-enters with the same pitch succession that it played just before the interruption: C_4 - $C\#_4$ - F_4 - $F\#_4$ - B_4 , and because the soloist begins at a soft dynamic in m. 230, the return of these pitches sounds like a calm reiteration. After hearing that the ensemble never dominates the texture in the remainder of the piece, one can understand this calm reiteration to be the soloist calmly and quietly reasserting its dominance and keeping its role as the main character of the piece. Thus, the ensemble's final attempt to dominate the piece and become the main character is thwarted.

The changes in texture and activity are the most easily identified differences brought about by the large-scale interruptions. However, we have also seen that the interruptions can contribute to establishing a hierarchy of important pitches, intervals, and perceived agents. Furthermore, all of the soloist's entrances after the interruptions and/or during the final moments of the interruption involve the soloist playing a pitch that is already being played by an ensemble member. This alters the perceived drama of the original model because the solo can sound as if it is growing out of an ensemble member's line and/or it can sound as if it is caused by an ensemble member's line, and the distinction between main and supporting characters is blurred. This blurring of the

Example 37. *Chemins VI*, mm. 219-30. Luciano Berio, *Kol Od* (© 1996 by Universal Edition).

m. 219
3/4 (♩ = 104)

Ott.
1^a
Fl.
2^a
Ob.
Cl. picc.
1^a
Cl.
2^a
Cl. b.
Sax. s.
Sax. a.
Fg.
1^a
Tr.
2^a
1^a
Cor.
2^a
Tbn.
Tuba
Cel.
Fisamm.
ff Ped. sempre

m. 220

m. 221

m. 222

Tr. sola
1^a
Vl.
2^a
Vl.
3^a
Vl.
4^a
1^a
Va.
2^a
Va.
3^a
1^a
Vc.
2^a
Vc.
3^a
Cb. 1^a-2^a (un.)
pizz.
ff

m. 219

m. 220

m. 221

m. 222

Example 37 (cont'd).

m. 223

♩ = 80

m. 225

m. 226

Ott.

1^o

Fl.

2^o

Ob.

Cl. picc.

1^o

Cl.

2^o

Cl. b.

Sax. c.

Sax. a.

Fig.

1^a

Tr.

2^a

1^o

Cor.

2^o

Tbn.

Tuba

Cel.

Fisarm.

Tr. sola

1^o

VI.

2^o

VI.

3^o

VI.

4^o

1^a

Va.

2^a

Va.

3^a

1^o

Vc.

2^o

Vc.

3^o

Cb. 1^a-2^a (un.)

m. 223

m. 224

m. 225

m. 226

Example 37 (cont'd).

[illegible]

distinction between the main character and supporting characters also arises as a result of the occasional prominence given to the ensemble trumpets.

3.6 – *The Importance of the Ensemble Trumpets in Altering the Drama as it Appeared in Sequenza X*

The inclusion of trumpets in the ensemble of *Chemins VI* allows for a special type of alteration of the musical drama of *Sequenza X*. As mentioned in chapter two, one of the five ways that the ensemble independence allows for alteration of the musical drama is that the ensemble has the ability to react to the actions of the soloist. It was also mentioned in chapter two that one type of reaction occurs when a member or members of the ensemble continue or expand the soloist's line and/or present material in counterpoint with the soloist's material (these actions could be thought of as more of a response than a reaction).

When the ensemble trumpets continue the soloist's line, present material in counterpoint, or simply play at a dynamic where they are just as audible as the soloist, the perception of what constitutes the solo line can change.²² That is, if one has not memorized the solo line as it appears in *Sequenza X* or if one does not follow the score of *Chemins VI* when listening to a performance, all non-simultaneous trumpet sounds could be assumed to be the soloist. When two or more trumpets play simultaneously, it could be unclear which line is the soloist's line and which line is played by an ensemble member. This alters the perceived drama because the identification of characters becomes

²²The perception of what instruments make up the solo line can also be altered by spatial organization of the group in a particular performance venue. The score for *Chemins VI* offers no suggestions for a group arrangement. If the soloist and ensemble trumpets are separated in such a way as to make it clear whether the trumpet sound that one hears is the soloist or an ensemble trumpet, then the perception of the solo line will not be drastically altered. However, if one simply hears a trumpet sound that is played by different instrumentalists (unknown to a listener), then a passing of the solo line from one trumpet to another could sound as if one instrumentalist – and thus one character in the drama – plays that particular line. This is a matter that should be carefully considered when performing or recording this piece.

difficult if not impossible. Instances of ambiguity concerning which character one is hearing are present in a number of places throughout the score. Select examples will reveal the alteration of the musical drama in these instances.

The previously discussed continuation of the solo line by trumpet 1 in m. 8 (example 13, pp. 51-52) provides the first example of an ensemble trumpet sounding as if they are the soloist.

In m. 52 (contained in example 23, p. 81), trumpet 1 plays E_5 at a *fortissimo* dynamic while the soloist rests. When the soloist enters with $C\#_5$ in m. 52, the interval of a minor third is emphasized. One could hear both events as being played by the soloist, and thus it would appear that at this location, the soloist emphasizes the interval of a minor third.

An example of an ensemble trumpet altering the drama of the original occurs in mm. 67 and 69 (included in example 16, pp. 63-66). These measures contain the previously discussed texture in which the soloist plays a valve tremolo on one pitch and occasionally plays other short isolated pitches, creating an implied polyphony. The short isolated E_5 (m. 67) and G_5 (m. 69) played by trumpet 1 could very well sound like just another pitch played by the soloist. Ironically, the presence of these notes realizes the polyphonic implication of the solo line but one might not even notice this.

In m. 114 (included in example 33, pp. 123-25), the texture of the notes played by trumpet 1 seems to be a natural outgrowth of the soloist's material from the end of m. 113. Whether one hears trumpet 1 as the solo line or not, this provides an excellent example of a "proliferating orchestral line" that Berio wished to emphasize when using

the title *Chemins* (as mentioned earlier, *chemins* can be translated as paths or ways).²³ In m. 115, the A₄ played by trumpet 1 blends seamlessly into the solo line (when the pause indicated in the trumpet 1 part is properly observed).

The soloist rests in m. 189, and the figure played by trumpet 1 in this measure causes trumpet 1 to sound like the soloist (presented in example 38). This figure begins similarly to the figure played by the soloist at the start of m. 187.

Example 38. *Chemins VI*, mm. 187-89. Trumpet 1 and solo trumpet.

The best examples of an ensemble trumpet sounding like the solo trumpet occur near the end of the piece. The material played by trumpet 1 in m. 250 (example 39) begins on the same note (C₆) at the same volume (*fff*) and with the same articulation (accented) as the last note the soloist played in m. 249. The descending figure played by trumpet 1 that includes C₆, F₅, C_{#5} and E₅ sounds like an answer to the ascending figure played by the soloist in m. 249 that includes C_{#5}, E₅, and C₆.

Example 40 includes the music of the soloist and trumpet 1 from the pickup to m. 265 through m. 267. Trumpet 1 plays a figure in m. 266 (while the soloist rests) that sounds like the soloist's material from m. 265. All of the pitches played by trumpet 1 were also played by the soloist in m. 265. This example also shows that while there are a number of instances in which the ensemble trumpets sound as if they are the soloist while

²³Osmond-Smith, *Berio* (1991), 42.

the soloist is resting, the re-entrance of the soloist causes polyphony that is more distinctly perceptible than is that of mm. 67 and 69 (example 16, pp. 63-66).

Example 39. *Chemins VI*, mm. 247-52. Trumpet 1 and solo trumpet.

Example 39 shows measures 247 through 252. Trumpet 1 is silent in measures 247-249. In measure 250, it enters with a triplet of eighth notes marked *fff*. The soloist enters in measure 250 with a triplet of eighth notes marked *fff*. In measure 251, the soloist plays a triplet of eighth notes marked *pp* with articulations FL, DL, and FL. In measure 252, the soloist plays a triplet of eighth notes marked *pp* with articulations FL, DL, and FL. Dynamics for the soloist include *fff*, *sf-p*, *fff*, *fff*, *fff*, *pp*, *mf*, and *pp*.

Example 40. *Chemins VI*, pickup to m. 265 through m. 267. Trumpet 1 and solo trumpet. (Note: Measure 267 is incomplete).

Example 40 shows measures 265 through 267. In measure 265, the soloist plays a triplet of eighth notes marked *p* with articulation DL. In measure 266, the soloist plays a triplet of eighth notes marked *pp*. In measure 267, the soloist plays a triplet of eighth notes marked *f*. Trumpet 1 enters in measure 266 with a triplet of eighth notes marked *p*. Measure 267 is incomplete.

Three distinct instances of polyphony occur as a result of the presence of both the soloist and an ensemble trumpet. These examples are important because they represent the most basic realization and reworking in a *Chemins* of one of Berio's stated goals in writing the *Sequenza* series, the melodic development of a harmonic discourse to suggest polyphony.²⁴

The first instance occurs in mm. 126-29 (example 41). The soloist rests in m. 128, causing trumpet 1 to sound as though it may be the soloist. When the soloist re-enters in m. 129, polyphony resumes. The line played by trumpet 1 in these measures is clearly

²⁴For the exact quotation, see p. 4 in chapter one.

derived from the solo line of mm. 126-27 (trumpet 1's line presents the solo material (D₄-E₄-F₄-G₄-A₄) in augmentation and with addition of F₄).

Example 41. *Chemins VI*, mm. 126-29. Trumpet 1 and solo trumpet.

Example 41 shows measures 126-129. Trumpet 1 (top staff) plays a melodic line starting in 3/8 time, moving to 2/4 and 3/4. Dynamics include *p* and *ppp*. Solo Trumpet (bottom staff) plays a more complex line with triplets and slurs, marked with *pp*, *mf*, and *ppp*. Above the Solo Trumpet staff, there are markings for 'DL' (Down-bow/Lung) and triplets.

The next instances of polyphony between the soloist and one of the ensemble trumpets occur in mm. 169, 171, and 175. Example 42 contains mm. 168-69. The texture of mm. 171 and 175 is similar to that of m. 169. The pitch material of trumpet 1 in m. 169 is a retrograde of the pitch material of the solo trumpet in the same measure.

Example 42. *Chemins VI*, mm. 168-69. Trumpet 1 and solo trumpet.

Example 42 shows measures 168-169. Trumpet 1 (top staff) is mostly silent in m. 168 and plays a short phrase in m. 169. Solo Trumpet (bottom staff) plays a complex, fast-moving line with many slurs and accents, marked with *ff*, *p*, and *fff*. A bracket labeled '[similie]' indicates a similar texture.

The final instance of polyphony between the soloist and one of the ensemble trumpets occurs in mm. 259-60. The music for the soloist and trumpet 1 is included in example 43.

Example 43. *Chemins VI*, mm. 257-60. Trumpet 1 and solo trumpet.

The musical score shows two staves: Trumpet 1 and Solo Trumpet. The key signature has one flat (B-flat), and the time signature is 2/4. Measures 257 and 258 show both instruments with whole rests. In measure 259, the Solo Trumpet plays a triplet of eighth notes (B-flat, A, G) marked with a *p* dynamic. Trumpet 1 also plays a triplet of eighth notes (B-flat, A, G) marked with a *p* dynamic. A slur connects the Solo Trumpet's triplet in measure 259 to its next note in measure 260. In measure 260, the Solo Trumpet plays a quarter note (F) marked with a *pp* dynamic, followed by a quarter rest. Trumpet 1 plays a quarter note (F) marked with a *sf* dynamic, followed by a quarter rest. The Solo Trumpet's line ends with a *sf* dynamic in measure 260.

In all three of the above examples, the pitch material of trumpet 1 is related to that of the soloist in the surrounding measures. Also, the material of trumpet 1 seems to grow out of the soloist's material in mm. 126, 169, and 259.

The blurring between ensemble trumpet and soloist and also the emergence of the solo line from an ensemble member's line at the end of certain large-scale interruptions reveal that even in the large-interruptions, one could confuse the soloist and the ensemble trumpets. However, I believe that the changes of density, texture, and activity that appear at the beginning of the large-scale interruptions signal that significant change is occurring and that the focus of the drama is on the ensemble.

CHAPTER FOUR

Conclusion

4.1 – Summary and Conclusions

A complete and detailed examination of all aspects of *Sequenza X* and *Chemins VI* would be necessary in order to understand all of the differences and similarities between the two pieces on various levels. Such an examination would be ideal in order to appreciate fully the artistry and technical mastery exhibited by Berio's crafting of two separate works that share so much material, but yet retain a sense of individuality and uniqueness. In the absence of such an exhaustive process, the present study has described the key similarities and differences between the two pieces, and the following will serve to summarize these points. This discussion will also draw conclusions, when necessary and appropriate, about how the differences influence one's understanding and perception of the two pieces.

The most easily recognizable feature of *Chemins VI* that causes the two pieces to be different is the presence of an ensemble. Since Berio chose in this *Chemins* to retain the entire solo line from *Sequenza X*, the only available options for creating a new piece were to alter the piano resonance or add one or more instruments. If an ensemble had not been used in *Chemins VI*, and instead the piano resonance had simply been altered, the resulting new piece would have been extremely similar to *Sequenza X* because the soloist would have remained the only voice capable of introducing musical material, and in terms of musical drama the soloist would have always remained the main character.

While it is true that the ensemble mimics the piano resonance of *Sequenza X* at various points throughout *Chemins VI* and that this function is important, the single most important aspect of *Chemins VI* is the independence of the ensemble. One of the most basic ways that this independence is exhibited is by the fact that the ensemble does not always mimic the piano resonance – it is as if the ensemble is free to choose when it will fulfill that role. The ensemble’s independence is also exhibited through the five ways that the ensemble alters the musical drama that was present in *Sequenza X*: (1) the ensemble can “react” to the actions of the soloist by being active during or immediately after the activity of the soloist; (2) the ensemble can foreshadow the soloist’s material or seemingly cause the soloist to react to ensemble activity; (3) ensemble members can sustain pitches played by other ensemble members, temporarily elevating the ensemble member whose pitch is sustained to a level of importance that is equal with that of the soloist; (4) members of the ensemble can present short gestures, interjections, or moving lines that are not a response or reaction to the soloist and that foreshadow the fifth way that the drama is altered; (5) the ensemble can “interrupt” the solo line for a significant period of time.

The independence of the ensemble allows for an intricate web of interaction and relationships both between the soloist and ensemble members and among the ensemble members themselves. As mentioned in chapter two, the “monologue” or “drama with two characters” in *Sequenza X*, in which one of the characters was always reliant upon the other in order for any action to occur, can be viewed in *Chemins VI* as a “dialogue” or a more complex, multi-layered and multi-faceted drama. One might also think of the drama of *Sequenza X* as depicting the main character’s response to unseen, imagined, or implied characters, actions, and events, while the drama of *Chemins VI* can be seen as a view from

the mind's eye of the soloist in the sense that one can explicitly experience ("see") the soloist *and* the unseen, imagined, or implied characters, actions, and events. The presence of the ensemble includes a greater number of characters in the implied drama, and the independence of ensemble members allows them to become a main character or *the* main character(s) and to create one or more planes of action (where there is activity that is independent of the soloist) that were not present in *Sequenza X*. The presence of the ensemble in *Chemins VI* also alters the drama in the sense that it allows for actual conflict between characters. In *Sequenza X*, the only conflict possible was an implied conflict between moods expressed by the soloist.

As mentioned in chapter one, this study does not attempt to assign artificial meaning or representation or to assign a specific program to either piece. This study also does not suggest that the conveyance of the dramatic implications discussed herein was a compositional goal of Berio. This study simply offers a way of understanding how various musical parameters and activity can be fruitfully interpreted in dramatic terms.

Conceptual differences in musical drama are certainly not the only ways that these two pieces are distinguished from one another. On the surface level, *Chemins VI* is more active than *Sequenza X*. Not only is there almost always more activity at any given point in *Chemins VI* than there is at the corresponding point in *Sequenza X*, but the places where the soloist rests in *Sequenza X* are filled with ensemble activity in *Chemins VI*.¹ This surface difference alters two higher-level musical features of the pieces, form and shape.

¹It is true that the piano resonance sustains the pitches played by the soloist and overtones of those pitches when the soloist rests in *Sequenza X*, but even if these moments are considered to contain activity, the ensemble of *Chemins VI* is far more active in these moments.

Sequenza X can be viewed as having an A-B-A' tripartite form. It is difficult to say exactly where the divisions occur, as evidenced by the fact that while both Schaub and I have identified *Sequenza X* as having a tripartite structure, we have chosen slightly different boundaries (the exact boundaries are not important for this study). In *Chemins VI*, the ensemble interruptions introduce great changes in texture and character and they serve to be the primary determinants for form. Thus, the tripartite form of the solo line from *Sequenza X* is not retained (or at the very least the clarity of the form is severely undermined). Different listeners will likely assign different formal labels to *Chemins VI* – what is most important is that the tripartite form is no longer prevalent.

I identify “shape” as the way that a piece is defined by climactic points, goals, points of arrival, etc. The distinction of shape and form is a difficult one, for the two concepts are closely related (as I use them). Form describes how a piece is segmented into sections and assigns labels to those sections based on the similarity and differences of the materials within each section. Shape does not necessarily have to coincide with form. For example, a piece can have a clear climactic point that happens in the middle of the final part of an A-B-A' tripartite form. While the first and last sections of the form are essentially the same, the shape of the piece is not the same within each section. My view of the relationship between shape and form is similar to Allen Cadwallader and David Gagné’s Schenkerian view of the relationship between form and harmonic structure. Cadwallader and Gagné note that “form and [harmonic] structure are distinct aspects of compositions, though they are inextricably related and arise through similar musical

processes.”² They go on to say that “though structural divisions and articulations frequently coincide with major divisions in the form, they do not necessarily do so.”³

The shape of *Sequenza X* is defined by the initial appearance of the important D₄-F₄ minor third at the start of the piece, an expansion to the registral extremes of the piece (D₆ and C₃/C#₃), and a return at the end of the piece to the D₄-F₄ minor third. The shape of *Sequenza X* is also defined by the textures present throughout the piece which generally follow the tripartite structure of the form. The first and last sections are essentially technical in nature while the middle section is more lyrical. Just as the form of *Chemins VI* is influenced greatly by the ensemble interruptions, so too is the shape of the piece. A number of the interruptions have a violent character, are very active, or are very loud, and the process of expansion established in *Sequenza X* is no longer the key feature of the shape. Furthermore, the amount of ensemble activity at the start of *Chemins VI* does not allow for the same sense of return at the end of the piece as was present in *Sequenza X*.

As this study has revealed, a number of similarities and differences exist between *Sequenza X* and *Chemins VI*. The presence of those similarities and differences make the pieces excellent resources for examining how compositional choices can alter musical drama and the functions of various musical elements and instrumental parts, and how those alterations can influence one’s understanding of a piece in general. Perhaps the most fascinating aspect of this *Sequenza/Chemins* pairing is that Berio was able to create such distinct musical dramas while using the same solo part. It is my hope that this study will offer greater understanding and insight for the listener and performer, and that it may

²Allen Cadwallader and David Gagné, *Analysis of Tonal Music: A Schenkerian Approach* (New York: Oxford University Press, 1998), 223.

³Ibid.

suggest new modes of listening for other *Sequenza/Chemins* pairings and other examples of reworking from the literature.

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