A POLYPHONIC MODE OF LISTENING:

LUCIANO BERIO'S *SEQUENZA XI* FOR GUITAR

by

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ABSTRACT

MARK DAVID PORCARO: A Polyphonic Mode of Listening:
Luciano Berio's *Sequenza XI for Guitar*
(Under the direction of John Covach)

In a series of interviews with Rossana Dalmonte in 1980-81, Luciano Berio explained that the *Sequenzas* are unified by three traits: virtuosity, idiomatic writing, and above all a "polyphonic mode of listening" that challenges the way a listener hears a composition. In the *Sequenza XI for Guitar*, Berio does this by establishing four simultaneous layers, which are defined by the type of material used. Each of these layers pursues a different developmental path by generating tension through a technique that can be described as in- and out-of-focus. As the level of tension or focus heightens in a layer, the structure is clouded or out of focus. When Berio creates static or low-tension structures, the work becomes more in focus. In this study, I examine the roll of levels of focus in each layer and the interaction of each layer to the whole of the composition.

PREFACE

As with all analyses, this analysis represents my interpretation of Berio's work. I perceive this analysis to be neither exhaustive nor even complete. In fact, every time that I looked at this work, I came up with a different plausible interpretation.

In addition, this analysis represents a work frozen outside of the bounds of time. This begs the question, "Can this analysis be perceived within the realm of time?": perhaps, but not without many hearings. As *Sequenza XI* proceeds we perceive stress and release, but all within what seems to be a disjointed, and fragmented framework. Indeed, this work appears to be a collection of different gestures.

So for what purpose does this analysis serve? I hope that it creates a better understanding of Berio's poetics. My even greater hope is that it can be a step along the way of understanding strategies at play in the vast body of compositions after 1945, which many listeners struggle to understand or comprehend.

How much of what I present in this thesis represents "the composer's intentions" or "conscious effort?" I cannot answer this question, nor do I think that other authors, or even Berio himself could answer this question. In actuality, I do not want to answer this question. Perhaps because most of Berio's comments on his works are vague, revealing either a general compositional strategy—such as could be said about almost works of music—or they explain a plan for only one work (I think of the much discussed *Sinfonia* for instance; a work that is

not "representative" of Berio's large body of compositions in which Berio pursues a compositional plan for just one work).

Although most of Berio's writings are vague about his compositional procedure, I have found two specific things in his writings that led me to this thesis: first, Berio's interest in different layers of meaning and the relation this has to semiotics—in particular his friend Umberto Eco's theories of semiotics; and second, that he sees his music as coming in- and out-of-focus, which was the original focal point of this study. When I realized that this piece plays not only with different focal points but also with different musical parameters, I realized that I needed to incorporate the different layers of activity and their ramifications to the structure of the work. By changing how I understand structure from a more or less traditional method to one that incorporated ideas from Berio's writings, I began developing new ways of hearing and understanding *Sequenza XI.*

This current study is the product of four years of study at two different graduate programs under three different thesis committee chairs. I would like to acknowledge the help and advice of John Covach, Allen Anderson and Jocelyn Neal. I would like to thank Bálint András Varga, David Osmond-Smith and Gerd Wuestemann for their timely answers to questions. Most of all I would like to thank my wife, Rachel, for helping me see this project through to the end.

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Here it is, the 'maledetta' (accursed one). It will
drive you to despair as it has me. Coraggio![1]

"If you want to know . . . [*Sequenza XI*] has cost me the most work of all,"[2]

declared Luciano Berio (b. 1925) in a 1989 interview with the New York Times. One

year prior to this interview, Berio completed his first solo guitar work, *Sequenza XI per*

chitarra (1987-88).[3] He had previously included the guitar in two of his earliest

orchestral works—*Nones* (1954) and *Allelujah II* (1958)—but in these compositions, it

played a rather cursory role. Although *Sequenza XI* is Berio's only solo guitar piece, he

afforded it a prominent spot in his opus by placing it in his *Sequenza* series.[4]

Berio has written thirteen *Sequenzas* that span most of his compositional career.

He began the series with *Sequenza I* for solo flute (1958) and continued with other

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[1] Luciano Berio, Letter to Eliot Fisk, Universal Edition Archives, Vienna, 1995. Quoted in Gerd Wuestemann, "Luciano Berio's Sequenza XI per Chitarra Sola: A Performer's Practical Analysis with Performance Edited Score" (D.M.A. diss., University of Arizona, 1998), 18.

[2] Will Crutchfield, "Luciano Berio Speaks of Virtuosos and Strings," *New York Times*, January 13, 1989, sec. C, p. 3.

[3] The *Sequenza XI* was commissioned by the Philharmonic Society of Rovereto, Italy.

[4] In 1992, Berio reworked *Sequenza XI* by adding orchestral parts—a sort of commentary on the *Sequenza*—thus creating *Chemins V*. This work replaces the withdrawn *Chemins V* (1980) for clarinet and digital system. Not all of the *Sequenzas* have become *Chemins. Chemins I* (1964) is on *Sequenza II* for harp, *Chemins II* (1967) is on *Sequenza VI* for viola, *Chemins III* (1968) is on *Chemins II*, *Chemins IV* (1975) is on *Sequenza VII* for oboe. By giving the guitar a part of the *Chemins* series, Berio shows his affinity toward the instrument. According to David Osmond-Smith, there is a picture of Berio as a teenager strumming the guitar. Thus he "had some previous acquaintance with the [guitar]" before writing *Sequenza XI.* Private correspondence with David Osmond-Smith, July 23, 1999.

Sequenzas for harp (1963), female voice (1965), piano (1966), trombone (1965), viola (1967), oboe (1969), violin (1976), clarinet (1980)[5], and trumpet (1984). In 1988, Berio wrote *Sequenza XI* for guitar. He followed this with the latest works in the series, *Sequenzas XII* (1995) and *XIII* (1995), for bassoon and accordion, respectively. Other than *Sequenza III* for female voice, prior to 1995, *Sequenza XI* was the only work written for a non-orchestral instrument.

While *sequenza* literally means sequence, Berio does not use the word to indicate a melodic or harmonic pattern repeated at different pitch levels. In the liner notes to the recent recording Berio explains, somewhat ambiguously: "the title *Sequenza* underlines the fact that the construction of these pieces almost always takes as its point of departure a sequence of harmonic fields, from which spring, in all their individuality, the other musical functions."[6] In this context, Berio relates the term "sequence" more to its synonyms—series, succession, chain, progression, and so forth—than to its musical definition.

In this definition of *sequenza*, Berio never clearly defines what he means by "harmonic fields." This term outside of the context of his music suggests that a group of pitches serves as a referential sonority in an area of a composition. Two analyses of Berio's music—one by David Osmond-Smith, the other by Reed Kelly Holmes—reveal that this is a viable definition. Osmond-Smith found that harmonic fields are "fixed pitch groupings characteristically dominated by one or two intervals—and the notes

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[5] Berio reworked *Sequenza IX a* (for clarinet) in 1981 to create *Sequenza XI b* for alto saxophone.

[6] Luciano Berio, "Sequenzas." Liner notes for *Berio: Sequenzas* 20/21 Series (Deutsche Grammophon GmbH, Hamburg, 1998. CD 457 038-2 GH3), 8.

chromatically adjacent to them;"[7] whereas Holmes noticed that "in each composition,
Berio establishes an intricate system of pitch relationships. . . . Pitch unity is further
assured by emphasizing certain intervals within the set vocabulary. Referential sonorities
often accompanied by the principle of nontransposition provide a focus and a set of goals
which lend a sense of direction to other parametric processes."[8]

By combining the definitions offered by Osmond-Smith and Holmes, I understand
"harmonic fields" to designate a compositional technique in which registrally fixed
pitches act as a harmonic area that works much the same way that chords work in tonal
music. Thus, when Berio moves from one field to another, there is a shift of harmony.
However, I must also note that Berio does not use all of the pitches of a chromatic scale
in a pitch field; he reserves some pitches in order to create harmonic diversity. My
definition agrees with one proffered by Gale Schaub:

> This compositional technique [a sequence of harmonic fields] is an abstract idea
> which is realized through a succession of harmonically conceived groups of
> pitches. In the sequenzas for monodic instruments, harmonic fields are
> necessarily presented linearlily. In most of Berio's later sequenzas harmonic
> fields result from a gradual unfolding of a registrally fixed, non-adjacent series of
> twelve different pitch classes. These invariant registers then exemplify redundant
> elements within the overall pitch structure of each composition.[9]

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[7] David Osmond-Smith, *Berio*, Oxford Studies of Composers, no. 20 (Oxford: Oxford University Press, 1991), 24.

[8] Reed Kelly Holmes, "Relational Systems and Process in Recent Works of Luciano Berio" (Ph.D. diss., University of Texas at Austin, 1981), 158.

[9] Gale 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), 7.

In the liner notes to the recent recording of the complete *Sequenza* series, Berio points out that in addition to an unfolding harmonic field, three other elements unify the *Sequenzas*: polyphony, virtuosity, and idiomatic writing.[10]

In the *Sequenzas*, Berio's polyphony layers not only the harmonic and textural elements but also all of the musical elements and techniques including development. Berio writes:

> Almost all the *Sequenzas* have in common the intention of defining and developing through melody an essentially harmonic discourse and… of suggesting a polyphonic type of listening, based in part on the rapid transition between different characteristics, and their simultaneous iteration. Here polyphony should be understood in a metaphorical sense, as the exposition and superposition of differing modes of action and instrumental characteristics.[11]

This polyphony of the different modes of action allows for multiple layers of meaning to exist simultaneously in the structure of the work. Holmes noted this when he wrote:

> Berio's logical and perceptible musical structures result from well ordered relational systems which are processed by parametric manipulations operating on various levels…. Therefore, within the recurring statement-digression-restatement framework, various parameters emerge into the structural foreground to provide shape. At the structural background, pitch relationships are the primary source of unity; however, sometimes other parametric processes or relationships emerge as referential ideas and provide structural unity for large scale musical units.[12]

Janet Hander-Powers has also noted this layered aspect in her analysis of *Formazioni*, in which "transformations of harmonic structures are the primary basis of coherence and formation, but the ear may not easily perceive all that is going on in

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[10] Berio, "Sequenzas," 8–10.

[11] Berio, "Sequenzas," 8.

[12] Holmes, "Relational Systems and Process in Recent Works of Luciano Berio," 154.

the parameter of harmony. Perceptually more conspicuous cues take place in the

parameters of instrumental timbre and registral contiguity."[13] She concludes that this

polyphony or "a constant schizophrenia between the different parameters"[14] as Berio

once called it is not only a unifying characteristic of the *Sequenza* series, but actually

part of Berio's common musical language.

Berio describes virtuosity as the "most obvious and external"[15] element that

the *Sequenzas* have in common.   However, virtuosity in Berio's mind does not mean

flashy fingers and empty music which attempts to defy the limits of an instrument

rather than the limits of the mind.

> Virtuosity… can give rise to scornful sniggers, and may even conjure up the
> image of an elegant and rather diaphanous creature with agile fingers and an
> empty head. Virtuosity often springs from a conflict, a tension between the
> musical idea and the instrument. One all too familiar aspect of virtuosity comes
> about when technical preoccupations and performance stereotypes prevail over
> the idea, as is the case with Paganini, whose works… did little to disturb the
> history of music, but did contribute to the development of violin technique.
> Another instance of tension arises when the novelty and complexity of musical
> thought – and with it equally complex and innovative expressive dimensions –
> impose altered relationships with the instrument, open up a path to new technical
> solutions (as in Bach's violin Partitas, Beethoven's last piano works, and then
> those of Debussy, Stravinsky, Boulez, Stockhausen, etc.), and demand of
> interpreters that they function at the highest level of both technical and intellectual
> virtuosity. The best solo performers of our own time – modern in intelligence,
> sensibility and technique – are those who are capable of acting within a wide
> historical perspective, and of resolving the tensions between the creative demands
> of past and present, employing their instruments as means of research and
> expression. Their virtuosity is not confined to manual dexterity nor to
> philological specialization. Although they may operate at differing levels of
> understanding, they are able to commit themselves to the only type of virtuosity
> that is acceptable today, that of sensibility and intelligence.[16]

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[13] Janet Hander-Powers, "Strategies of Meaning: A Study of the Aesthetic and the Musical Language of Luciano Berio" (Ph.D. diss., University of Southern California, 1988), 290.

[14] David Roth, "Luciano Berio on New Music," *Musical Opinion* 99 (September 1976): 548.

[15] Berio, "Sequenzas," 8.

[16] Berio, "Sequenzas," 8-9.

Berio's virtuosic writing in the *Sequenzas* is indeed sensible and intelligent. There is little in the works that can be seen as garish or even musically vacant. In fact, Berio maintained control over how his works would be interpreted by writing each *Sequenza* for a specific performer.[17] By working with the performers, Berio was able to fine tune elements of the piece in accordance with the limitations of the instrument for which he wrote.

In turn this controlled virtuosity created the last unifying element in the series: idiomatic writing. Berio's ideas on this are quite clear. He feels that an instrument should not be made into something that it is not. For instance, Berio views "preparing" a piano to be "a bit like drawing a moustache on the Mona Lisa, even when the pretext was to explore a non-tempered musical space."[18] In the liner notes to the *Sequenza* series he explained his feelings on the idiomatic nature of the works:

> Another element that unifies the *Sequenzas* is my own sense that musical instruments cannot really be changed, nor can they be destroyed, nor indeed invented. A musical instrument is in itself a piece of the musical language. Trying to invent a new one is as futile and pathetic as might be any attempt to invent a new grammatical rule in our language. The composer can contribute to the evolution of music instruments only by using them, and by trying to understand, often *post factum*, the complex nature of that evolution, reflecting as it does social, technological and economic conditions, and not merely musical and acoustic ones…. I'm much attracted by the slow and dignified transformation of instruments and of instrumental (and vocal) techniques across the centuries. Perhaps that's another reason why, in all of my *Sequenzas*, I've never tried to change the genetic inheritance of the instrument, nor sought to use it "against" its own nature."[19]

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[17] *Sequenza* I – Severino Gazzelloni, II – Francis Pierre, III – Cathy Berberian, IV- Jocy de Vorvalho, V- Stuart Dempster, VI – Serge Collot, VII – Heinz Holliger, VIII – Carlo Chiarappa, IX a (clarinet) – Michel Arrignon/ IX b (alto saxophone) – Claude Delangle, X – Thomas Stevens, XI – Eliot Fisk, XII – Pascal Gallois, XIII – Teodoro Anzelloti.

[18] David Osmond-Smith, trans., and ed, *Berio: Two Interviews with Rosanna Dalmonte and Bálint András Varga* (New York: Marion Boyars, 1985), 92.

[19] Berio, "Sequenzas," 10.

This does not mean that Berio does not push the limitations of the instruments or explore the possibilities of this instrument. It does mean that the idiomatic sound of the instrument will prevail in the composition, and indeed, will often govern the harmonic, melodic, temporal and spatial boundaries and gestures.

In the analysis of *Sequenza XI* that follows, I will show that this work, like the other Sequenzas, has as its basis three traits: polyphony, virtuosity, and idiomatic writing. Unlike the other Sequenzas, *Sequenza XI* uses a more complex polyphonic structure. It uses a layered or mosaic structure that suggests a polyphonic mode of listening rather than creating actual polyphony. Each of these unique layers develops and presents material in a different way. Even though each layer develops differently, they combine to create a unified whole. Berio's conception of harmonic fields will play a central role in understanding the ways in which the polyphonic layers of the work are organized.

A POLYPHONY OF DIFFERING MODES OF ACTION

Of the three unifying elements of the series, Berio addressed primarily the idiomatic nature of *Sequenza XI.*   He declared, "In *Sequenza XI* for guitar I was concerned to develop a dialogue between the heavily idiomatic harmony that is bound up with the tuning of the instrument and a 'different' harmony." He went on to explain that he incorporated two traditional guitar styles in the work, "In *Sequenza XI* two instrumental and gestural styles are also present, one having its roots in the flamenco guitar tradition, and the other in that of the classical guitar."[20] Although he states nothing

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[20] Berio, "Sequenzas," 20.

about virtuosity in this piece, it is evident in the abundance of thirty-second note florid

passages and quickly changing chords.

Interestingly enough, Berio never specifically discussed how he used polyphony

in *Sequenza XI.* Out of the three unifying elements, this is by far the least perceptible at a

surface level. In fact, the polyphonic nature of this work exists in deeper layers than we

first perceive. There is of course one obvious two-voice polyphonic passage in this work,

but beyond that there is no apparent external polyphony. As we delve deeper into the

many layers of this work, we notice a complex polyphony involving different layers of

developing material.   This "polyphony of differing modes of action," as Berio calls it,

requires us to listen to the relationships between the layered sections, rather than just the

external polyphony created by independent lines separated by register. Possibly Berio is

alluding to this layered texture when he writes, "The dialogue between the two harmonic

dimensions on the one hand, and the two technical and gestural ones on the other, is

pursued through a continuous process of exchange and 'transcription' of clearly

recognizable figures."[21] Verses written by Edoardo Sanguineti in 1994-95 for the

individual *Sequenzas* suggest perhaps even more about this structure,

> I find you again, my unnatural puerile pseudo-dance
> I enclose you within a circle: and I interrupt you, I disrupt you
>
> [Ti ritrovo, mia puerile pseudodanza innaturale
> Ti chiudo in un cerchio: e ti interrompo, ti rompo][22]

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[21] Berio, "Sequenzas," 20.

[22] Berio "Sequenzas," 20. Italian verses on p. 69. A preface to the liner notes states, "The verses for the individual *Sequenzas* were written by the Italian author Edoardo Sanguineti in 1994 and 1995. In a performance, each verse can be recited before the respective *Sequenza.* Luciano Berio and Edoardo Sanguineti enjoy a longstanding working relationship which has found its artisitic expression in the compositions *Epifanie* (1959-1961), *Laborintus II* (1963-1965) and *A-Ronne* (1974/1975). The poet presented the texts to his composer friend with the following words: 'Incipit sequential sequentiarum, quae est musica musicarum secundum lucianum.' ('Here begins the sequence of sequences, which is the music of music according to Luciano.')," 7.

Does Sanguineti mean to indicate that Berio created a work with a circular form that is at times interrupted or disrupted? At first glance, *Sequenza XI* appears to consist of several non-related musical gestures. For example, the work begins quietly with a mixture of tambora and strummed chords, which soon erupt into violent fortissimo rasguados. By the end of the fourth line of music a new idea emerges as the guitar plays a short linear arabesque-like gesture that culminates in a three-note trill. As the music progresses, we see similar juxtapositions of disparate elements. Throughout the work the listener is left to wonder how (or if) the several components interact.

To understand better how Berio employed polyphony of the different modes of action, we can turn to a compositional procedure used by Stravinsky. In an analysis of three of Stravinsky's non-stage works, Edward T. Cone noticed a common compositional procedure:

> From *Le Sacre du Printemps* onward, Stravinsky's textures have been subject to sudden breaks affecting almost every musical dimension: instrumental and registral, rhythmic and dynamic, harmonic and modal, linear and motivic…. On examination, the point of interruption proves to be only the most immediately obvious characteristic of a basic Stravinskyan technique comprising three phases, which I call stratification, interlock and synthesis. By stratification I mean the separation in musical space of ideas—or better, of musical areas—juxtaposed in time; the interruption is the mark of this separation.[23]

Sequenza XI exhibits this same fractured texture in which Berio, in effect, cuts up and pastes four musical areas together. We see a distinction between the layers by the type of textural material that they contain. Furthermore, each layer, if excised from the work, proceeds in a logical manner. In this work, however, Berio never allows one layer

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[23] Edward T. Cone, "Stravinsky: the Progress of a Method" in *Perspectives on Schoenberg and Stravinsky* edited by Benjamin Boretz and Edward T. Cone (Princeton, N.J.: Princeton University Press, 1968), 157-58.

to complete before he interrupts it with another layer. He, like Stravinsky, separates the linear flow of a layer either to introduce or to continue the development of another layer. This separation and interruption of the various layers, requires what Berio calls "a polyphonic type of listening."

Before examining the workings of the various layers and their forms, we must address the issue of differing modes of tension in Berio's works. In a discussion of the form of *Sequenza I* for flute, Berio states, "the temporal, dynamic, pitch and morphological dimensions of the piece are characterized by maximum, medium and minimum levels of tension." Maximum tension in time is "produced by moments of maximum speed in articulation and moments of maximum duration of sounds." In pitch, he creates maximum tension "when notes jump about within a wide gamut and establish the tensest intervals, or when they insist on extreme registers." And finally maximum tension in the morphological dimension "is obtained when the image, *my* image of the flute, is drastically altered with flutter tongues, key clicks and double stops (two notes at once)."[24] This discussion of *Sequenza I* not only explains that Berio is consciously working to develop what he calls a "wide transformational trajectory,"[25] but also show us that the development of minimum, medium and maximum levels of tension within the differing modes of action (time, pitch, timbre, etc.) generates a type of polyphony between the different musical elements.

One might well argue at this point that all music creates polyphony between the elements of pitch, harmony, timbre and so forth. What seems to be different in Berio's

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[24] Osmond-Smith, *Two Interviews*, 97-98.

[25] Osmond-Smith, *Two Interviews*, 26.

music is that he purposefully separates each element, thereby allowing the independent

development of levels of tension within that element. Thus, it is possible that the point of

maximum tension occurs at different places for each element, requiring the performer and

listener to understand each element as a separate entity. [26]

The following facsimile, from the sketch of Berio's *Sincronie* for string quartet,

shows us that Berio might have been thinking in terms different levels of tension within

the various parameters of the work (Figure 1). He graphs each separate parameter of the

work with regards to the level of tension, the highest line being maximum, the middle

line medium and the lowest line minimum. On the left of the row is the name of the each

parameter:

> Timbro (variaz[ione]) morfol[ogia]
> Inensità (opp[ure] variaz[ione] dinamica)
> Frequenza variaz[ione] (opp[ure] complessità della articolazione)
> Tempo
> Sincron[izzazione] (opp[ure] omogeneità con valore contrario)
>
> [Timbre (morphological variation)
> Intensity (or dynamic variation)
> Frequency variation (or complexity of the articulation)
> Tempo
> Synchronization (or homogeneity of the contrary values)]

If we follow the lines of the graph we see that each parameter acts as a voice in the

polyphony of the different elements.

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[26] This differs from integral serialism of Babbitt and Boulez where each element follows its own serial path. Berio's music does not rely on serial procedures to develop material, and thus the individual elements of music (such as pitch, duration, timbre, texture) may sometimes work together to achieve a unified climax for a composition.
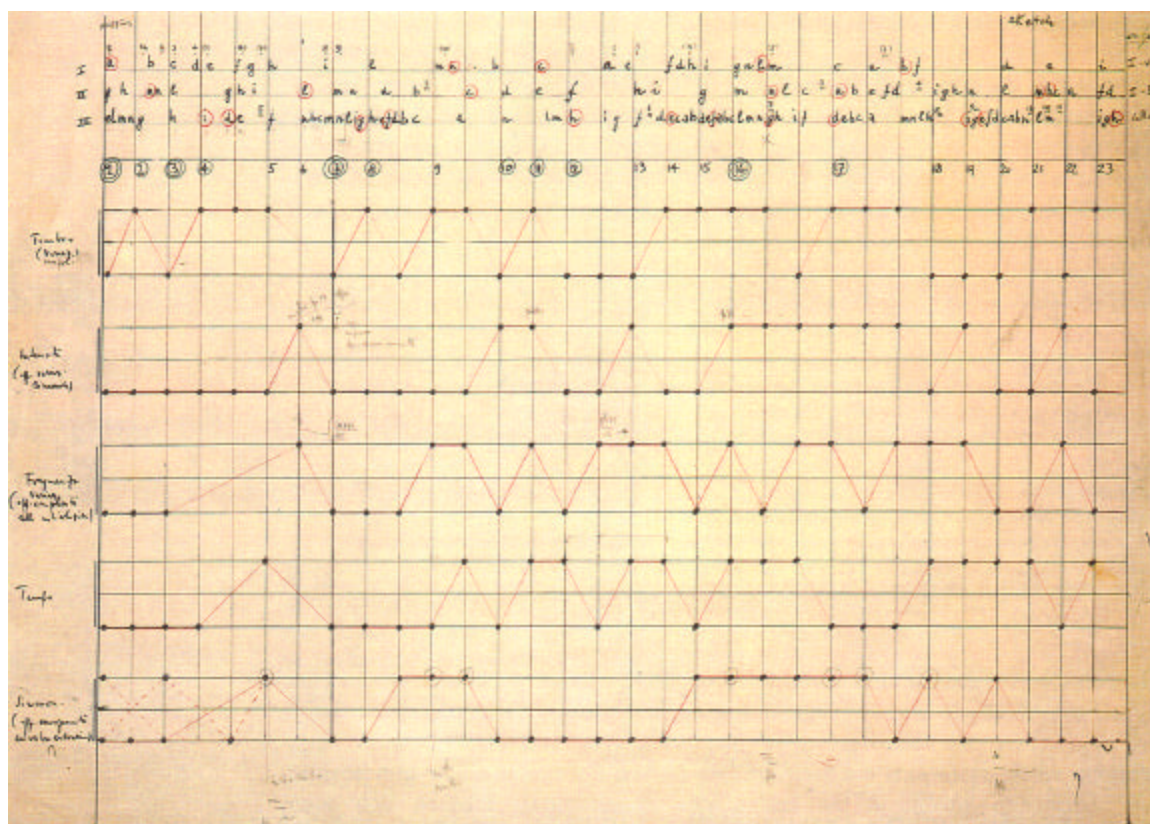
Figure 1. Facsimile of the sketch of *Sincronie*. Table of levels of tension for different parameters.[27]

Perhaps we can better understand how Berio perceives tension if we think of it in different terms. In a 1976 interview Berio states, "Maybe a dialectic between the focus and the out-of-focus of things is a theme of my work." He further clarifies:

> This corresponds to a basic experience involving everybody in our society. Individuals belonging to a group sometimes go away and find themselves without their usual defenses. In order to survive they have to develop new defenses in this unknown land, atmosphere, climate, situation. If they return with some traces of adaptation in the new field, they will contribute to the development of the group. The same thing happens in music, economics, politics and science. Certain individuals leave the main path, find themselves alone in a new situation and develop new means of survival. At first, when they return, they may be slightly

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[27] Printed in Thomas Gartmann, "Una frattura tra intenzioni e realizzazione?": Untersuchungen zu Luciano Berios *Sincronie* für Streichquartett." In *Quellenstudien II: Zwolf Komponisten des 20 Jahrhunders*, ed. by Felix Meyer. Veröffentlichungen des Paul Sacher Stiftung, no. 3 (Winterthur, Switzerland: Amadeus, 1993), 90.

out of focus in relation to the group, but the focus is eventually restored, through mutual adjustment.[28]

When Berio creates various layers, at times those layers are out of focus with the group, but with time, they develop characteristics of the group and come into focus with the whole.

When we conflate Berio's statements about tension and focus, we see that they share points on the same continuum, with maximum tension being the out-of-focus areas and minimum tension representing focus, and thereby mean the same thing. For clarity, I will continue discussing the levels of tension in terms of focus and out of focus.

In this analysis, I label the four separate layers as: Layer 1—six-voice chordal texture, Layer 2—mixture of chordal and linear textures, Layer 3—linear hexachords, and Layer 4—two-part polyphony (See Appendix). As I examine each layer, I will show that Berio creates cohesion in *Sequenza XI* by generating compositional material from the idiomatic characteristics of the guitar.

LAYER 1—SIX-VOICE CHORDAL TEXTURE

Berio begins the layer, and the work, with the six pitches of the open strings of the guitar[29]. The open strings are tuned by successive perfect fourths, with a major third between the third and second strings,[30] which creates the following pitches: E2, A2, D3, G3, B3, and E4. These pitches not only belong to the sound world of the guitar, they also

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[28] Simon Emmerson, "Luciano Berio," *Music and Musicians* 24 (Feb 1976): 26-27.

[29] Although I call this a six-voice texture, six voices are not always present. The chords consist of four to six voices. Each voice part holds its own linear space. Therefore, when the texture thins, this is analogous to a resting voice part in six-part harmony.

[30] The first string of the guitar is the highest sounding string; by analogy, the sixth string is the lowest sounding pitch.

guide the progress of the pitch, timbre and textural materials as well as the intervallic content in this work. Berio relayed that the perfect fourth and the closely related augmented fourth are important elements in *Sequenza XI*. In his words the augmented fourth, or tritone, acts as "the passport between the two far-flung harmonic territories"[31] of the perfect fourth tuning of the guitar and a "different" harmony of Berio's design. Indeed, of all of the intervals that we readily hear, we notice both the tritone and the perfect fourth.

For instance, the first four chords of the work (Figure 2) move from the first open-string chord, which by nature consists of stacked fourths, to a second chord that, by means of three common tones—open strings—and similar voicing, resembles our first chord. However, in the second chord there are no perfect fourths; instead Berio uses an augmented fourth (C-F♯) and a perfect fifth (G-D). The third chord again retains three common tones from the second chord, only one of which is an open string, while reintroduces two other open strings.

With three open strings there is now one of the original perfect fourths (D-G) and the single major third (G-B), and one augmented fourth, C-F♯. Although the chord progresses away from the idiomatic voicing of the guitar, it retains enough identifying traits to reference the open string sonority. By the fourth chord, there are three open strings—which also serving as common tones from the third chord—but here Berio adds

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[31] Berio "Sequenzas", 20.

Figure 2. Layer 1 divided into six voices–based on range of pitches. Stems indicate voice not note value. Dashed lines indicate breaks in the layer. (Because this work has no bar lines, I follow David Osmond-Smith's numbering system throughout this study: the first number represents the page followed by the system number. Thus 1.1 means: page 1, system 1.)
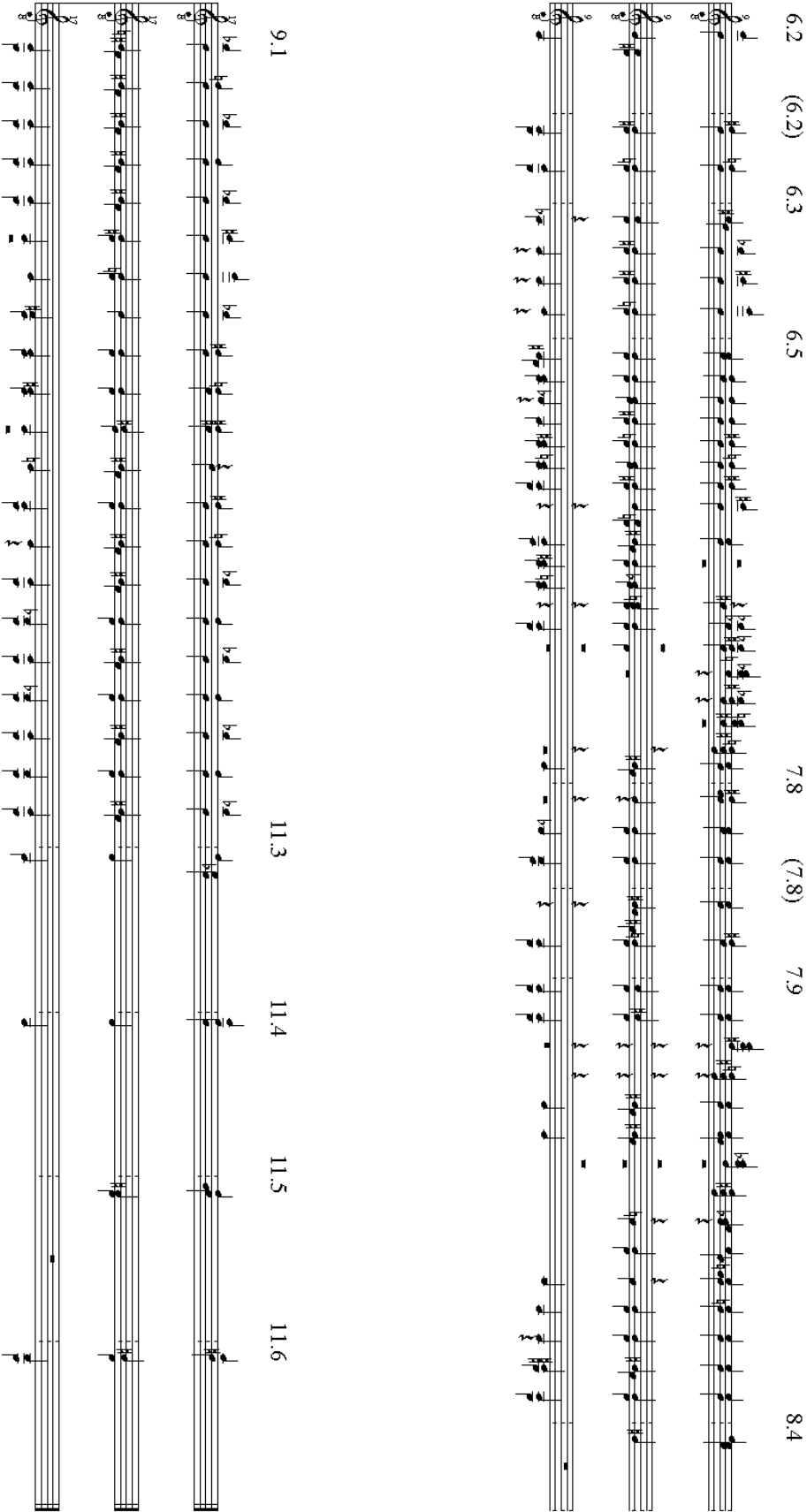
Figure 2 (continued).

a tritone from E♭ to A, and in the top voice introduces E5, the highest pitch in this layer. Although this E belongs to a pitch class idiomatic to the guitar, the pitch itself represents a registral shift, and thus arguably does not belong to the same pitch world of the open strings.[32]

Within these four chords we see that Berio moves from a focused area to an unfocused area. The open string chord, morphologically speaking, is focused—the chord clearly belongs to the traditional image of the guitar, whereas his image of the guitar based on a mixture of open strings, an inserted tritone and extreme register represents one possible out of focus area.

If we take out the non-corresponding layers from the beginning of the work, we see that each new entrance of Layer 1 continues the development and presentation of this layer (Figure 2). The basic design of this layer[33] shows an interest in moving from a state of flux—harmonic instability or out of focus—to stasis or in focus—as represented in the repetition of one chord (Figure 3).

Page 1   2   5   6   7 - 8   9

Presentation/O → Med F   Med F → Max F → Med F → Max O   O → Med F

                                        Break down of form
                                        (gliss. passages)

pages 2 and 9 are similar in structure and content

O=Out of focus F=in focus Med=Medium
→ =becomes (transition between states)
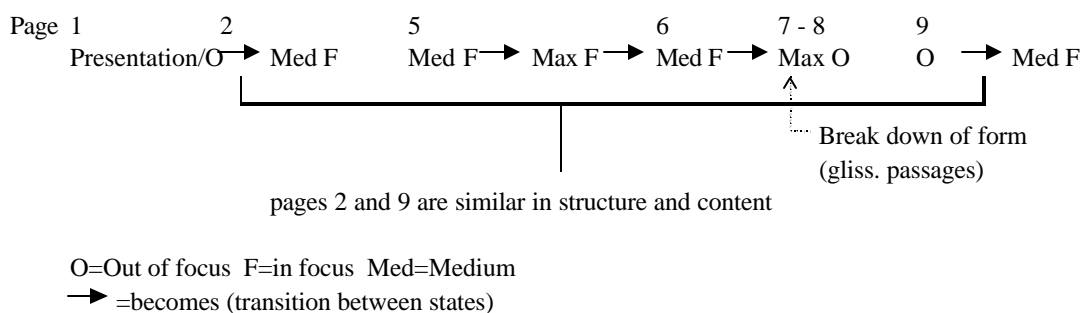
Figure 3. Form Diagram for Layer 1.

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[32] It is not the highest pitch on the guitar, but it represents the halfway point of the first string.

[33] Hereafter referred to as Layer 1.

Taking this new model, if we view Layer 1 as a "group" we see at the beginning that there is a state of flux and somewhat chaotic activity (Figure 3). Here the out-of-focus individuals of the group are striving for focus and clarity. When the layer reaches harmonic stasis, then there is focus. However, Berio does not end this layer with a point of clarity. After obtaining focus, the music quickly becomes out of focus, until even the constituent elements disintegrate, creating glissando chords that have little in common with the six-voice block chords in this layer.

Although we have moved from one end of the focal spectrum to the other, Layer 1 does not end here. On page nine Berio brings back similar material from the second page and develops this material along the same lines of focus, ending the layer with a somewhat focused area. Thus the overall form of Layer 1 is in three sections: pages one to two, pages five to eight and page nine. In the first section Berio presents the building materials and moves towards a focused area. In the second section he moves from medium to maximum focus, and then ultimately to out of focus. The final section mirrors the first by moving from a out-of-focus area to a moderately focused area, thus concluding this layer.

Berio's development of Layer 1 shows not only an interest in polyphony of independent focal points, but also in a tight compositional plan. When one chord moves to another in this layer, Berio retains almost always three common tones and/or three open strings. In fact, this layer never employs chords that do not contain at least one open string. Although the guitar can perform six-voice chords that do not use open strings, Berio never uses such chords. Because of this, every chord, whether four- or six-voices, shares at least one common tone with every other chord.

To summarize, Layer 1 consists of six-voice chords that are related to the open string chord that starts the work, either by content or similar intervallic structure, and that this chord and its structure helps to establish a cohesion within this layer. I also mentioned that the inner voices move from one chord to the next either by common tones or by moving to open strings. It is important to note that most of Berio's concern for logical voice leading appears in the inner voices where one traditionally looks for well thought-out voice leading. The outside voices leap about to what seems to be random pitches. Upon closer inspection we see that Berio exhibits great control on the outer voices. In fact, he employs a limited number of pitches.

At this point, I want to diverge from the consideration of Layer 1 in order to emphasize that Berio's harmonic fields relate to specific pitches, and those pitches are fixed in register. Thus, when Berio uses a pitch, he does not always take advantage of the octave equivalents that belong to the pitch class. For example, in Layer 1, he uses all of the pitch classes (Table 1), but excludes specific octave occurrences of G and B. Only open strings G3 and B3 are used, (Berio does not use G2, B2, G4 or B4), and given their resonant quality, these open strings resonate perceptibly throughout the texture.

Table 1

Pitches used in Layer 1—arranged chromatically.
Bold letters indicate the open strings,
lower case indicates strings rarely used

E2 F2 F♯2	G♯2 **A2** B♭2	C3 C♯3 **D3** D♯3
E3 f3 F♯3 **G3** G♯3 A3 A♯3 **B3** C4 C♯4 D4 D♯4
E4 F4 F♯4	G♯4 a4 B♭4	C5 C♯5 d5 e♭5
E5

Note: f3, a2 and eb5 – only played one time each. d5 is only played twice.

Berio exhibits the same care for pitch in the outer voices (Figure 4). The top voice plays seven specific pitches (A4 and E♭4 are only used once, D4 is only used twice) and the bottom voice plays nine pitches. In addition, within the first four chords, Berio defines the boundaries of each voice. The bass voice moves from E2 to D3, and the top voice moves from E4 to E5.

Figure 4. Pitch boundaries of outer voices in Layer 1.

Within what I call the presentation section of Layer 1, Berio establishes the pitch material and boundaries of each voice. In essence, he lays out the rules here at the beginning that he will adhere to in this layer for the rest of the composition.

LAYER 2—MIXTURE OF CHORDAL AND LINEAR TEXTURE

The second layer we approach in *Sequenza XI* at first seems closely related to Layer 1 in that it continues with four- to six-voice chords. However, unlike Layer 1 it employs short linear passages in addition to chords. With the entrance of Layer 2 we see the layered form at work.

Layer 2 is the most identifiable layer. It contains some of the most tranquil and slowly moving music in the work. It also has the only literally repeating material. The material presented on the second page returns later with minor changes on pages eleven and twelve. When we excise the other layers we see that Layer 2 slowly comes into focus and later returns in focus (Example 1).

Within the presentation section there are three sections, X Y and Z (Example 1).[34] Each of these sections concludes with a cadence on a trichord with the pitches D♯4 C♯5 and G♯5, which is not only the first chord to not use an open string, but also the highest pitch of the work thus far (Example 2). Each of the three sections (X Y and Z) centers largely on the alternation of two chords, α and β (Example 3). In both X and Y Berio interjects short linear passages in the lowest register between alternations of α and β.

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[34] By analogy the return section contains the same three sections.

Example 1. Layer 2 reconstructed with other layers excised.

Example 2. Layer 2 cadence chord.

Example 3. α and β chords in Layer 2.

Z is slightly different, although it also makes use of chords along with short, low-register linear passages, it does not just alternate two chords. It does use the α chord, and it cadences with the same three-note chord as the other two sections, but with the introduction of new harmonies, the obsession with, in this case, the pitch classes E, B♭, and B♮, and the presentation of a new chordal timbre—a chord with all tones played as open-string harmonics—we sense that section contrasts with the preceding two sections.

Berio first presents X and Y, then begins Z but abruptly cuts it off with a varied repetition of X and Y. When these two statements finish, Berio begins Z again and finishes it off. Once Berio has a full statement, or in other words brings the layer into focus, Layer 2 moves on to a Layer 3, but later returns to a statement of X, Y and Z with minimal changes from the initial presentation (11.6).

In Layer 2 we see also Berio's concern for differing levels of tension or focus. When he begins the layer, he slowly presents information, interspersed with other layers,

or what seem to be improvisatory gestures. This is especially apparent at the end of page one where he arpeggiates the α chord that starts the layer, proceeds like he did in the second system, but then suddenly includes a quick linear gesture that seems not to relate to the other material in this layer texturally, rhythmically, and harmonically. On page two when the layer seems to be in focus, Berio interrupts the forward motion of the material with a slightly varied repetition. Once we have heard the cadence of Z, then Berio allows the layer to move quickly back out of focus as segments of the layer appear juxtaposed with elements from another layer.

In the return, Berio uses one chord, heretofore never used (first chord on 11.6; Example 4) as a means of suddenly pulling the music back into a focused Layer 2, which we have not heard since page three. After the full presentation, and cadence on the trichord D♯4, C♯5, and G♯5 (2.6), Berio breaks down the material into small remnants of Layer 2. Here, much like a lake after a rain shower, small drops of previous elements of Layer 2 gently fall like the last drops of rain which create small ripples here and there in the music, reminding us only of the torrent of pitches that passed recently.

Example 4. New chord on page eleven, system six.

With this second layer, Berio seems to draw a circle around the music. Layer 2 begins near the beginning of the work and ends about three systems from the end using a different mode of undertaking the presentation and development of musical materials than Layer 1. Here the move towards clarity is gradual. The layer then moves quickly

out of focus, only to return much later completely in focus, at which point it disintegrates into a collection of fragments left from the entire piece (Figure 5).
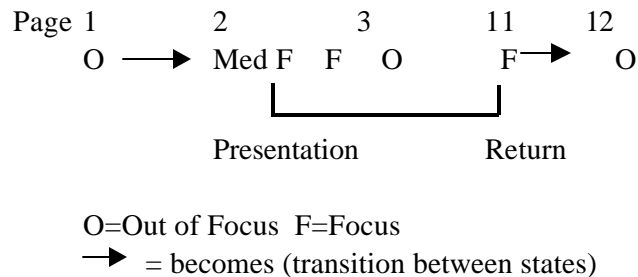
```
Page  1              2          3          11      12
      O  ────▶  Med F   F    O          F ─▶   O
                         └──────────────┘
                    Presentation         Return
```

O=Out of Focus F=Focus
──▶ = becomes (transition between states)

Figure 5. Form Diagram for Layer 2.

It is important to note that at the end of the work, the distinction of each of the layers is undone. Berio leaves us with only fragments of material, none of which represents enough of a layer for us to feel the polyphony among the layers that had so artfully been woven in the previous fourteen or so minutes.

LAYER 3—LINEAR HEXACHORDS

The third layer in *Sequenza XI* consists of linear arabesque gestures that equally divide the twelve-tone aggregate into two hexachords. The first, *a*, uses the pitch classes C, C♯, F, F♯, G, B, and the second, *b*, uses D, E♭, E, G♯, A, B♭. Berio almost always groups these tones in their respective hexachords. However, he does mix one or two notes in order to blur the boundary ever so slightly between the two hexachords.

Berio arranges the hexachords so that in most cases a tritone forms between every other pair of pitches (Example 5).

Example 5. Most common arrangement of hexachords in *Sequenza XI.*

Although in the other layers Berio often used pitches fixed in register, here he uses pitch-classes wherein register is not as important. Thereby interval inversions are treated as equivalents—augmented fourth is the same as the diminished fifth, the perfect fourth and the perfect fifth—and thus are used interchangeably, as demonstrated in three separate passages which use the *a* hexachord we see this clearly (Example 6). In the first passage Berio arranges the pitches in the following interval order: D5, P4, D5, P4, D5. The second passage uses A4, P5, A4, P4, A4. The third passage uses D5, P11, A11, P11, D12.
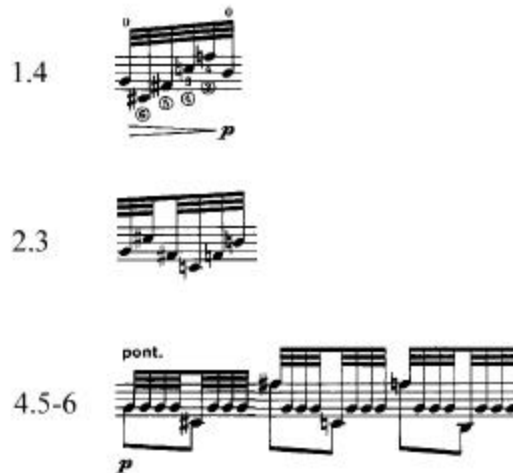
Example 6. Arrangement of the pitches in hexachord *a* on page one, system four; page two, system three; and page four end of system five to beginning of system six.

 It is abundantly clear, however, that Berio does not always use three groups of tritones that alternate with perfect intervals. But there is ample evidence to show that he purposefully ordered the pitches in this layer so that a maximum number of tritones and perfect fourths and fifths appear.

When we first encounter hexachord *a*, we see all six pitches appearing as a single run (1.4; Example 7). At the second entrance of *a* Berio adds one pitch from the other collection, E4, and duplicates one pitch, B3, to create an eight-note run (1.5). He follows this with a full statement of hexachord *b* grouped in an odd assortment of a four-note ascent, a three-note trill and a four-note descent that includes two pitches from Layer 2.

Example 7. Hexachord *a*. Page one, system four.

At the point where we first hear Layer 3, Berio has set two other layers going. Because of this Layer 3 can only interject a few small segments of its development at a time. By the third page Layer 3 is allowed to pursue its development. Berio presents various linear gestures in which the pitches are grouped according to the two hexachords. Like before, each gesture may contain only the six pitches of the hexachord, or may use the six and borrow one (or sometimes two) pitches from the other hexachord. For example, on the third system of page three, we see a collection of six pitches, all belonging to hexachord *a*. However, the target note of this six-note run is E4, from hexachord *b*. Hexachord *a* again asserts itself, but then is soon lost in the flotsam and jetsam from the disintegration of Layer 2.

When Layer 3 clearly appears again we see an eight-note linear gesture consisting of five pitches of hexachord *a* (C, C♯, F, F♯, B) followed by two pitches from hexachord *b* (B♭, E). Berio further blurs the distinction of the boundary when he concludes each four- to eight-note gesture on this page with a three-note trill. Because the trills involve three adjacent chromatic pitches, almost all of them contain a mixture of pitches from the two hexachords.

Several points in this layer clearly show that Berio was intentionally grouping pitches based on hexachords. For example, in the middle of the third page (3.6; Example 8) Berio groups the six pitches of hexachord *a*, G, F♯, C♯, C, F, and B (labeled **a1** in Example 8), followed by a trill on three of the pitches: B, C, C♯ (**a2**), which then leads into a new gesture that repeats the pitches of the hexachord, but in a new order (**a3**). Immediately following this Berio uses the other hexachord for the next six-note run (**b1**).

Berio completes this passage with an eight-note run that uses the last two notes of *b* (**b2**) followed by four notes of *a* (**a4**).

Example 8. Pitch groupings based on hexachords. Page three, sixth system.

In Layer 3, Berio slowly focuses by showing a clear division between the hexachords. The first focal point comes at the middle of page four when each hexachord presents their respective pitches so that each has three prominent tritones (Example 9).
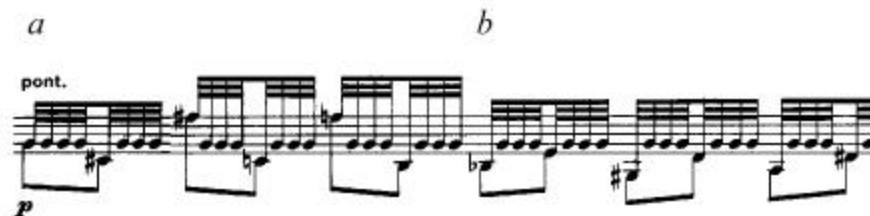
Example 9. Alternating hexachords, Page four, end of system five to beginning of system six.

After this point, the layer loses focus again when the hexachords fragment into two- or three-note groups and dissolve the boundary by mixing pitches from the separate hexachords. At page five, Layer 3 appears to be coming back into focus when the guitar plays hexachord *b* as a single tremolo gesture (5.4). In the next passage of upward expanding three-note trills, we lose focus and soon after Layer 3 is violently interrupted

by Layer 1. In the next few pages (pp. 6-9) Layers 1 and 3 enter a dialogue, sometimes

interrupting one another, sometimes quietly waiting for a chance to speak.

Each time Layer 3 comes to the foreground in the dialogue, it is not completely

focused, but by the second system of page ten it is in focus. Here, Berio alternates

hexachords with almost no interruptions, segmentation, or mixing until the return of

Layer 2 on page eleven (Example 10).

Example 10. Page 10, systems 2-4, with alternation of hexachords *a* and *b*.

The tension of focus in this layer is best understood as a wave that begins to rise to two

small crests followed by a long crashing swell in which the alternation of hexachords

disintegrates, leaving us in the coda with only fragments of each hexachord (Figure 6).
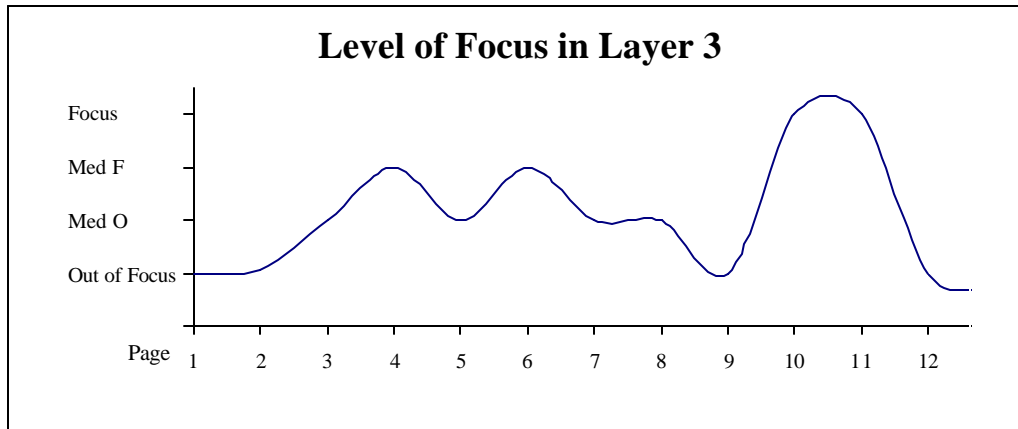
Level of Focus in Layer 3

Figure 6. Graph of level of focus in Layer 3.

As we see from this graph, Berio develops this layer differently from the previous layers by saving the focused section for the very end.

LAYER 4—TWO-PART COUNTERPOINT

We do not encounter Layer 4 until page seven (7.6). This is the only layer in which Berio explicitly writes two-part counterpoint. In Layer 3 there were linear tremolos in which a single note sounds as a pedal against a moving line, but that layer never used two voices with their own linear identity at a time. Here in Layer 4, Berio uses the two voices to reach the highest pitch of the piece, B♭5.[35] This section creates a climax in two ways, through pitch and a dramatic change in texture—from the beginning of *Sequenza* XI to page nine, the focal point of Layer 4, we have heard only chords and single-voice linear gestures.

When we disentangle the two written voices, we see that the top voice seems to imply two voices; the highest voice ascends chromatically from C♯4 to B♭5, and the lower

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[35] In this passage, Berio also reaches the highest pitches on the guitar. The top voice comes to a stop on B♭5, a semi-tone down from the highest possible fretted pitch, B5.

voice ascends chromatically from E4 to E5 (with one added lower C4 at the beginning (Figure 7). By the fifth highest pitch, F4, Berio creates a sequence in the strictly defined music-theoretic sense—a melodic pattern successively repeats at different pitch levels in the upper written voice (in figure 7 both voice 1-1 and 1-2 participate in the sequence).

Figure 7. Layer 4 divided into three voice parts by range.

In this layer Berio develops one strand or voice at a time. Unlike the other layers, Berio does not begin this material until late in the composition. Halfway through page seven we first encounter a fragmented version of the upper voice of the layer (7.6; Example 11). Between iterations of this material, Berio interjects bits and pieces of the other three layers, thus disguising the appearance of the newest and last layer. This presentation lasts for only a brief moment, ending on the last system of page seven (7.9).

Example 11. Voice 1 fragmentation. Page seven, systems six through nine.

At almost the exact same place on the next page (8.6), Berio resumes the presentation of Layer 4 (Example 12). Here he introduces the bottom voice of the layer with fewer interruptions than the top voice. Like the top voice, Berio ends the presentation of the bottom voice on the last system of the page before moving on to material from other layers (8.9).

Example 12. Voice Two. Page eight, systems six through nine.

Once Berio has completed the presentation of both voices in this layer, he then combines the two voices in the middle of the ninth page—almost the exact place on the printed page where they first appeared on pages seven and eight (9.5). By the last system of page nine, the material breaks down into a highly out-of-focus state. At this point all that is left are two pitches, B and B♭—the pitches that started the passage (9.4)—which oscillate from one tone to the other until Layer 3 reappears on page ten.

This layer represents yet another way for Berio to organize the presentation and development of material (Figure 8). It begins out of focus, with the listener unaware that a new layer has begun, but soon becomes more focused as this new material builds to a climax at the end of page seven. Layer 4 disappears quickly; when it returns on the next page the material seems familiar in its structure, but different in the pitches and range.

Like the page before, we sense a feeling of a developing climax as the lower voice of the two rises higher and higher. This gives us the feeling of moving more into focus. Finally the two layers emerge to present the most in focus version which quickly becomes out-of-focus wherein hardly any of the material of the two voices is left.
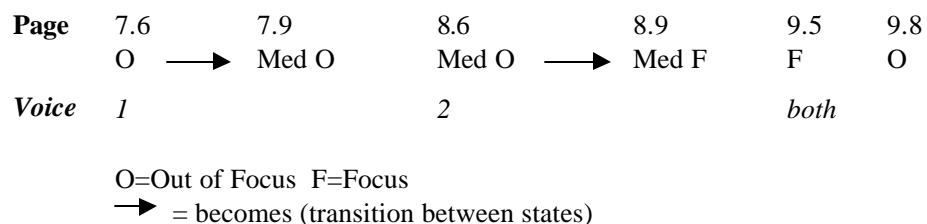
Page	7.6		7.9		8.6		8.9		9.5	9.8
	O	⟶	Med O		Med O	⟶	Med F		F	O
Voice	*1*				*2*				*both*	

O=Out of Focus F=Focus
⟶ = becomes (transition between states)

Figure 8. Form Diagram for Layer 4

CONCLUSION

Within *Sequenza XI*, each layer behaves and develops at its own pace. By creating a graph similar to Berio's sketch of *Sincronie* (Figure 1) we see a similar polyphony in the development of each separate layer (Figure 9). Even though we can separate *Sequenza XI* into four distinct layers, Berio unites the layers by using a small amount of building materials. When we compare the four layers, we see two layers with vertical elements and two with linear elements. Layer 1 is vertical, Layer 2 mixes mostly vertical elements with some linear, and Layers 3 and Layer 4 are linear.

The two vertical layers, Layers 1 and 2, share some common pitch material. Often Berio uses the common pitch material in order to blur the boundaries between the different layers. For example, at the beginning of *Sequenza XI* there are several chords
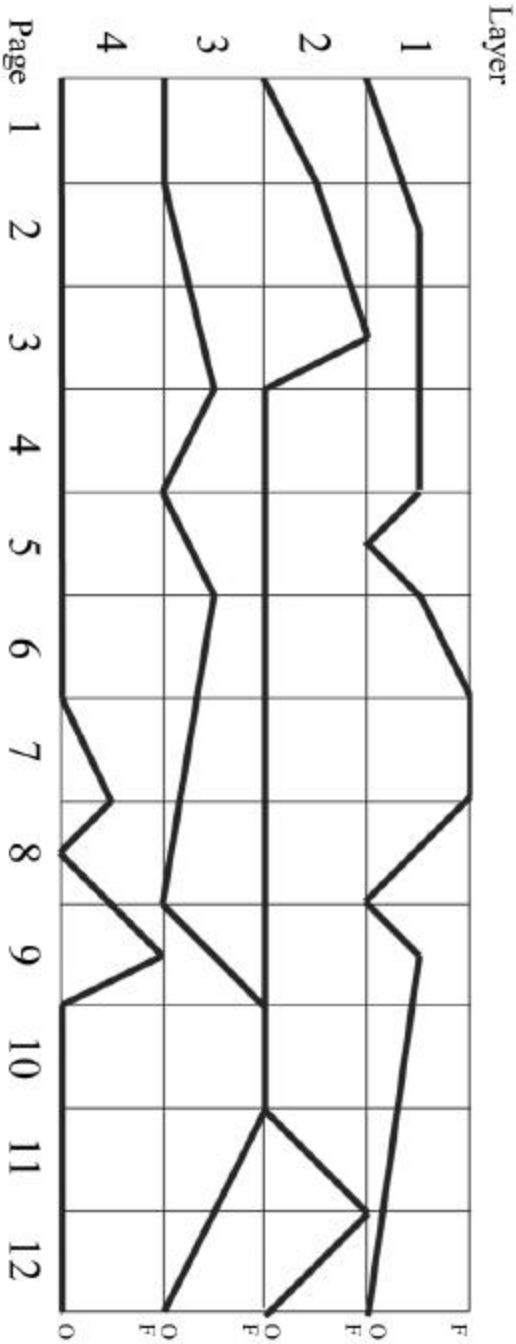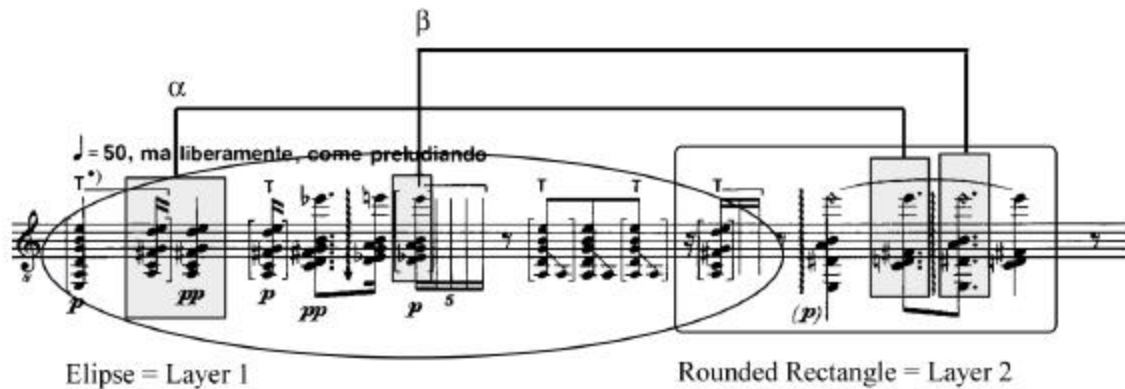
Figure 9. *Sequenza XI*, Level of Focus for All Layers. F=Focused O=Out of Focus

that I say belong to Layer 1, but at the same time they resemble the α and β

chords that appear in layer two (Example 13; see also Example 3). In this figure

we see that both

Example 13. Similarity and overlap between Layers 1 and 2.

layers share one chord. It is the second chord of Layer 1 and has many of the same

qualities as the α in Layer 3. In fact it begins Layer 3 every time that the X material

appears (see discussion on Layer 2, above). Ultimately the common materials behave and

develop in their own way, and for this reason I see them as separate layers instead of the

same layer.

Like Layers 1 and 2, Layers 3 and 4 share common materials, which in turn helps

to make the different layers seem like part of the same whole. Another element that helps

unify the entire composition is that almost every sonority, whether it is vertical or linear,

contains at least one open string. Because Berio claims that a composition should be

idiomatic to the given instrument he allows the open strings of the guitar to take a

prominent role in the composition. One of the most interesting passages in the work

occurs on page eight. Here Berio includes a short passage for the guitarist to retune if necessary.

According to Fisk and Gerd Wuestemann this tuning passage was included after the initial performance for practical reasons because the guitar had gone out of tune, "The extensive use of rasgueado had all but ruined the tuning of Fisk's instrument, and there was no chance for him to correct the intonation short of stopping in the middle of the piece!"[36] Berio said of ruined tuning, "I was horrified! How could this have happened. Little did I know about the fragile nature of the guitar's tuning. All I could think of was: I have to come up with something!"[37] In a 1989 interview about *Sequenza XI*, Eliot Fisk revealed that "Berio uses the guitar better than anyone in the twentieth century outside of Villa-Lobos, and Villa-Lobos was a good guitarist. I had to change remarkably little in the finished piece. And with Berio, when there's a problem, there's always an easy solution, because he is a practical musician who writes music to played and heard."[38] Because Berio is practical he came up with a solution to the problem of the guitar going out of tune that works with the harmonic language of the work. In this passage, Berio uses the tuning of the guitar (and its weakness) to help unify the composition harmonically.

I have argued that *Sequenza XI* fits within the series because it also utilizes three common elements: virtuosity, idiomatic writing and polyphony. This work clearly demonstrates each of those elements. We see virtuosity most clearly on the surface

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[36] Gerd Wuestemann, "Luciano Berio's Sequenza XI per Chitarra Sola: A Performer's Practical Analysis with Performance Edited Score" (D.M.A. diss., University of Arizona, 1998), 42.

[37] Quoted in Gerd Wuestemann, "Luciano Berio's Sequenza XI per Chitarra Sola," 42.

[38] Crutchfield, "Luciano Berio Speaks of Virtuosos and Strings," sec. C, p. 3.

because of the speed of the passages and the difficulty of the various gestures and chords. To see the other two elements we have to dig a little deeper, thus when we notice that all of the sonorities have common tones, or that Berio finds a solution to an guitaristic problem we see the idiomatic writing. As for polyphony it has shown itself in different ways: through actual polyphony or through quasi-polyphony—when one voice represents two distinct registers—such as we saw in Layer 4, or through polyphony of the different elements.

In this study I have only touched on the polyphony found in the structure or morphological aspect of the work. It is possible for one to find further examples of polyphony in different elements such as pitch, dynamics, rhythm and so forth. If one were to do so, I am convinced that s/he would see traces of Berio's concept of "in- and out-of-focus" at play. It was evident in the sketches for *Sincronie*. Perhaps a sketch study of this work, or of other *Sequenzas* would yield similar graphs showing the polyphony of the different elements and their states of tension.

Whether we may find graphs showing Berio's concern for layering the different elements or not, it is evident from Berio's comments and compositions that he creates compositions in which a polyphony of elements occurs. Although polyphony or multiple layers of meaning[39] may be inherent in every composition, it is particularly important in Berio's works, above all in *Sequenza XI*. An awareness of how Berio uses polyphony is necessary in understanding this work if not all of his works.

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[39] Laurence Bitensky addresses multiplicity in Berio's music in his Ph. D. dissertation, "Multiplicity and the Music of Luciano Berio: An Introduction to Critical and Analytical Issues" (Ph.D. diss., Cornell University, 1995).

APPENDIX

Page 1, Arranged by Layers

Layer 1

Layer 2

Layer 3

Layer 4 (Does not occur until page seven)

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