I, Gui Hwan Lee, hereby submit this original work as part of the requirements for the degree of Master of Music in Music History.

It is entitled:
The Roots of Texture as a Structural Agent in Luciano Berio's Sincronie for String Quartet (1964), as Seen in His Early 1960s Orchestral Works, Nones, Tempi concertati, Allez-hop, and Epifanie as well as Late 1960s Work, Sinfonia

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The Roots of Texture as a Structural Agent in Luciano Berio’s *Sincronie for String Quartet* (1964), as Seen in His Early 1960s Orchestral Works, *Nones, Tempi concertati, Allez-hop*, and *Epifanie* as well as Late 1960s Work, *Sinfonia*

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Abstract

Luciano Berio’s *Sincronie for String Quartet* (1964) has been the most frequently analyzed work among the five string quartets of the composer. No study yet examined how this piece is related to his other works in compositional techniques or interests. In this thesis, I suggest that six textural ideas, each of which generates a distinct texture involving various musical parameters, associate *Sincronie* and Berio’s five orchestral works written in the 1950s–60s: *Nones* (1954), *Tempi concertati* (1958), *Allez-hop* (1959), *Epifanie* (1961), and the first movement of *Sinfonia* (1968). In these pieces, the textural ideas give perceptible shapes to the composer’s characteristic harmonies, and delineate the overall structures. Thus, they indicate not only an unnoticed relationship between *Sincronie* and Berio’s other works, but also a significant aspect of his music in the 1950s and 1960s.
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Chapter 1

Review of Previous Literature on Sincronie

Luciano Berio’s years in the United States (1960–71) represent a significant period in the composer’s career. During this productive decade, he created a number of important works that gave him an international reputation, including Sequenze for solo instruments and Sinfonia for Eight Voices and Orchestra.1 His output during this time also includes Sincronie for String Quartet (1964). While this piece has been the most frequently analyzed work among Berio’s five string quartets,2 there has been no study yet that examines how Sincronie is related to the composer’s other works or compositional techniques as well as interests of its time. In this introductory chapter I will describe this gap in the current scholarship on Sincronie, and introduce my solution to it. More specifically, I will discuss the genesis of Sincronie, the existing research on Berio’s four string quartets, and the literature on Sincronie. Then, as an original solution for filling such a gap in the current literature, I will propose a study of textural ideas observed in Sincronie and Berio’s five orchestral works spanning from the 1950s to the 1960s: Nones (1954), Tempi concertati (1958), Allez-hop (1959), Epifanie (1961), and the first movement of Sinfonia (1968). This study, presented in chapters 2, 3, and 4, will demonstrate that

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2 Study (1952), String Quartet No. 1 (1956), Sincronie (1964), Notturno (1993), and Glosse (1997).
Berio’s various ideas on texture, which are tested in his orchestral music, are presented throughout *Sincronie*. By giving perceptible shapes to Berio’s typical harmonies and delineating the overall structures, they appear to be a significant aspect of the composer’s music in the 1950s and 1960s.

In September 1962, Grinnell College asked Berio, who was teaching in Mills College as a visiting professor to replace Darius Milhaud,\(^3\) to write an original piece for their new quartet-in-residence, the Lenox Quartet.\(^4\) Accepting the commission, he started working on the new piece in collaboration with the Lenox musicians. According to Charlotte Seither’s investigation of the primary sources, the process of composition, premiere, and revision went through three phases.\(^5\) During the first phase (from late 1962 or early 1963 until mid-July 1964), Berio created a sketch before finishing the first complete version and confirming the title of the piece.\(^6\) During the second phase (from summer or late July until November 1964) the composer made revisions to the first complete version, which eventually turned into the first edition, published by Universal Edition in October 1964. The piece was premiered on November 24, 1964, in the Roberts Theater of Grinnell College. During the last phase (from December 1964 to July 1966), Berio continued revising the first edition, and Universal Edition published this re-working as the second edition in July 1966.

\(^3\) Kuo, “Composing American Individualism,” 12.


\(^5\) Seither, *Dissoziation*, 77.

Sincronie stands as the third among Berio’s five pieces for string quartet as well as the only piece written for the medium in the 1960s. The four other works include two from the 1950s, Study (1952) and String Quartet No. 1 (1956), and two from the 1990s, Notturno (1993) and Glosse (1997). The separation in time between the 1950s and the 1990s suggests that the quartets have quite different stylistic backgrounds, an idea that has naturally drawn scholarly attention. Most of the existing scholarship on Berio’s string quartets focuses on the individualities of each work. However, whereas such individualities are often considered in relation to Berio’s style or signature works of the time, the research on Sincronie has not always considered the composer’s other music of the 1960s.

A brief review of the available secondary sources on Berio’s string quartets may help illustrate Sincronie’s unique position in the scholarship. The literature can be divided into two categories. The first includes general surveys of Berio’s string quartets, such as those by Marco Uvietta, Richard Hermann, Marco Mazzolini, and Charlotte Seither. Uvietta, in his liner notes for the Arditti Quartet’s recording of String Quartet No. 1, Sincronie, Notturno, and Glosse, provides listeners with a concise guide to the individual characteristics and stylistic changes in each work.7 Hermann’s “Becoming Berio: Evidence from His First Three String Quartets” (2009) describes Berio’s individual quartet style, which was developed and maintained throughout all five works.8 Mazzolini, in his discussion of the string quartets composed by twentieth-century Italian composers, describes the characteristics of String Quartet No. 1,

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7 Marco Uvietta, liner notes of Luciano Berio, Noccturno / Sincronie / Glosse / String Quartet No.1, recorded with the Arditti Quartet, February 2002, Naïve MO 782155, 2002, CD.

Sincronie, Notturno, and Glosse. Finally, Charlotte Seither’s introductory discussion in Dissoziation als Prozeß (2001) provides an overview of all five works by the composer.

The other category of literature on Berio’s string quartets involves the theoretical or aesthetical discussions of individual pieces. The analyses of Study and String Quartet No. 1 include the aforementioned study of Hermann, and Christoph Neidhöfer’s “Inside Berio’s Serialism” (2011). In Neidhöfer’s analysis of the composer’s serialist technique underlying String Quartet No. 1, and the orchestral pieces such as Nones (1954) and Allelujah I (1955–56), Neidhöfer, with a handful of manuscripts, partially reconstructs the composer’s procedure for String Quartet No. 1, and demonstrates several noticeable technical features. Three studies of Notturno published before 2010 focus on the explicit as well as implicit relationships between the composition and the poem that inspired it, Paul Celan’s “Argumentum e Silentio”: Wilfried Gruhn’s “Argumentum e Silentio: Fünf Annäherungen an Luciano Berios Streichquartett Notturno” (1997), Karin Lovelius’s “Att gestalta det fragmentariska: Tonsättare tar sig an Paul


10 Seither, Dissoziation, 11–15.


13 Berio directly quotes an expression from the poem, “Ihr das erschwiegene Wort” at the beginning of Notturno’s score, and again mentions the same expression in his program note: “...it is nocturnal because it is silent. It is silent because it is made up of unspoken words (“Ihr das verschwiegene [sic] Wort”) and incomplete discourses. It is silent even when it is loud, because the form itself is silent and non-argumentative. Every so often it turns back upon itself, bringing to the surface those silenced words; every so often it comes to a stop, insisting on a single figure, dilating it obsessively...” Luciano Berio, Centro studi Luciano Berio, accessed March 19, 2016, http://www.lucianoberio.org/node/1590?1787706294=1.
Celans poesi” (2005), and Axel Englund’s “‘Streicht dunkler die Geigen’: Berio and Birtwistle in Dialogue with Celan” (2008).14 In addition, two relatively recent studies, Simone Heilgendorff’s “Schubert-Reliquien: Beobachtungen zu seinem Einfluss in der neueren Kunstmusik” (2010) and Neidhöfer’s “Berio at Work: Compositional Procedures in Circles, O King, Concerto for Two Pianos, Glossa, and Notturno” (2012) focus on the piece’s reflection of the music from the past (Heilgendorff) or the composer’s typical techniques (Neidhöfer).15 Finally, Tudor Feraru’s “A Testimony to the Immortality of the String Quartet Genre: Glosse by Luciano Berio” (2011) discusses the pitch organization, harmony, and form of the piece based on his understanding of the composer’s late style.16 Thus, a review of the existing literature of Berio’s string quartets other than Sincronie suggests that the scholarship has been closely associated with the composer’s techniques and interests. Study takes its place in Berio’s stylistic development of the early 1950s. String Quartet No. 1 exemplifies Berio’s twelve-tone serialism. Notturno and Glosse reveal the composer’s late style and his fondness for music of the past as well as linguistic philosophy.

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Conversely, the existing literature on *Sincronie* has not sufficiently discussed its stylistic background, even though the work is the most frequently studied quartet among Berio’s oeuvre. Reed Kelly Holmes’s doctoral dissertation, “Relational Systems and Process in Recent Works of Luciano Berio” (1981), provides the earliest theoretical investigation of the piece.\(^\text{17}\) By examining *Sincronie* (1964), *Chemins II* (1969), *Concerto for Two Pianos* (1973), and *Points on the Curve to Find* (1974) under one unifying term, “relational system,” the author attempts to discover how Berio consistently assigned formal functions to multiple musical parameters.\(^\text{18}\) Holmes does not suggest that “relational system” represents the composer’s signature technique; rather the author uses the term to refer to a post-tonal strategy for treating various musical parameters including pitch, dynamics, timbre, texture, etc.\(^\text{19}\) Also, in the chapter for *Sincronie*, Holmes does not discuss its stylistic background or relationship to Berio’s other pieces, treating *Sincronie* as an individual composition that contains its own “relational system.” Mentioning the value of analysis itself, Holmes provides some meaningful observations and speculations related to the texture and harmony of the piece, although they are somewhat fragmented and not integrated.

After Holmes’s dissertation, the release of manuscripts as well as other primary sources related to *Sincronie* provided new opportunities for the scholarship on the piece.\(^\text{20}\) In 1993,

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\(^\text{17}\) Reed Kelly Holmes, “Relational Systems and Process in Recent Works of Luciano Berio” (PhD diss., The University of Texas at Austin, 1981).

\(^\text{18}\) Ibid., 1.

\(^\text{19}\) According to the author, the term means “a set of functional associations established in a composition,” by which “a composer presents a hierarchy of musical relationships which has the potential for structural elaboration as well as for providing a set of aural associations for the listener.” Ibid.

\(^\text{20}\) Clearly, the released primary sources are not limited to *Sincronie*. One of the most extensive studies investigating those sources is *Berio: Nuove Perspettive/New Perspectives* (2012). Presenting seventeen authors and their studies of Berio’s music from diverse perspectives, the study includes the
Thomas Gartmann published a concise examination of these sources, including correspondences, sketches, and practice scores, also outlining the probable compositional process. In 2000, Charlotte Seither published Dissocization als Prozeß, an extensive discourse on Sincronie based on her doctoral dissertation. In Dissoziation the author provides a detailed investigation of the primary sources as well as Berio’s compositional process. Indeed, she provides a thorough analytical examination of Sincronie at both microcosmic and macrocosmic levels. More recently, in 2012, Angela Ida de Benedictis suggested that Sincronie reflects Berio’s compositional process as well as his experience with electro-acoustic music in the 1950s. De Benedictis supports her argument with some sketches related to the piece.

While the existing literature on Sincronie has contributed to our comprehension of the work, it does not sufficiently discuss the quartet’s stylistic background and relationship to Berio’s other compositions. The studies of Holmes, Gartmann, and Seither seem to separate the work from Berio’s oeuvre and consider it as an independent composition with its own logic.

examinations and discussions of Sequenze VII for Oboe, X for Trumpet, Nones, Allelujah II, Tempi concertati, Formazioni, Sonata for Piano, Circles, O King, Concerto for Two Pianos, Glossa, Notturno, Concerto for Two Pianos and Orchestra, Sincronie for String Quartet, Momenti, Sinfonia, and Coro as well as many other manuscripts, correspondences, notes, etc. Angela Ida de Benedictis, ed., Luciano Berio: Nuove Prospettive/New Perspectives (Florence, Italy: Leo S. Olschki, 2012).


22 Seither, Dissoziation, and “Studien zum Streichquartett ‘Sincronie’ (1963/64) von Luciano Berio” (PhD diss., Freie Universität, 1997).

Although these studies vividly elucidate the compositional procedure as well as the characteristics of *Sincronie*, they do not mention how these findings could be integrated into the scholarship on Berio’s style. De Benedictis’s study might be able to compensate for that aspect, but the author focuses on electro-acoustic music and its influence on Berio’s output for traditional media, limiting the discussion to the relationship between the composer’s electro-acoustic music and the sketches for *Sincronie*. Even if Berio had made some initial sketches for *Sincronie* using the methods of his electro-acoustic music, eventually he would have had to transform (or translate) those abstract sketches into the musical materials found in the score. Regarding this issue, De Benedictis does not specifically discuss how the sketches of *Sincronie* could have been converted into the actual composition. Consequently, a critical review of the existing literature reveals a gap in the current scholarship, which could be filled through a more extensive discussion of the stylistic background.

In order to fill in this gap, this thesis seeks evidence of a stylistic relationship between *Sincronie* and five other Berio compositions: *Nones*, *Tempi concertati*, *Allez-hop*, *Epifanie*, and *Sinfonia*. While representing his important achievements in orchestral music in the 1950s and the 1960s, these pieces contain a considerable number of passages that recall several common textural ideas found in *Sincronie*. By texture I am referring here to the first definition of texture in Grove, “the vertical aspects of a work or passage, for example the way in which individual parts or voice are put together.”

More precisely, textural idea means a distinct texture

24 Grove Music Online suggests that texture may refer “either to the vertical aspects of a work or passage, for example the way in which individual parts or voice are put together, or to attributes such as tone colour or rhythm, or to characteristics of performance such as articulation and dynamic level.” Although I will consider all these definitions in my discussion of textural idea, for the sake of clarity I have chosen the first as the main meaning. “Texture,” *Grove Music Online*, accessed April 10, 2016, http://www.oxfordmusiconline.com/subscriber/article/grove/music/27758.
involving various musical parameters. For instance, if an entire orchestra simultaneously (rhythm) plays all twelve tones (pitch) with one single accent (attack) in **fff** (dynamics), it will generate a highly distinct texture unmistakably recognizable to listeners. Even though there has been no study investigating *Sincronie* and the orchestral pieces according to one overarching compositional idea, this thesis will show that five common textural ideas connect those compositions, revealing Berio’s consistency in his treatment of texture.⁵ Such a discovery suggests the unacknowledged position of *Sincronie* as an integrator of Berio’s diverse textural ideas in the 1950s and 1960s; only in *Sincronie* do all of those textural ideas appear.

In chapter 2, I will present musical examples of five textural ideas from *Sincronie* as well as the five orchestral pieces mentioned above, showing how *Sincronie*’s textural ideas also emerge in the five orchestral works. In chapter 3, I will demonstrate how the textural ideas are underpinned by four harmonic tendencies. The textural ideas give perceptible shapes to those harmonic tendencies, and conversely the harmonic tendencies lend substance to the textural ideas. Finally, in chapter 4, through formal analyses of each work, I will discuss how the textural ideas are closely associated with the structures of *Sincronie* as well as the five orchestral pieces. I will conclude the thesis by explaining how *Sincronie* not only integrates the composer’s textural ideas presented in the orchestral works, but also suggests the indispensable role of texture in his music in the 1950s and 1960s.

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Chapter 2

Search for Sincronie’s Textural Ideas in Berio’s Orchestral Music

Most commonly used instrumental ensembles reflect the typical equilibrium of classic polyphony. There is no doubt that the four voices of a string quartet are one of the most homogeneous and perfect examples of this equilibrium. With Sincronie, however, I was interested in using the string quartet not especially as a polyphonic ensemble—that is, as a dialogue among four voices of the same family—but rather as a single, homophonic instrument. The four participants elaborate the same sequence of harmonic blocs almost continuously, simultaneously “saying” the same thing in different ways.26

In the existing scholarly literature on Sincronie, writers often cite the quote above, written by Luciano Berio for the quartet’s premiere in 1964. One such writer, Robert P. Morgan, provides a faithful paraphrase describing the basic ideas of the piece in his review of the first sound recording in 1972: “The work is conceived as if for a single, homophonic instrument, and the music consists essentially of a series of chordal blocks which are elaborated over and over again so that they appear in ever new guises.”27 Morgan could have read Berio’s program note, because it was printed on the cover of the LP he reviewed. Yet he also makes an original observation that “although the four instruments achieve little individuality, they nevertheless move with a certain degree of independence within many of the vertical sound masses.”28 While Morgan pays attention to the degree of individuality, his observation also suggests that in Sincronie the musical shape formed by the four voices often has priority over the movements of

26 Luciano Berio, Commentary to Sincronie, in the Program for the Premiere of Sincronie on November 25, 1964 at Roberts Theater, Grinnell College, Iowa.


28 Ibid.
individual voices. Given this fact, it is unsurprising that several textural ideas (i.e., the distinct vertical shapes of the voices) come to play an important role in *Sincronie*. In this chapter, I will introduce five of the work’s important textural ideas, including the unified single attack, single-pitch unison, and four others previously identified by Reed Kelly Holmes and Charlotte Seither. These ideas are characterized by certain rhythmic and metric patterns or notational techniques, used for generating distinct textures or shapes. I will then show how Berio exploited these textural ideas in pieces other than *Sincronie* by showing musical examples from his orchestral works, *Nones* (1954, premiered in 1959), *Tempi concertati* (1958–59, premiered in 1960), *Allez-hop* (1952–59, premiered in 1959), *Epifanie* (1959–61, premiered in 1961 and revised in 1965), and *Sinfonia* (composed and premiered in 1968, revised in 1969).\footnote{"Works," *Centro studi Luciano Berio*, accessed January 16, 2016, [http://www.lucianoberio.org/en/works](http://www.lucianoberio.org/en/works).} Finally, based on these examples, I will suggest an unacknowledged relationship between *Sincronie* and the composer’s orchestral works. Briefly stated, *Sincronie* integrated diverse textural ideas that Berio tested in his orchestral music of the 1950s and 1960s, and achieved coherence in the usage of those ideas with the notion of the string quartet as a “single, homophonic instrument.”\footnote{Berio, Commentary to *Sincronie*.}

In their analytical studies published in 1981 and 2000, respectively, Holmes and Seither suggested several types of textural ideas found in *Sincronie*.\footnote{Reed Kelly Holmes, “Relational Systems and Process in Recent Works of Luciano Berio” (PhD diss., The University of Texas at Austin, 1981); Charlotte Seither, *Dissoziation als Prozeß: Sincronie for String Quartet von Luciano Berio* (Berlin: Bärenreiter, 2000).} Holmes divided them into three “gestural ideas” labeled A, B, and C,\footnote{Holmes, “Relational Systems,” 50–52. David Osmond-Smith also mentioned *Sincronie* as one example of Berio’s “graphically gestural style,” although with the term he referred to not textural idea, but fluid and intuitive rhythms. David Osmond-Smith, *Berio* (New York: Oxford University Press, 1991), 165–66.} and Seither classified them into four “texture types” with
descriptive titles, such as “sustained sound with initial stroke (in short, sustained sound),”
“dissociated section,” “additive chordal sequence,” and “limited aleatory section.”33 Despite the
difference in terminology and number, both authors agree that some consistent textural ideas
emerge as an important characteristic of the piece. Indeed, their terms are partially exchangeable:
Holmes’s gestural idea A is identical to Seither’s “sustained sound”; idea B corresponds to
“additive chordal sequence.” Figures 1–4 show typical examples of each gestural idea (Holmes)
or texture type (Seither).

In Figure 1, the first box shows Holmes’s gestural idea A or Seither’s sustained sound,
and the second box shows Seither’s dissociated section. The textural idea of the first box is
characterized by sustained notes, inactive rhythms, and initial figurations. Also, it is often

40. For other discussions about gesture as one of Berio’s stylistic elements, see Luciano Berio, “Du geste
et de Piazza Carità,” in La musique et ses problèmes contemporains, 1953–1963, edited by Jean Louis
and reprinted in Sequenze per Luciano Berio, edited by Enzo Restagno (Milan: Ricordi, 2000), 275–77,
reprinted in Scritti sulla musica, edited by Angela Ida de Benedictis (Torino: Giulio Einaudi editore
s.p.a., 2013), 30–36; Reinhold Brinkmann, “Sprache, Gestus, Musik: Luciano Berios kompositorische
Welt,” Studi Musicali 32, no. 2 (January, 2003): 279–99; Marco Uvietta, “Gesto, intenzionalità,
indeterminazione nella poetica di Berio fra il 1956 e il 1966,” Rivista italiana di musicologia 46 (2011):
196–243; and Claudia Di Luzio, “Reverberating History: Pursuing Voices and Gestures in Luciano
Berio’s Music Theatre,” in Berio: Nuove Perspettive/New Perspectives, edited by Angela Ida de
Benedictis (Florence, Italy: Leo S. Olschki, 2012), 267–89.

33 In the original German, Liegeklang und Verwischungsinitial, Dissoziierte Sektion, Additive
Akkordreiung, and Gelenk-aleatorische Sektion. Whereas “sustained sound” and “additive chordal
sequence” refer to a musical event occurring in a certain space, “dissociated sections” and “limited
aleatory sections” refer to both a musical event and a space where the event occurs. Seither, Dissoziation,
88.
notated with proportional notation and symbols indicating specific performance instructions. Proportional notation refers to a kind of ametric notation that Berio alternated with conventional notation. In the example, this type of notation appears only in sections where the overall duration is given in chronological seconds. Moreover, it features notes without rhythmic values temporarily disorienting the sense of metric time. Since the approximate durations of each note are decided only by the proportion between them, this notational technique is called proportional notation. Regarding performance instruction, Berio uses seven symbols to indicate con sordino, senza sordino, sul ponticello, sul tasto, bowing over the bridge, using one whole bow stroke only, and bouncing at the frog across the bridge. In Figure 1, the two symbols on the far left indicate con sordino and bowing over the bridge, respectively. The horizontal lines with initial curves, located above the each note, indicate the use of one whole bow stroke. The inactivity in rhythm and pitch as well as the aforementioned notational techniques become primary characteristics of gestural idea A or sustained sound.

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34 The previous observation on this notational technique is found in Richard Hermann, “Becoming Berio: Evidence from His First Three String Quartets,” in Intimate Voices: The Twentieth-Century String Quartet, vol. 2, Shostakovich to the Avant-Garde, edited by Evan Jones (Rochester: University of Rochester Press, 2009), 129.


36 Berio’s proportional notation is discussed in Benedict Weisser’s dissertation on the notational techniques of Berio, Cage, and Ferneyhough. Weisser discusses the aesthetic background, development, and decline of proportional notation in Berio’s music. Also he compares the first edition of Sequenza I for Flute (1958), a quintessential example of his proportional notation with the revised edition, which was rewritten in the traditional notation by the composer himself, and examines the true difference between proportional notation and conventional notation. Benedict Weisser, “Notational Practice in Contemporary Music: A Critique of Three Compositional Models (Luciano Berio, John Cage, and Brian Ferneyhough)” (PhD diss., The City University of New York, 1998), 37–78.
Seither’s dissociated section, the textural idea shown in the second box of Figure 1, is distinguished from sustained sound by its constant motion. Although both sustained sound and dissociated section are written in proportional notation, the former shows static, pulseless rhythms while the latter is distinguished by minute but constant motions among the voices. In the dissociated section, each instrument is expected to move freely within the given notes, scarcely cooperating with the other instruments. This is probably what led Seither to choose the expression “dissociated.” The textural idea also involves two other notational techniques, a sciolte (detached) note and a note with square-shaped tail. Figure 2, another “dissociated section” from Sincronie, shows examples (A)–(C) (sciolte notes)\(^{37}\) and (D)–(G) (square-shaped tail). According to Berio’s performance instruction for Tempi concertati, the notes identical to (A)–(C) “must be performed sciolte: their actual duration is determined by the manner of attack.”\(^{38}\) A sciolte note is never played in a legato manner, and it lasts without absolute duration until the next note follows it. (When the next note follows is determined by the performers and the proportion between the notes). Meanwhile, Berio explains that the notes identical to (D)–(G) “must last until the succeeding notes or silences, in proportion to the length of the crossbar.”\(^{39}\)

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\(^{37}\) The sciolte note resembles the eighth note, and indeed the composer and Universal Edition, publisher of Sincronie and Tempi, notated the normal eighth notes with the same design. Thus, context determines whether a note with an angular black tail is a sciolte note or an eighth note. That is, in a measure with a traditional meter, the note would be considered an eighth note; in a space without meter or bar line, it would be a sciolte note.

\(^{38}\) This instruction provides an unusually systematic and detailed explanation of how to appropriately realize the sections written in the proportional notation. Given that in his scores Berio does not always provide such detailed instructions, this could serve as a valuable source for both performers and researchers who are interested in his notational techniques. Luciano Berio, Tempi concertati per flauto principale, violin, due pianoforte ed altri strumenti (Vienna: Universal Edition, 1962), ii.

\(^{39}\) Ibid.
Figure 3 shows two other textural ideas, idea B (Holmes) or additive chordal sequence (Seither) and idea C (Holmes) or limited aleatory section (Seither). Regarding the former, shown in the first and second systems of the example, the definitions of both Holmes and Seither agree in that the idea is characterized by explicit homorhythm indicated by the stems binding every note of the four strings. In a section elaborated by this textural idea, all voices come to form a sequence of vertically arranged chords. However, regarding the latter, the two authors do not agree in their definitions. Holmes suggests that the third system of Figure 3 is an example of gestural idea C, which is characterized by the stratification of four rhythmically heterogeneous parts—in other words, polyrhythm. On the other hand, Seither views the same example as an instance of a limited aleatory section. Here performers freely play their parts without cooperating with each other, and the second violin and viola are supposed to repeat their parts until the first violin and cello reach their last note at the end of the section. As a result, the passage turns into a realization of limited indeterminacy in an ensemble because it has numerous possibilities in its detail and overall shape, varied according to the performer’s interpretation. Also, as illustrated in the third system of Figure 3, the significant freedom of rhythm in the limited aleatory section creates an unmistakable contrast with the homorhythm of the preceding additive chordal sequence (the first and second systems), suggesting why Seither considered the limited aleatory section as a distinct textural idea. Although both interpretations have their own reasoning, I will follow Seither’s terminology, because of its clarity and usefulness. Throughout the entire piece, she limits the term to only two instances, rehearsal 10 (Figure 3) and rehearsal

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40 Holmes, “Relational Systems,” 50.

41 Seither, Dissoziation, 105.
30 (Figure 4). Indeed, the term also seems appropriate to describe two similar examples found in *Epifanie*, which I will discuss later.

Other than the four classifications provided by Holmes and Seither, single attack and single-pitch unison appear to be two important textural ideas. Both are characterized by their highly synchronized state, in which every instrument is converged on a punctum. Seither previously recognized that single-pitch unison stands as a distinct textural idea in *Sincronie* because, occurring a limited number of times, it immediately distinguishes itself from its surroundings. Other than the four classifications provided by Holmes and Seither, single attack and single-pitch unison appear to be two important textural ideas. Both are characterized by their highly synchronized state, in which every instrument is converged on a punctum. Seither previously recognized that single-pitch unison stands as a distinct textural idea in *Sincronie* because, occurring a limited number of times, it immediately distinguishes itself from its surroundings. Figures 5 and 6 demonstrate how the single attacks and pitch unisons can quickly emerge and separate themselves from the previous texture. Figure 5 shows how the four instruments synchronize all but pitches, thus resulting in the short but clearly perceptible single attack. The last measure of Figure 6 shows an example of single-pitch unison, where the four instruments merge into a single note by holding the same pitch (B3) with almost the same attack, dynamics, and duration. Such single-pitch unisons technically realize the maximum degree of synchronization, which is unmistakably recognizable to listeners. In addition to this example, Figure 7 displays every-single pitch unison found in the piece. During the performance of the piece, which averages about eighteen minutes, listeners can hear them only ten times. This

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42 “Berio differentiates his treatment of unisons thus into the smallest category of musical textures…. While the four strings successively start or end [the unisons], the unison can be fluently associated with its context.” (“Berio differenziert seine Unisono-Behandlung also bis in die kleinsten Kategorien der musikalischen Textur hinein…. Indem die vier Instrumente nacheinander einsetzen bzw. enden, kann das Unisono fließend mit seinem Kontext verbunden werden.”) Ibid., 115.

suggests that the composer deliberately limited the single-pitch unisons within the piece, considering it as a distinct textural idea.

From this point on, in order to identify the textural ideas observed in other works by Berio, I will employ Seither’s four texture types plus the single attack and single-pitch unison. Table 1 shows criteria based on her terminology. In the table, the six descriptive terms clearly differentiate themselves from each other by their requirements. I have divided the requirements into three types: independent criteria, dependent criteria, and optional criteria. The independent criteria, with “and/or” or no suffix, confirm certain textural ideas. For instance, “homorhythm or close-to-homorhythm in constant movement” indicates an additive chordal sequence. On the other hand, the dependent criteria, with “and,” cannot represent a textural idea by itself. For instance, none of the criteria for a dissociated section can confirm the textural idea by itself. Instead, in order for a section to be considered dissociated section, it should fulfill at least three of the criteria. Finally, the optional criteria, indicated by “(option.),” stand for optional requirements. Originally, Seither did not provide such criterial distinctions in her descriptions of textural ideas. Nonetheless, this modification enables the broader application of terminology to compositions other than Sincronie. For instance, regarding sustained sound, whereas Seither’s definition always involves the initial strokes (or initial figurations) and proportional notation, I have decided to consider these two as optional because the essence of the textural idea lies in the static, pulseless rhythm, regardless of the initial figurations or non-metric notation.

Figures 8–10 show examples of sustained sound from the orchestral works composed in the 1950s: e.g., mm. 243–69 of Nones and movements IIbis and IIIbis of Allez-hop. They suggest that Berio, at this early time, was already employing the idea of sustained sound for the string parts in his orchestral music. Every example presents minutely divided string instruments with
soft dynamics, making a firm link to the sections of sustained sound in *Sincronie*. The particular capability of string instruments to easily create a seamless and flexible sound with subtle bow strokes probably led Berio to choose them for the realization of sustained sound in his orchestral music. Figure 8 shows *Nones*, mm. 243–269, the only sustained-sound section of the work. In the example, the inactive, pulseless rhythms of the strings clearly resemble the long-held notes of Figure 1 from *Sincronie*. The string parts sustaining the given notes, violin C, viola, violoncello, and contrabass scarcely give a sense of beat or pulse even though they are in metric time. The occasional short and sharp attacks of the harp, violins A, and B also maintain distance from regular metric accent. Regarding the harmonic rhythm, Figure 8 does not strictly sustain only certain pitches. Rather, throughout the entire section the strings gradually accumulate the pitches they sustain until all twelve tones are sounded in m. 256 (indicated by a box). Admittedly, this departs from the example of *Sincronie*, the difference here being the additional performers in an orchestra. Whereas the maximum number of pitches a string quartet can clearly and simultaneously hold is usually eight, assuming a double stopping of each instrument, the string parts of an orchestra would have allowed Berio to expand the register and density without such a limitation. Despite the difference between ensembles, however, the basic idea underlying both examples from *Sincronie* and *Nones* is identical; they create a temporarily existing space in which the apparently static rhythms disrupt the sense of meter and rhythm. Figure 9 shows a similar but more condensed version of sustained sound, IIbis movement of *Allez-hop*. This movement, a kind of intermezzo between movements II and III, consists of three parts and features a clarinet duet not shown in the example. The strings, the only instruments accompanying the duet, generate a tone cluster with soft dynamics, acting as white noise behind the clarinets’ dialogue. In Figure 9, most of the string parts sustain the semitone clusters, while
the density as well as the register of the overall cluster is expanded in m. 15 and m. 21. In Figure 8, listeners can barely perceive the beats and metric accents of the movement, despite the existence of 4/4 meter. Figure 10 shows another example of sustained sound, this one from movement IIIbis of Allez-hop. Throughout this intermezzo with bassoon soli, all string sections play three chunks of tone cluster. As in Figure 9, the static, pulseless rhythms indicate the very textural idea underlying the movement.

Among the orchestral pieces of the early 1960s, Epifanie\textsuperscript{44} contains several vivid examples of sustained sound: movements c, d, and b. These three examples demonstrate that Berio was still employing sustained sound as one of his consistent orchestration techniques, just as he did in the 1950s. As he did in Nones, Berio usually realized the textural idea through divided string parts, although movement b presents an exception, involving the entire orchestra with sustained sound. Figure 11 displays the string parts of movement c. Here one can observe that the orchestration technique highly resembles the sustained sound of Sincronie for several reasons: (1) most parts of the movement were notated in the proportional notation, although the bar lines still remain; (2) in this movement, violin group C mostly sustains the stemless notes without any metrical accent; (3) the beginning of a new chord in violin C is regularly marked by the accented pizzicato of violin A and B, viola, cello, and bass, and this recalls the initial stroke, a prominent characteristic of Sincronie; and (4) violin C always maintains eight pitches, which is the maximum number of pitches the four performers of Sincronie could simultaneously hold.

\textsuperscript{44} This piece consists of twelve movements, and the order of these movements is neither fixed, nor presented in alphabetical order. Berio suggests possible orders of performance in his instruction for the work. Among the twelve movements, the orchestra leads the seven uppercase letter movements (A–G) and a mezzo soprano leads the five lowercase letter movements (a–e), accompanied by the orchestra.
Figure 12 shows the string parts in mm. 1–20 of movement d, where the same textural idea is somewhat differentiated from the previous examples. As in Figure 11, violin group C sustains the given notes, keeping the eight-voice texture without any metric pulse. However, in this movement there is neither an initial stroke to mark the beginning of new harmonic blocks nor a strict sustaining of pitches. Instead, all pitches slowly but constantly ascend through the glissandi, while the fluid figurations of the violin solo elaborate this ascending movement. This process reaches its peak in mm. 17–20, where each subdivision of violin C is temporarily broken into the dissociated glissandi. It is thought that the differences between movements d and c (Figure 11) reflect the vocal solo, which is not shown in Figure 12. In the text of movement d, a passage from James Joyce’s *A Portrait of the Artist as a Young Man*, the speaker depicts the stunning beauty of a girl he comes across on the shore.45 In this vivid illustration, the speaker’s tone gets agitated, and the mezzo-soprano unmistakably catches this agitation by the rich and even erotic vocal expressions. Thereupon the gradual ascension of the strings seems to reflect the singer’s emotions. After the climax of this agitation arrives in mm. 17–20 with its disruptive glissandi, the strings then merge again into a sustained sound.

Figure 13 shows the entire orchestra of movement b except for the solo voice. As mentioned previously, this movement involves almost every instrument of the orchestra, resulting in a tone cluster wider in register than the previous examples, though the overall dynamics still do not put the orchestra in a position to exceed the vocal projection of a solo

45 The text from the beginning to m. 20 is: “A girl stood before him in midstream, alone and still, gazing out to sea. She seemed like one whom magic had changed into the likeness of a strange and beautiful seabird. Her long slender bare legs were delicate as a crane’s and pure save where an emerald trail of seaweed had fashioned itself as a sign upon the flesh. Her things, fuller and soft hued as ivory, were bared almost the hips, where the white fringes of her drawers were like feathering of soft white down. Her slate-blue skirts …”
singer. The overall structure appears to be simple and straightforward. As the rehearsal numbers indicate, the entire movement can be divided into three short sections, each of which shows the expansion of density as well as register. In Figures 13a and 13b, the sustained sound in the lower instruments continues to expand its register and density. From reh. 2 of Figure 13b, one can hear the sustained sound now in the entire orchestra, albeit for a shorter duration. Finally, as annotated in Figure 13c, beginning three measures before reh. 3 the repeated attacks of the percussion as well as the strings (pizzicato) prepare for the conclusion, and the entire orchestra closes the movement with a simultaneous crescendo from pp to ff.

In addition, Berio used an idiomatic textural idea for his orchestra that could be considered a relative of sustained sound. Although this textural idea is not found in Sincronie, Epifanie and the first movement of Sinfonia contain notable examples. Figure 14 shows the beginning of movement E of Epifanie, where the typical features of the textural idea are presented. Almost every instrument of the orchestra simultaneously sustains the given notes at a very loud dynamic (fff). The composer’s instruction at the beginning, “senza cedere (without losing intensity) indicates this explosive beginning. Indeed, because of the slightly different attacks as well crescendo and decrescendo among the instrument groups, the resulting texture appears to be a relentless and torrential tone cluster. Since this textural idea could produce an unmistakable, dramatic chromatic saturation enhanced by register and dynamics, Berio often utilized it for bringing unexpected chromatic saturation into his compositions. Figure 15 shows another example from the first movement of Sinfonia. Figure 15a, from its beginning, simply sustains C-minor-major-seventh chord (indicated with the boxes) in a quiet and static sound. However, at reh. A of Figure 15b, almost every instrument of the orchestra suddenly brings a tone cluster into the scene. After this tutti gradually dies out, the sustained C minor-major-
seventh resumes in the fourth measure after reh. A, completing one harmonic cycle inaugurated by that chord and completed by chromatic saturation.\textsuperscript{46}

A representative example of a dissociated section in Berio’s orchestral music can be found in\textit{ Tempi concertati} (1959), another important orchestral work in the late 1950s.\textsuperscript{47} This piece parallels Berio’s\textit{ Sequenza I for Flute} (1958) in at least two aspects. Both works involve solo flute, and researchers attribute both pieces to the development of the composer’s proportional notation technique.\textsuperscript{48} It is not difficult to imagine that the composer was interested in exploring the musical possibility of a novel notational practice in a solo instrumental piece before attempting it with bigger musical forces, such as flute solo and orchestra. According to the composer,\textit{ Tempi} experiences a gradual shift towards the proportional notation. He specifies, “Beginning from measure 161, the ordinary rhythmic notation is gradually superseded by a proportional one where the absolute rhythmic values are not indicated but rather the relative time proportions.”\textsuperscript{49} The composer designates this shift to be a spontaneous and logical consequence,

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\textsuperscript{46} In fact this harmonic cycle performs a significant role in the first section of the movement. I will discuss this in detail in chapter 3.


\textsuperscript{48} Regarding this, Weisser states that “works such as [...]\textit{ Circles} and\textit{ Tempi concertati} were of a progressive nature which invariably found its way into notational considerations.” Weisser, “Notational Practice in Contemporary Music;” 76.

\textsuperscript{49} Berio,\textit{ Tempi concertati}, ii.
“a development of the ordinary rhythmic notation.” Such a metamorphosis of musical time from the absolute and measured toward the relative and non-measured makes Tempi the predecessor of Sincronie, where the composer likewise attempts to create a flexible shift between traditional notation and proportional notation. Indeed, the proportional section of Tempi anticipates the notational techniques found later in Sincronie. Figure 16, “measure 315,” shows the zenith of the proportional notation as well as the resulting dissociated section. Without bar lines and indicators of beats and durations, each instrument falls into a highly independent state, although the composer’s instructions with the arrows and broken lines still allow a minimum degree of coordination. Even the example shows a more sophisticated and extensive proportional notation than Figures 1, 2, or 4 from Sincronie. In Figure 16, the sciolte notes as well as stemless notes within the boxes not only allow performers significant freedom of interpretation, but also reflect Berio’s intention through the subtle spacing among the notes.

The dissociated sections in Tempi and Sincronie suggest that Berio was continuing his notational experiment in instrumental music during the period spanning the 1950s and the 1960s; his characteristic proportional notation was tested in the music for solo instrument (Sequenza I), orchestral piece (Tempi), and then string quartet (Sincronie). However, the dissociated section lasts only a short time in Tempi. Whereas the textural idea always emerges as the antithesis of a

50 Ibid. Later in an unpublished interview with Weisser, Berio stated that one of the goals he wished to achieve in Tempi was “to overcome any feeling of a rhythmical situation, to ‘go over rhythm’ in a kind of freer situation, a more flexible, more … fluid situation, so that it cannot be brought down to any formal regularity of meter, and so on.” Weisser, “Notational Practice in Contemporary Music,” 78.

51 Probably for a practical reason (facilitating the rehearsal of the piece), Berio set the measure numbers within the dissociated section of Tempi.

52 Those instructions hint how the other instruments should react to the improvisation of the flute solo part located in the middle of the score.
synchronized state throughout *Sincronie*, in *Tempi*, the same idea appears during the development of notational practice and gradually gives way to the traditional metric notation. The difference in method is the difference between evolution and coexistence. As the composer himself stated, the dissociated section in *Tempi* results from the shift towards proportional notation. On the other hand, in *Sincronie* there is no intended order determining which one comes after the other. Rather, the dissociated section appears constantly during the first two sections of the piece.

Figures 17 and 18, two examples of additive chordal sequence from *Epifanie* and *Sinfonia*, show that Berio utilized this textural idea in pieces other than *Sincronie*. Whereas he uses the idea throughout *Sincronie*, and it appears more frequently than other ideas, the composer saves it until the climax in both *Epifanie* and *Sinfonia*. Figure 17 displays an example of the complete additive chordal sequence that emerges in the climax of movement D in *Epifanie* and then is elaborated until the end of the movement. In Figure 17a, the textural idea arrives immediately at reh. 15 without any layering or build-up process, and involves only woodwind and brass instruments, except for the last two measures of Figure 17b, where the string parts enhance the final chord of the ensemble. Here Berio’s choice of timbre seems quite reasonable, given the idiomatic tonguing technique of the woodwinds and the brasses, which is suitable for the quick succession of irregular rhythmic figurations.

Other than the timbre itself, Figures 17a and 17b show that the section not only fulfills the requirements of an additive chordal sequence (i.e., homorhythm and continuous rhythmic movements), but also draws an interesting parallel with the same textural idea shown in the section between rehs. 8 and 10 in *Sincronie* (Figure 3). In their successive rhythmic figurations, both examples clearly resemble each other, despite fewer pauses and repetitions in *Sincronie*. 
The frequent pauses as well as repetitions in Figures 17a and 17b may be necessary for the wind instrumentalists’ breathing and tonguing, and Berio compensates for such redundancy by making the rhythmic figurations quicker than those of Sincronie. In addition, the additive chordal sequence in movement D shows a clearer direction than that of Sincronie. While in Figure 3 (Sincronie) each voice moves in zig-zagging directions, most parts of Figure 17 clearly move toward the higher register, finally reaching the registral peak at reh. 17. Another important difference can be found in the decay of the additive chordal sequence in movement D’s conclusion. Figure 17c illustrates that after reh. 17 the firm homorhythms of the ensemble quickly decay with the diverging rhythms of each instrument group, and this contributes to the quiet ending with an incompletely unified single attack (the penultimate measure).

Later in the first movement of Sinfonia, Berio also employed the additive chordal sequence, though in a more gradational way. In the movement, the composer develops an initial unison into a gigantic homorhythmic ensemble by adding voices and expanding register. Figure 18a illustrates how the unison of three keyboard instruments at reh. J (marked with the box) becomes the starting point of this development. Then, from m. 112 (2/8) of the same example, several other instruments begin to rhythmically mimic the unison, thus expanding the harmony and register. Figure 18b shows the final phase of this development, where the clear homorhythm of the entire orchestra comes into view after reh. L (marked with box A). Also, at this point a unique feature of this example is shown. In Figure 18b, the piano (box B), which once led the initial unison from the beginning, now plays the soloistic passages that do not seem to be affected by the rest of orchestra.53 Indeed, in the last two measures of Figure 18b, the massive

53 Berio himself states that this stratification of multiple characters was intended as “an interrupted musical development.” Because of the piano solo, the movement “looks as though it’s turning into a concerto for piano and orchestra,” although thereupon the movement ends quietly. David Osmond-
tutti of the orchestra coincides with another type of texture in the vocal parts (box C) that is closer to sustained sound. Figure 18c shows that this new texture is in fact an almost exact recapitulation of the movement’s very beginning. Finally in Figure 18d, while the three different textures coexist (still marked with boxes A, B, and C), the movement quietly ends with the flute solo shown at the top of the score. It seems quite significant that Berio does not stop the musical development represented by the additive chordal sequence while recapitulating the beginning of the movement at the same time. By doing so, he rejects a clear-cut formal division of the entire movement. Because of these multiple textural layers, some listeners might perceive the moment as the return of the beginning. Other listeners might recognize that the additive chordal sequence and the soloistic piano are still continuing, even though the vocal part recalls the opening of the movement. Apart from this formal issue, the movement clearly shows a different musical possibility, which Berio explores through the additive chordal sequence. In Figure 18, the chordal sequence stands as one of many textural ideas coexisting in the last section of the movement.

The examples of the limited aleatory section are found in two movements of Epifanie. Figure 19 shows movement e, which produces an arch form with both beginning and ending in silence. Corresponding to the steady recitation by mezzo-soprano of an excerpt from Claude


Matthew Heap hesitates to define the structure of the first movement as ABA,” unlike some previous researchers: “Osmond-Smith and Ståle Wikshåland state that it [the first movement of Sinfonia] is a simple ABA’ form, which is unconvincing to me because of the mixture of materials from both A and B in the latter half of the movement.” Here the material of A refers to the sustained chord(s) of the vocal part at the beginning, and the material of B means the additive chordal sequence developed through the path shown in Figures 18a, 18b, and 18d. Matthew Heap, “Keep Going: Narrative Continuity in Luciano Berio’s Sinfonia and Dillinger: An American Oratorio” (PhD diss., University of Pittsburgh, 2012), 44.
Simon’s *La route des flandres (The Flanders Road)*, each instrument of the orchestra is supposed to start their given parts at the moments the vertical arrows indicate. For example, in Figure 19a, violin C (marked with the box) is allowed to begin when the singer recites the passage “cette étroite bande.” Figure 19b shows that every instrument but violin C is supposed to repeat their given parts until they hear the singer reading certain passages. For example, violin A (marked with a box) can prepare to stop when they hear “et, un peu avant, le depart des forte tiges” and then fully stop when the singer reaches “sur les briques rugueuses.” Consequently, the entire movement e can be considered a single limited aleatory section because the mezzo-soprano’s recitation leads an indeterminate orchestral ensemble, which is to appear and then disappear like a mirage when she begins and ends the text. This also recalls the limited aleatory sections of *Sincronie* (Figures 3 and 4), in which the second violin and viola repeat their parts until the first violin and cello reach the end of the section.

Figure 20 shows a different limited aleatory section, the last passage of movement G. Following Berio’s instruction at the bottom of the score, a conductor signals when each instrument group begins to play, fall silent, and resume what they were playing. For example, according to Berio’s instruction in the first phase (I), the entire orchestra should repeat the given section for about fifty-five seconds, and then fall into silence for about three seconds. In the last

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55 The entire excerpt is as follows: “Cette expression de surprise stupide des morts, la bouche bêtement ouverte, les yeux ouverts aussi, regardant sans la voir cette étroite bande d’univers qui s’étendait devant lui, ce même mur aux briques rouge foncé (les briques trapues, courtes et épaisses d’une matière grenue, les plus claires tachetées de sombre sur un fond couleur rouillé, les plus foncées couleur de sang séché, d’un pourpre brunâtre allant parfois jusqu’au mauve sombre, presque bleu, comme si la matière dont elles étaient faites avait contenu des scories ferrugineuses, du mâchefer, comme, si le feu qui les avait cuites avait pour ainsi dire solidifié, quelque chose comme, sanglante, minérale et violente, de la viande à l’étal du boucher (mêmes nuances allant de l’orange au violacé), le coeur même, la dure et pourpre chair de cette terre à laquelle il était collé, pour ainsi dire ventre à ventre)…” For the texts as well as literary sources of the other movements of *Epifanie*, see IRCAM, “Epiphanie - textes originaux,” accessed on March 21, 2016, [http://brahms.ircam.fr/documents/document/5707/](http://brahms.ircam.fr/documents/document/5707/).
phase (IV), the orchestra reaches \textit{ff} through the crescendo for about fifteen seconds and finally escapes from the seemingly infinite repetitions. As a whole, both examples from \textit{Epifanie} make a recognizable link to the limited aleatory section of \textit{Sincronie}, given that they both follow clearly determined plans, and their details are always to be subtly varied.

Finally, in addition to Seither’s four textural ideas (sustained sound, dissociated section, additive chordal sequence, and limited aleatory section), single attacks and single-pitch unisons also appear to be the common textural idea founds in \textit{Sincronie}, \textit{Epifanie}, and \textit{Nones}. Figure 21 presents every single attack and single-pitch unison with pizzicato, observed in mm. 1–52 of \textit{Epifanie}’s movement B (here the \textit{caesurae} on the top indicate the gaps between two separate measures). After beginning the movement with the D4 unison of violins A & B, Berio consistently deploys the single-pitch unisons on either a smaller level (one instrument group, e.g., B3 unison in m. 6, marked with box A) or a larger level (more than one instrument group, e.g., D#5 unison in m. 29, marked with box B). Measure 51 (box C) shows the biggest single pitch unison (F#4) of the movement, which is played by all string parts except contrabass. After this, the composer never returns to the single-pitch unison, instead deploying single attacks from m. 52. Figure 22 shows how several single attacks with pizzicato elaborate the end of the movement through hocket rhythms and punctuation involving all string parts. As a whole, in movement B the single attacks and single-pitch unisons contribute to the sense of continuity as well as the general character of the orchestra.

Figure 23 offers some examples of unified single attack in movement C of \textit{Epifanie}. Figure 23a shows how in m. 3 (marked with letter A) the woodwinds present a single attack including all twelve tones. In fact, this initial single attack simply foreshadows the climax of the movement, which starts in m. 40 or reh. 8 (marked with letter B). Here the orchestra is divided
into several instrumental groups trying to exactly synchronize their attacks with each other. Such attempts finally create a perfect single attack in the first beat of m. 50 (marked with letter C). This climactic moment reaches chromatic saturation and the movement’s widest extremes in register. Then, Figure 23b shows how the wind instruments conclude the entire movement C with an incomplete single attack.

Finally, in addition to Figures 21, 22, 23a, and 23b, Figure 24, mm. 312–39 of Nones also presents a series of single attacks and single-pitch unisons. The instrumental groups perform a gesture similar to that shown in Figure 23a; that is, they continuously attempt to synchronize their attacks. At the end of Figure 24 the work concludes with a perfect single attack by almost the entire orchestra. Consequently, the examples of single attacks and single-pitch unisons from Epifanie’s movements B and C as well as Nones suggest that before he composed Sincronie, Berio was already exploring these textural ideas as important musical events in his orchestral music.

The examples discussed so far demonstrate that Sincronie and Berio’s orchestral works share several textural ideas. This also suggests that Berio might have developed the textural ideas of Sincronie from several different sources. Sustained sound could have evolved from the composer’s orchestration technique for strings, which serves to support solo (or soli) or generate faint sonic backgrounds. Dissociated section, as illustrated in the example from Tempi, may reflect Berio’s interest in the smooth shift from the traditional notation to the proportional notation and vice versa. Additive chordal sequence, which appears in a large scale within Epifanie and Sinfonia, may have been originally related to climactic moments led by prompt
homorhythmic movement of wind instruments or the vertical extension of a linear melody.\textsuperscript{56} The examples of limited aleatory section from the two movements of \textit{Epifanie}, suggest that the composer’s technique for generating a limited aleatory ensemble was already established before he worked on \textit{Sincronie}. Finally, the examples of single-rhythmic and -pitch unisons suggest that Berio employed them as important musical events, which characterize his orchestral music and elaborate climactic moments.\textsuperscript{57}

The common textural ideas found in both \textit{Sincronie} and Berio’s orchestral pieces give a new perspective on the reception of his string quartets in general. Berio’s string quartets, including \textit{Sincronie}, have drawn relatively modest attention from scholars. Various factors have contributed to this tendency, but Kenneth Gloag and Seither suggest that the composer himself showed a less enthusiastic attitude toward the string quartet. For Gloag, Berio’s string quartets

\textsuperscript{56} This is also related to the combination of various wind instrument timbres, one of the general tendencies of twentieth-century orchestration. Roger A. Kendall and Edward C. Carterette point out that “interest in exploring timbral possibilities of combinations of winds is perhaps best in evidence in contemporary chamber music.” The authors also state that “trumpet or cornet combinations with woodwinds are more rare,” mentioning several related examples such as “Marche du Soldat” from Igor Stravinsky’s \textit{L’histoire du soldat} (1918), Maurice Ravel’s \textit{Bolero} (1929), Paul Hindemith’s \textit{Symphony in B-flat for Band} (1951), and Jean Rivier’s \textit{Concerto for C Trumpet, Alto Saxophone, and Orchestra} (1955). Given their statement, the aforementioned additive chordal sequences from Berio’s \textit{Epifanie} and \textit{Sinfonia} may become two examples where the wind and brass timbres are fused into one single ensemble. Roger A. Kendall and Edward C. Carterette, “Perceptual Scaling of Simultaneous Wind Instrument Timbres,” \textit{Music Perception} 8 no. 4 (1991): 392–95.

\textsuperscript{57} Kendall and Carterette conducted several experiments on the identification of wind instruments and concluded that “in general, the unison context produced the highest blending ratings, and the lowest identification. There was a moderately high negative correlation between degree of blend and accuracy of identification.” Here “blend” refers to sound combinations of different instruments, and the degree of blend (whether their sounds are blended well or not) depends on the properties of each instrument. On the other hand, identification concerns a question of whether each of two or more blended timbres can be identified as an independent instrument. Given this information, Berio’s unified single attacks and single-pitch unisons appear to be the ultimate timbral blends of the entire orchestra. Roger A. Kendall and Edward C. Carterette, “Identification and Blend of Timbres as a Basis for Orchestration,” \textit{Contemporary Music Review} 9 nos. 1–2 (1993): 56, 62–63.
represent “only occasional forays into string quartet writing.”

Seither states that “the sonority and the possibility of articulation of string instruments ... stimulated Berio’s compositional imagination apparently less than those of ... extremely important human voice.” However, even if the string quartet did not inspire the composer as significantly as the human voice, he clearly had found certain compositional ideas for writing his own quartets, and such ideas could have come from his orchestral music, as the relationship between Sincronie and the five pieces implies.

Sincronie also shows the composer’s unusually intense struggle to achieve both variety and intelligibility in textural ideas. As Figures 1–4 demonstrated, the vivid and dense juxtaposition of the individual textural ideas distinguishes Sincronie from the composer’s five orchestral works. The aforementioned examples from Nones, Allez-hop, Epifanie, and Sinfonia usually exhibit only one or two of the five textural ideas. Nones, for instance, has only two sections related to the five textural ideas. Tempi’s dissociated section lasts for only a short duration and gradually gives way to traditional time. Even Epifanie, which contains abundant examples recalling the textural ideas of Sincronie, does not present those ideas in a manner as compact and flexible as we find in Sincronie. Finally, the first movement of Sinfonia shows only one complete additive chordal sequence. Even though he effectively and logically develops that


\[ \text{59} \text{ “Tatsache ist, daß die Klang- und Artikulationsmöglichkeiten, wie Streicher sie bieten, Berios kompositorische Phantasie offensichtlich weniger stimuliert haben als die für sein musikalisches Denken so überraschend bedeutsame menschliche Stimme: Nicht zufällig finden sich unter seinen Kindheits- und Jugendwerken gerade Lied- und Chorkompositionen, nicht zufällig ist es die Oper, die ihn als Gattung zu stets neuen Experimenten herausfordert.” Seither, Dissoziation, 11.} \]
section, Berio does not employ such an idea again during the rest of the piece. To conclude, the comparison of the textural ideas with the composer’s five orchestral works implies that *Sincronie* represents an important fusion of various textural ideas he had been exploring from the 1950s to the 1960s. As Morgan previously pointed out, *Sincronie* grants a limited degree of individuality to each of the four string players,\(^6^0\) but the piece also allows the performers to elaborate various textural ideas. The potential of these techniques goes beyond the limitations of the string quartet and can be applied to bigger, orchestral musical forces.

\(^6^0\) Morgan, “Sonic Innovations,” 51.
Chapter 3
Harmonic Tendencies Underpinning the Textural Ideas

The previous chapter demonstrated how five Sincronian textural ideas (unified single rhythmic/single-pitch unison, sustained sound, dissociated section, additive chordal sequence, and limited aleatory section) are also found in Berio’s orchestral works, such as Nones, Tempi concertati, Allez-hop, Epifanie, and the first movement of Sinfonia. In this chapter I will examine the common harmonic tendencies underlying these textural ideas by analyzing some musical examples already discussed in the previous chapter. Based on the findings from the analyses, I argue that in the harmonic progressions underpinning the Sincronian textural ideas, Berio maintains four harmonic tendencies: a combination of interval cycles, prolongation, chromatic saturation, and permeation. These tendencies might be observed in either an excerpt or an entire piece. In the present discussion, a “combination of interval cycles” refers to Berio’s technique of creating a group of pitches consisting of several segments coming from more than one interval cycle. “Prolongation” means sustaining the initially stated chord with either the same pitches (e.g., C4,D#4 → C4,D#4) or abstract pitch classes (C4,D#4 → C5,D#6). “Chromatic saturation” refers to the simultaneous presentation of all twelve tones in perceptible forms (e.g., the orchestra’s tutti with the same attacks). In the musical examples discussed here, such a saturation often results from harmonic expansion, adding new pitch classes to an existing chord (e.g., C,E,G → C,D,E,G → C,D,E,F#G, etc.). Finally, “permeation” refers to a state in which

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61 Among the existing literature, Christoph Neidhöfer’s discussion of Berio’s compositional approaches is closely related to these three tendencies. For instance, the gradual harmonic transformations with literal common tones, found in Concerto for Two Pianos, is unmistakably related to the concept of prolongation and expansion. Also, Neidhöfer suggests chromatic saturation as one of Berio’s important compositional approaches, mentioning his methods for exhaustively using all twelve tones. Christoph
certain pitch collections are ubiquitously found in a harmonic space, not necessarily tied to a
certain order, voice, or chord. Not every example of Sincronian textural ideas displays all these
tendencies; one example might focus on one tendency, and another might exhibit all of them. An
investigation of some examples already discussed in the previous chapter will show that they
share the four harmonic tendencies, despite being different textural ideas.

Regarding the main methodology of this examination, Figure 25 suggests an important
analytical tool I will employ throughout this chapter. This tool arranges each chord of a harmonic
progression in a form of ascending chromatic scale. As seen in (a), if a chord contains all twelve
tones, it will be illustrated as a complete chromatic scale. If a harmony includes only four pitch
classes, it will be illustrated as in (b). Among these illustrations of harmonies, the vertical lines
connect every common pitch class between the two, thus clarifying the prolongations as well as
expansions occurring between the two harmonies. I should note that when using this analytical
tool, I deliberately ignored the possibilities of transposition or inversion between two chords. For
example, between (b) and (c) in Figure 25, the two common pitch classes (pcs), 4 and 11, are
indicated by the vertical lines. Otherwise, the remaining pcs in (c) are completely new to (b).
However, given that (b) is in fact a C major-major seventh chord (C, E, G, B) and (c) is an E
major-major seventh chord (E, G#, B, D#), considering (c) as a transposition of (b) at four
semitones (i.e., a major third up or minor sixth down) appears to be more sensitive and
reasonable than considering (b) and (c) as two different harmonies sharing two pcs in common.
Nonetheless, I will focus on the prolongation and expansion of a chord rather than the

Neidhöfer, “Berio at Work: Compositional Procedures in Circles, O King, Concerto for Two Pianos,
Glossa, and Notturno,” in Berio: Nuove Perspettive/New Perspectives, edited by Angela Ida de Benedictis
transformational relationship between two harmonies in order to trace the literally prolonged pcs throughout a harmonic progression. I will also mark the pcs newly added to those prolonged pcs.62

It is necessary to start my discussion with the single-pitch unisons as well as the single attacks appearing in Sincronie and Berio’s orchestral works. Whereas the examples of single-pitch unisons clarify how Berio utilizes the combinations of interval cycles, the examples of single attacks show one way by which the composer realizes an audible chromatic saturation. (Single attacks including all twelve tones were already discussed in the previous chapter. See pp. 28–29). Let us revisit some examples mentioned in the previous chapter. Figure 7 shows again all single-pitch unisons occurring in Sincronie. Among the ten occurrences shown in the example, the descending minor-third motion from F to D, which emerges at reh. 29-6 and in the last five measures, appears to be an important cadential gesture of the second section as well as the last section of the piece. The minor-third motion in reh. 29-6 immediately precedes the end of the second section, the same motion in the last measures concludes the piece.63

62 Neidhöfer in 2012 previously introduced an analytical tool based on Berio’s sketches, which is quite similar to Figure 1. In order to compare the various twelve-tone row forms used in Circles, the author arranges each row form linearly and then connects with vertical lines the common pcs appearing in the same place. He is aware that such a method is somewhat mechanical and insensitive because it is applicable to any two successions of pitches and simply connects the common pcs between two pc successions without considering a possible transformational or intervallic relationship. However, he also points out a benefit of the method; that is, the clarification of a similarity between two pc successions. Likewise, Figure 25 has the same problem as well as the same benefit as Neidhöfer’s, although my purpose behind it is somewhat different. Instead of comparing twelve-tone rows, I aim to illustrate the prolongations as well as expansions of harmony that emerge in a harmonic progression of some musical examples from Berio. Neidhöfer, “Berio at Work,” 202–5.

63 The descending third (F→D) as a cadential gesture was previously mentioned by Reed Kelly Holmes and Charlotte Seither. Holmes states that “[in Sincronie] minor seconds occur prominently at the beginnings of units [sections] whereas minor thirds are used most often to close a passage.” Reed Kelly Holmes, “Relational Systems and Process in Recent Works of Luciano Berio” (PhD diss., The University of Texas at Austin, 1981), 59. Seither also refers to the two unisons in reh. 29-6 and the last five measures, and mentions their roles in concluding the second section as well as the entire piece.
In addition to this cadential gesture, Figure 26 shows the pitches elaborated by the remaining eight single-pitch unisons. These six pitches can be organized in several ways. In Figure 26, I have arranged these unison pitches according to the three ways shown in (A)–(C). These organizations reveal several noticeable relationships among the pitches. (A), an arrangement of the unison pitches in the exact order they appear, group the same pitches together with the brackets. This interpretation clarifies the consistent occurrence of four out of the six pitches, F#, B, F, and D, but leaves E and G# unconnected. (B) interprets the same series of pitches in a different manner, identifying the two types of interval cycles formed by at least three notes, a 5/7 cycle or circle of fifths (F#, B, and E) and a 3/9 cycle or a diminished seventh chord (G#, B, D, and F). This interpretation does not exclude any of the unison pitches, although it also does not confirm whether the two interval cycles are connected with each other. To illustrate the connection between the pitch groups and interval cycles, (C) rearranges the unison pitches in a form of ascending scale and shows that the pitch B works as a link between the segments from the 5/7 cycle and the 3/9 cycle. Thus, analyses (A)–(C) suggest that Berio was concerned with both the consistency in the unison pitches as well as the intervallic relationships between every unison pitch.

Additionally intriguing is the total number of pitches Berio used for his single-pitch unisons: six. This is closely related to one of Berio’s pre-compositional materials for Sincronie, a respectively. Charlotte Seither, *Dissoziation als Prozess: Luciano Berio’s Sincronie for String Quartet* (Bärenreiter, 2000), 114–15.
series of twelve hexachords. Figure 27\textsuperscript{64} shows these twelve hexachords, labeled with (a)–(n).\textsuperscript{65} Considered as the crucial material of the work—like the prime form of a twelve-tone row—the series has helped researchers to identify \emph{Sincronie}’s harmonic materials. Although none of the hexachords in this series is exactly identical to the six unison pitches shown in Figure 26, the number of pitches used in both unisons and the series of hexachords suggests that the composer might have considered the hexachord as a basic harmonic unit for the piece.

The pizzicato unisons in movement B of \emph{Epifanie}, previously shown in Figure 21, contain six pitches organized similarly to the unison pitches of \emph{Sincronie}. Figure 28 displays three interpretations of these pitches. (A) illustrates the consistency among the pitches by connecting every recurring pitch classes except for G. Also noticeable in (A) is that the ascending third motion from D to F\# comes at the end of this series of pizzicato unisons. This parallels the aforementioned cadential gesture of \emph{Sincronie}, the descending third motion (F→D). Meanwhile (B) divides the unison pitches of movement B into three segments having different intervallic properties: ic4 cycle (D, F\#, and B-flat), ic5 cycle (A, D, and G), and ic2 cycle (G, A, and B). This suggests that Berio could have combined segments of more than one interval cycles, although (C), an alternative interpretation, undermines this assumption. In (C), the six pitches are

\textsuperscript{64} This example is my reproduction based on Thomas Gartmann and Charlotte Seither’s transcriptions of Berio’s sketch for \emph{Sincronie}. (The slurs indicate the common tones between hexachords.) The sketch itself was introduced for the first time in Thomas Gartmann’s article in 1993. In fact, there is another similar series of hexachords, which is in the complementary relationship with the series shown in Figure 27. I will not discuss it here, because in the piece the complementary sequence is often used as an optional and auxiliary material. For detailed investigations of both hexachordal sequences, see Thomas Gartmann, “‘Una frattura tra intenzioni e realizzazione?’: Untersuchungen zu Luciano Berios Sincronie für Streichquartett,” in \textit{Zwölf Komponisten des 20. Jahrhunderts}, edited by Felix Meyer (Winterthur: Amadeus, 1993), 76–81; and Seither, \textit{Dissoziation}, 26–38.

\textsuperscript{65} Since letter j and k are not used in Italian, hexachord (i) is followed by (l) instead of (j). The slurs between each hexachord indicate the common tones between them.
presented as two chains of thirds. (Due to this property, the six pitches can refer to more than one triad, as suggested in (D).) Nevertheless, it is still noticeable that the single-pitch unisons themselves not only characterize both Sincronie and movement B of Epifanie, but also imply one approach to organizing harmonic materials, namely, the combination of interval cycles.

Berio’s three remaining harmonic tendencies, prolongation, chromatic saturation, and permeation, are exemplified by four Sincronian textural ideas: sustained sound, dissociated section, additive chordal sequence, and limited-aleatory section. Most of all, sustained sound exemplifies the prolongation and chromatic saturation in Berio’s harmony. Figure 29, an example of prolongation, displays the beginning of Sincronie, where the very first chord of the hexachordal sequence, previously illustrated in Figure 27, is prolonged by the highly static rhythms. As indicated in the three triangles of the example, the four strings repeat the same chord in different distributions of pitches (e.g., whereas in the first statement the quick figuration of the first violin presents all six pitches, in the next statement the pitches are equally distributed among the four instruments).

Figure 30, a harmonic reduction of the sustained-sound section in Nones (mm. 243–69, see Figure 8), illustrates another harmonic tendency, that is, chromatic saturation. The example clearly shows the literal prolongation of the initial chord as well as the expansion toward chromatic saturation through the gradual accumulation of new pitches. The total number of simultaneously sounding pitches constantly increases, shown in the bottom of the example (e.g., from the beginning, \{5,E\} proceeds to \{2,5,E\}, \{2,5,6,T,E\}, and so on). As a result of such progress, in m. 256 the strings come to include all twelve tones, realizing an evident chromatic saturation in a wide register. Consequently, Figure 30 shows one way by which Berio produces
chromatic saturation, juxtaposing pitch prolongation and harmonic expansion on the route toward chromatic saturation, which is his ultimate goal.66

In other cases, Berio sometimes presents a complete chromatic saturation at the very beginning. Figure 31, a harmonic reduction of the string parts from Allez-hop’s IIIbis movement (see Figure 10), shows the sustained sound already chromatically saturated. In the example, each harmony is a chromatically saturated tone cluster where almost every part sustains different semitone dyads.

A dissociated section allows Berio to exploit both prolongation and chromatic saturation in a freer manner than he does with sustained sound. Because of the absence of metric and rhythmic sense as well as the vertical relationships among the voices, a dissociated section is likely to turn into a harmonic tabula rasa for the composer. Figures 34 and 35 suggest that, even in the same piece, a dissociated section can display two different harmonic tendencies, prolongation and chromatic saturation. Figure 32, from Sincronie, shows a dissociated section at reh. 4, which prolongs hexachord (e), taken from the hexachordal sequence of Figure 27. In this example, the six pitches of the chord freely travel the space marked by the proportional notation, avoiding sounding together as a complete hexachord, although the four strings maintain a minimum degree of harmonic coherency by sharing certain pc set classes, such as the (012).

66 Nones was composed in a serial style so that it contains two types of twelve-tone rows. In fact the entire progression shown in Figure 7 derives from a straightforward reading of these rows. However, this fact does not undermine the underlying harmonic tendency and chromatic saturation resulting from prolongation as well as expansion. For the two basic twelve-tone rows in Nones, see Figures 49a and 49c of chapter 4 (pp. 127–28). Also, for the previous discussions of these pc series, see David Osmond-Smith, Berio (New York: Oxford University Press, 1991), 17; and Angela Carone, “‘La concezione di Luciano Berio negli anni Cinquanta: Influssi teorici e soluzioni compositive,’” in Luciano Berio: Nuove Prospettive/New Perspective, edited by Angela Ida di Benedictis (Florence: Leo S. Olschki, 2012), 114.
Figure 33, reh. 7 of *Sincronie*, differs from the previous example. The section starts with a clear statement of hexachord (a), but soon the chord dissolves to chromatic saturation.

Indeed, in the orchestra, where Berio can utilize more than four voices, a dissociated section demonstrates multiple harmonic tendencies in a relatively sophisticated way. Figure 34 presents three different interpretations of the dissociated section from *Tempi concertati*. (This excerpt itself was already introduced in Chapter 2 as Figure 16.) Figure 34a focuses on harmonic expansion toward chromatic saturation. In this example, four groups of four to five instruments surround the solo flute. Although some of these instruments have groups of pitches that Berio himself indicates with boxes, the other instruments have the implied groups of pitches. I have marked such groups with the broken-line boxes. In either case, one can observe the consecutive harmonic expansion. For example, the piano of instrument group 1 starts with eight pitches, which is followed by a group of eleven pitches and then all twelve tones. The bass clarinet of instrument group 2 begins with a dyad, \(\{2, E\}\), expands into a hexachord, \(\{1, 2, 4, 5, 6, E\}\), and then reaches an octachord, \(\{1, 2, 3, 4, 5, 6, 8, E\}\).

Figure 34b further clarifies such expansion in pitch-class space. The vertical lines connect the pitch classes remaining during the harmonic expansions, thus clarifying both the expansions occurring in the progression. For instance, in the piano part of instrument group 1 (top of the example), the initial eight pitch classes, marked by no. 1, are preserved in the pitch group no. 2, then absorbed into the chromatic saturation in the pitch group no. 3. Although the examples of instrument group 2 (bass clarinet) and instrument group 3 (harp) show neither a perfect prolongation of the initial chord nor a chromatic saturation at the end, the two complete progressions toward chromatic saturation from instrument groups 1 (top) and 4 (bottom)
underline the two harmonic tendencies, prolongation and chromatic saturation through harmonic expansion.

Figure 34c, the second interpretation, illustrates the chromatic saturation already present at the beginning of the section. Although most of the segments marked in the example lack a few pitch classes to complete a twelve-tone aggregate, the chromatic saturation becomes apparent when four instrument groups play their given parts simultaneously. Finally, Figure 34d suggests the third and last interpretation focused on the permeation of certain pitches. In the example, every circle indicates pcs 1, 2, or 11. These three pitch classes are commonly found in every instrument of the four instrument groups, and often appear to neighbor each other in the score (e.g., piano of instrument group 1). Indeed, in some instruments these pitch classes mark the beginning or ending of a figuration or have accented dynamics (e.g., horn of instrument group 1). This suggests that even within a section lacking the metric, rhythmic, and vertical relationships between instruments, Berio might have intended these three pitches, B, C#, and D (and possibly other pitches as well), to sound pervasively here and there. Later in this chapter, I will revisit the composer’s permeation technique in the discussion of limited aleatory sections. To conclude, as illustrated in Figure 34, the dissociated section of *Tempi* demonstrates the coexistence of three harmonic tendencies in one place: prolongation, chromatic saturation, and permeation. Indeed, the section also allows other interpretive possibilities, characterizing the dissociated section as Berio’s harmonic tabula rasa.

An additive chordal sequence also exemplifies both prolongation and chromatic saturation, although the main tendency can be varied among the related examples. Figure 35, reh. 5 of *Sincronie*, shows the repeated statement of hexachord (h) through different combinations of intervals and pitch distributions. The tendency emphasized here could be the literal prolongation
of the same chord. On the other hand, in Figure 36, a section from around reh. 9 of the same piece, the same idea elaborates a chromatic saturation. In the example, each instrument states all twelve tones, although the single-pitch unison on F# soon interrupts.

Besides emphasizing a certain harmonic tendency, an additive chordal sequence can also realize a harmonic expansion in which an existing chord gradually reaches chromatic saturation. Figure 37 from *Sincronie* shows the harmonic progression between hexachord (c) and hexachord (d), the two chords from the series previously shown in Figure 27, above. The progression is divided into four parts, the initial statement of hexachord (c), [E02367], its prolongation as well as expansion (1–3), and the chromatic saturation (4). Figure 38 more clearly illustrates this progress of expansion in both actual pitch (top) and pitch-class space (bottom). With its vertical lines, the pitch-class interpretation shows the prolongation of the six original pitch classes of hexachord (c) within the progression, although the temporary absence of G in chord 3 undermines the prolongation.

The additive chordal sequence from movement D of *Epifanie* (previously shown in Figure 17) illustrates a harmonic progression resembling Figure 37 from *Sincronie*. Figure 39a, a harmonic reduction of the additive chordal sequence of movement D, shows that the seven instrument groups either stay on the same notes or proceed to the different notes, thus generating gradual but continuous movement.67 Admittedly, due to the enormous number of voices, it may not be easy to figure out the harmonic tendencies emphasized in this section, although one may observe that G# or A-flat in flute 1 (top) outlines the highest voice of the entire progression. A-

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67 Since most of the chords in the progression do not strictly follow the metric subdivisions, I used a somewhat different manner to indicate each chord. 15+1 means the chord of the first measure from reh. 15, and 15+3(1) means the first chord of the third measure from reh. 15. In the example, I skipped the chords between 16+2(3) and 17+1 in order to show the final chord in a limited space.
flat4, the highest pitch at the beginning, eventually reaches A-flat at the end by means of its
enharmonic G#5. To observe the harmonic tendencies, Figure 39b reproduces the harmonic
progression in pitch-class space. The vertical solid lines illustrate how the eight pitch classes
of the initial chord, {0,2,3,4,6,8,9,T}, while not technically present in every chord, are quite
consistently sounded throughout the entire progression. This indicates prolongation, one of the
harmonic tendencies underlying the progression. Among the initial eight pcs, especially pc 8
sounds consistently from the beginning to the end, reflecting that A-flat4 and A-flat6 outline the
contour of the highest voice. Figure 39b also displays that, throughout the entire progression,
chromatic saturation occurs only twice, in the first measure of reh. 15 and in the excerpt’s final
chords. In other sonorities, the number of pitch classes alternately decreases and increases, thus
creating recurring gaps and gap fills in twelve-tone aggregate. As a whole, the additive chordal
sequence from movement D of Epifanie exemplifies the harmonic prolongation and expansion
through its ceaseless movement toward chromatic saturation.

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68 Because the chords following the second measure from reh. 16 are already chromatically
saturated, Figure 39b omits the final chord of the progression.

69 The terms “gap” and “gap fill” are closely related to Catherine Losada’s study of the musical
collages of Berio, Rochberg, and Zimmermann (2009). She demonstrates Berio’s compositional
techniques to manipulate the pitch space of the third movement of Sinfonia. Emphasizing the structural
importance of chromatic saturation in the musical collage of the movement, Losada shows that the
composer employs an effective process toward the chromatic saturation, which she refers to as
“significant gap” and “gap fill.” In a nutshell, significant gap means the intervalllic gap generated by the
lowest and the highest pitches, and gap fill indicates the filling of this gap by introducing the pitches
located between those boundaries. By setting such gaps and filling them by various ways, the composer
probably could achieve a constructive and systematic approach to control both pitch space and pitch class
space toward chromatic saturation. Finally, Losada suggests that through this approach, Berio and his
contemporaries could find the stylistic solution that did not require following twelve-tone technique or
completely rejecting it. In my analyses of the additive chordal sequence from movement D of Epifanie
and the first movement of Sinfonia, I have borrowed the concept of gap fill from her study, although I
mainly consider gap fill in pitch-class space, rather than pitch space. Cristina Catherine Losada, “Between
Modernism and Postmodernism: Strands of Continuity in Collage Compositions by Rochberg, Berio, and
As it relates to the additive chordal sequence, the harmonic progression of the first section of *Sinfonia*’s first movement is also worth discussing. As mentioned in the previous chapter, the first section is characterized by a massive tutti sustaining all twelve tones. In fact, this event is one part of the harmonic progression underlying the section. Figure 40 shows the very beginning of *Sinfonia*’s first movement. The initial octachord (①), hereafter “reference chord 1,” proceeds to a tetrachord (④), hereafter “reference chord 2,” through two intermediate chords (② and ③).70 Clearly, the beginning does not show all the harmonic material exploited in the movement. As Figure 41 illustrates, there are four reference chords in total, which become the main harmonic materials of the piece.71 However, here I will focus here only on reference chords 1 and 2, which vividly exemplify both the prolongation and chromatic saturation occurring in the first section of the movement.72

Figure 4273 presents David Osmond-Smith’s harmonic reduction of the first movement’s first section, to which I have added a few details and modifications. In his analysis, Osmond-Smith defines the harmonic progression of the first section as the alternation of reference chords 1 and 2, and the chromatic saturation as corresponding to the return of chord 1. Specifically, the first section’s harmonic progression consists of the initial statement of reference


71 The slurs between each chord indicate the common tones.

72 Matthew Heap states that “understanding the interplay between chords 1 and 2 is crucial to a full comprehension of both the first and the fifth movement [of *Sinfonia*]. In this movement, Berio always presents chord 2 after an instance of chord 1. This insistence on order, with some assistance from voice-leading, cases the listeners to expect to hear chord 2 after chord 1 and to hear it as a progression.” Matthew Heap, “Keep Going: Narrative Continuity in Luciano Berio’s *Sinfonia* and Dillinger: An American Oratorio” (PhD diss., University of Pittsburgh, 2012), 26.

73 Osmond-Smith, *Playing on Words*, 16.
chords 1 ([9T012346]) and 2([E037]) (marked with A), the continuation of reference chord 2 in a form of [E037] with additional pitches (marked with B), and the return of reference chord 1 with chromatic saturation (marked with C). In A+1 and C+1 the massive tutti parallels with these returns, creating chromatic saturation. In this example, one may observe that the four pitches of reference chord 2, C, E-flat, G, and B are strictly maintained throughout the progression, although they twice give way to reference chord 1.

In addition to Figure 42’s prolongation and chromatic saturation, its efficient voice-leading also demands notice. Figure 43 shows a reinterpretation of Figure 42 in pitch-class space. In this example, the common pitch classes between two chords are connected by solid lines; broken lines connect new pitch classes with the common ones. Here one observes that the four pitches of reference chord 2 could take a geometrical advantage to fill in the chromatic gap. Following the law of the shortest span, the four pcs of chord 2 can reach any other pcs by moving only a semitone or whole tone. Such an economic voicing even forms a kind of voice-leading map consisting of semitones and whole tones, illustrated by the broken lines in the example. What makes this phenomenon possible is the ic4 cycle that hides within reference chord 2: E-flat, G, and B. These three pcs equally divide the pitch-class space with four semitones, and they can reach the other pcs filling in the chromatic gaps by simply moving at one semitone or one whole tone. For example, as the broken lines indicate, the six pitch classes of reference chord 1 (top) can proceed to the four pcs of reference chord 2 (the second from the top) by either a semitone or a whole tone. Consequently, even though it is only applicable in

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74 Such a harmonic progression, in which reference chord 2 ([E037]) is expanded with the added voices (e.g., A+4–B+2), resembles Figure 30 of Nones.
pitch-class space, such a property contributes to the smooth shift from reference chord 2 to chromatic saturation and vice versa.

The limited aleatory section, like the dissociated section, seems to have been another harmonic tabula rasa for Berio. This section presents another opportunity for realizing the permeation of certain pitch groups into the overall texture, as in the dissociated section of *Tempi*. Figure 44, Charlotte Seither’s analysis of *Sincronie*’s limited aleatory section, demonstrates a chromatic saturation as well as a permeation of the entire series of hexachords. In the example, the author identifies which pitches come from which hexachords and how those pitches refer to the series starting on hexachord (a) and ending on hexachord (n). However, such a reference is not a form of harmonic progression. In the example listeners may hardly perceive an individual chord proceeding to the next chord. Instead, they may recognize all twelve tones filling in the space as well as the small pitch groups freely traveling inside of the section.

Without reference to a certain harmonic progression, Berio could also create an intense permeation of small pitch groups in a limited aleatory section. Figure 45 displays the four flute parts from the limited aleatory section of *Epifanie*’s movement G. (The entire section was previously shown in Figure 20, above.) Following the conductor’s signs, each part repeats their given phrases without concern for other parts. Figure 46, five analyses of the four flutes’ pitch-class contents, illustrates how each part itself acquires a consistency in pitch, and how the four flute parts are connected with each other by the intense permeations of more than one dyad. First, Figure 46a shows the repeated dyads within each flute part. For instance, in flute 1, F# and C# (pcs 1 and 6) emerge both at the beginning and the end. Second, Figure 46b shows the dyads that flutes 2–4 share with flute 1. For example, both flutes 1 and 2 start with the {F#, C#} dyad, although the pitch order is reversed. Likewise, Figures 46c, 46d, and 46e show the permeations
of dyads among the four flute parts, from the perspectives of flute 2, flute 3, and flute 4.

Admittedly, further investigation is needed in order to identify which pitches assume the role of focal point and to determine whether such a permeation technique could be related to serialism in some way. Aside from that question, the flute parts themselves suggest that, like the dissociated section of *Tempi* and the related example of *Sincronie*, the limited aleatory section of *Epifanie*'s movement G shows a highly similar permeation technique.

The examples discussed so far throughout this chapter exemplify Berio’s four harmonic tendencies underpinning the five *Sincronian* textural ideas. These four tendencies include a combination of interval cycles, prolongation, chromatic saturation, and permeation. Clearly, the ways these tendencies are reflected differ among the textural ideas. More specifically, the examples of single attacks found in *Epifanie*, realize a straightforward chromatic saturation. The pitches emerging in a form of single-pitch unison, shown in *Sincronie* and movement B of *Epifanie*, provide an important clue about the composer’s creation of organized pitch collections of pitches—that is, combining several pitch segments derived from different interval cycles. Sustained sound, shown in the examples from *Sincronie*, *Nones*, and *Allez-hop*, exemplifies either prolongation, chromatic saturation, or both. Dissociated section, found in *Sincronie* and *Tempi*, shows an ambiguous state that implies simultaneously prolongation, chromatic saturation, and permeation. Additive chordal sequence, while also involved with prolongation and chromatic saturation, vividly illustrates the expansion toward chromatic saturation elaborated by its typical forward movement. Finally, a limited aleatory section, which is quite free from the sense of harmonic progression, shows dense permeations of certain pitch groups (e.g., dyads). To conclude, the four harmonic tendencies bear witness that Berio had been developing his own harmonic language in the 1950s and 60s. These achievements do not belong solely to the
composer since his contemporaries were already involved with similar harmonic techniques. Nonetheless, Berio’s novelty lies in his presentation of such tendencies in his music. Through his characteristic textural ideas, he suggests how harmony can form distinct shapes; probably the most apt example of this is chromatic saturation. In some examples of the *Sincronian* textural ideas, especially Figures 35 and 36, the presence of all twelve-tones is clearly emphasized. Significantly, *Sincronie* also represents the culmination of the composer’s attempts to give distinct shapes to his harmony. For instance, whether listeners are aware of the pre-compositional material, the series of twelve hexachords, they may sense the harmonic changes through the various *Sincronian* textural ideas, since those ideas actually elaborate the hexachords, as suggested above in Figures 31, 34, 35, 37, 39, and 46. Conversely, none of the examples from the five orchestral pieces show such a high degree of integration of harmony and textural ideas. Consequently, the consistent employment of textural ideas and the harmony closely integrated to those ideas distinguish *Sincronie* as an unusual work within Berio’s oeuvre in the 1950–60s.
Chapter 4

Formal Analysis and Conclusion

In chapter 2 I discussed the five textural ideas shared between *Sincronie* and Berio’s five orchestral pieces. Then, in chapter 3, I demonstrated that several harmonic tendencies underpin these textural ideas, suggesting an audible relationship between harmony and texture in Berio’s music. Such discoveries raise a question regarding the interpretation of form; namely, how are textural ideas related to the form of an entire piece? In this concluding chapter, I will demonstrate that the *Sincronian* textural ideas help to outline the structures of *Sincronie*, *Nones*, *Tempi concertati*, *Epifanie*, and the first movement of *Sinfonia*. The formal analyses of these compositions suggest that the textural ideas not only stand as audible realizations of harmony, but also delineate the overall structures. Based on these findings, I argue that the various textural ideas from *Sincronie* were themselves an important link to Berio’s chamber/orchestral

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75 I have excluded movements IIbis and IIIbis of *Allez-hop* here because each of those movements is an individual, single realization of *sustained sound* as a whole.

76 Although he did not directly mention texture in music, Stephen McAdams argued for the significant role of timbre in musical structure in 1999: “Timbre can … play a role in larger-scale movements of tension and relaxation, and thus contribute to the expression inherent in musical form. Under conditions of high blend among instruments composing a vertical sonority, timbral roughness is a major component of musical tension. However, it strongly depends, as do all auditory attributes, on the way auditory grouping processes have parsed the incoming acoustic information into events and streams. And … orchestration can play a major role in addition to pitch and rhythmic structure in the structuring of musical tension and relaxation schemas that are an important component of the esthetic response to musical form.” He based his argument on several experiments asking subjects whether they could perceive a tension-and-release schemas in several music samples that did have any pitch or harmonic elements (the author refers to them as “nontonal music”). Stephen McAdams, “Perspectives on the Contribution of Timbre to Musical Structure,” *Computer Music Journal* 23 no. 3 (1999): 85–102, accessed March 27, 2016, [http://go.galegroup.com/ps/i.do?id=GALE%7CA65803286&sid=summon&v=2.1&u=ucinc_main&it=r&p=EAIM&sw=w&asid=2a8c970bbaed4c3448d48bf2c7ced80a](http://go.galegroup.com/ps/i.do?id=GALE%7CA65803286&sid=summon&v=2.1&u=ucinc_main&it=r&p=EAIM&sw=w&asid=2a8c970bbaed4c3448d48bf2c7ced80a).
music in the 1950s–60s, and indeed one of his important stylistic approaches of the time, by which he sought to characterize harmony as well as form. Regarding the methodology of my analyses, in most cases I have based my interpretations of form on the composer’s comments or the formal analyses produced by previous researchers. This approach reconciles my discussion with the existing studies, and indeed supports the structural importance of textural ideas.

Table 2 shows Charlotte Seither’s formal analysis of *Sincronie*.77 Seither originally suggested the textural ideas in the piece, and she considered them into her formal interpretation. Dividing the piece into four sections, A–D, the author provided the observations on each section, paying attention to the texture, harmony, and individual character. While many factors might be involved in formal divisions, the table suggests that the five *Sincronian* textural ideas clarify such divisions in various ways. For example, four alternating textural ideas densely fill the section A, saturating it with sustained sound, dissociated section, additive chordal sequence, and single pitch unisons. Indeed, the first appearance of a limited aleatory section, as Seither pointed out, closes the section. Conversely, the following two sections, B and C, show a reduced role for the textural ideas, except for the single-pitch unisons. In Table 2, the textural ideas, which preponderated in section A, now only occasionally appear in section B. The recurring single-pitch unisons lend consistency to the “episodic character”78 of the section. Limited aleatory

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77 In this table Reh. X+n means the nth measure from reh. X. A measure refers here to a space indicated by bar lines, rather than that of traditional meter. For instance, Berio could divide a measure in 2/4 into two sub-measures by a broken bar line. Regarding Table 2 itself, it is my arrangement of an analysis in Charlotte Seither, *Dissoziation als Prozeß: Sincronie for String Quartet von Luciano Berio* (Berlin: Bärenreiter, 2000), 163. (For the entire discussion of the form, see Ibid., 162–64.) Other than Seither’s interpretation, Reed Kelly Holmes suggested a seven-part structure for the piece, although the author did not provide sufficient detail supporting that interpretation. Reed Kelly Holmes, “Relational Systems and Process in Recent Works of Luciano Berio” (PhD diss., The University of Texas at Austin, 1981), 49–52.

78 Seither, *Dissoziation*, 163.
section marks the end of section B, as it did the end of the previous section. Sections C and D should be viewed together as the last part of the piece. Section C, as Seither observed, is quite short and leads directly into section D. In these final sections, Berio gradually reduces the portion of textural ideas, although he “revisits” some of the ideas established in the first section, especially the additive chordal sequence. Consequently, Seither’s interpretation of form, along with my verification of the related textural ideas, illustrates how closely the texture is associated with the structure of the piece as well as the characterization of each section.

Table 3 shows Angela Carone’s formal interpretation of Nones. Reflecting the fact that Berio created the piece by combining five orchestral episodes, the author divides it into five sections based on the twelve-tone row forms coming at the beginning of each section. Berio starts every section with the prime row form shown in Figure 47 and the tempo differentiated from the previous section. In Table 3, the last section begins with a sustained-sound passage and the piece concludes with a series of single attacks. The sustained sound here faithfully follows the prime row form with the accumulating voices. In Figure 48 each of the six labels (1–6) represents newly added pitches within the harmonic progressions (e.g., 3 in mm. 248–49 refers

79 Ibid.


81 “[…] I assembled five of its many orchestral episodes into a coherent sequence retaining, I hope, some of the power of transfiguration of Auden’s poem. The five episodes are to be regarded as different facets of the same musical process, formally outlined by operations on number 9, involving durations, dynamics and modes of attack.” Luciano Berio, “Composer’s Note,” Centro studi Luciano Berio, accessed March 3 2016, http://www.lucianoberio.org/node/1398?271106299=1.

82 This example is a reproduction of Example 1 of Carone, “La concezione,” 114.
to pcs 7 and 9, which were absent in the previous chord in mm. 246–47). Figure 49 displays that these labeled pitches, in fact, follow the two twelve-tone series shown in Figure 47, suggesting that the sustained sound is employed at the beginning of the last episode not only as a special sound effect, but also to recall the piece’s fundamental twelve-tone row. Apart from the row form, the tempo contributes to the emergence of the sustained-sound passage as well as the concluding single attacks. During the sustained-sound passage, marked $\text{♩}=76$, the slowest tempo of the piece, the relatively gradual pace confers a static and pulseless character on the passage. In m. 312, where Berio begins a series of single attacks, the tempo accelerates until the end of the piece.

The case of *Tempi* requires a somewhat different approach in formal analysis. Table 4 shows every change in meter and tempo throughout *Tempi*. In general, meter changes almost continuously, rejecting the establishment of regular metric (or hypermetric) accents. The section from “measure 293” to “measure 320” (marked with grey color) has significance because it is roughly identical with the dissociated section of the piece, where traditional metric time is totally abandoned. There is no bar line, despite the measure numbers for the convenience of rehearsing. We cannot exactly measure the proportion of the dissociated section and the preceding and succeeding sections because even the composer himself could not precisely answer how long the dissociated section should be played. Nonetheless, the dissociated section performs an important role in dividing the structure of *Tempi*, although the border between divisions cannot be clearly defined. As already discussed in chapter 2, according to Berio’s scenario, the section should be presented as the result of gradual and logical development of metric time. This development
starts from m. 161 (also marked with grey color in Table 4). On the score, a transitional section between m. 161 and “m. 293” (marked with blue color) and the dissociated section itself occupy the middle of the piece. However, listeners would not be able to perceive them as the central part because the development toward the proportional time is accomplished very gradually. Indeed, even after the musical time returns to the traditional style in m. 321, Berio keeps employing “sciolte” notes or square-tail notes, thus depriving of listeners of precise recognition of the musical time. Hence, in Tempi the dissociated section appears to be not only the composer’s goal in musical time, but also the main contributor to the characteristic inextricable structure of the piece.

Interestingly, Table 5, which illustrates Berio’s orders of performance for Epifanie, shows a structure in complete opposition to the ambiguity of Tempi. In the table, Berio suggested ten possible orders for performing all twelve movements and four possible orders for performing only four movements as “Quaderni.” While all the movements are played without pause, Epifanie as whole appears to be a highly modular and sectional composition, due to the individual characters of its movements. Such a modular nature is reflected by the suggested orders of performance as well. The twelve movements could be shuffled quite freely under three consistent patterns; (1) the entire piece is concluded by movements C, D, E, or F; (2) small-letter movements, except in order nos. 4 and 7, are always placed in the middle rather than at the very first or last; and (3) all small-letter movements and capital-letter movements alternate in most parts, although there are a few exceptions (e.g., in order no. 4, the last three movements are all

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84 For the discussion of these notational techniques, see chapter 2.
capital letters). Considering that most of the movements of *Epifanie* are characterized by certain *Sincronian* textural ideas, these patterns are significant because they hint at how the composer assigned structural characters to certain textural ideas. In Table 5, I have labeled each movement (represented by letters) with the abbreviations of the textural ideas where applicable: (1) Sus. for sustained sound, (2) Addit. for additive chordal sequence, (3) Limit. for limited aleatory section, (4) Uni. for single-pitch unison, (5) Sing. for unified single attacks, and (6) Tutti. for sustained sound in bursting tutti. As a result, the table shows that, except for movements a, A, and F (marked with grey color), every movement is associated with one of the six textural ideas.

When reconsidering the aforementioned three patterns in relation to these texture labels, the table reveals the possible structural roles Berio could have assigned to each textural idea. First, among the four movements coming at the end of the suggested orders of performance, movements C, D, and E are elaborated and concluded with distinct textural ideas. The entire movement C maintains the idea of unified single attacks within the entire orchestra, movement D has an extensive additive chordal sequence at its climax and concludes with an incomplete single attack in the orchestra, and the entire movement E is characterized by the monstrous sound mass in tutti. This suggests that Berio might assign the role of grand finale to three textural ideas: unified single attack, additive chordal sequence, and sustained sound in massive tutti. Second, among the five small-letter movements that usually come in the middle of the piece, movements b, c, and d are clearly marked with sustained sound, suggesting that transition could be the primary structural role of that textural idea. The limited aleatory section also seems to perform a similar transitional function. Finally, regarding the alternation of the small-letter movements and the capital-letter movements, one can observe that Berio also alternates different textural ideas throughout the entire performance of *Epifanie*. For example, order no. 4 starts with the sustained
sound of movement c, then shows a series of contrasting textures, such as single-pitch unisons (the fourth in the order), sustained sound (the fifth and the seventh), unified single attack (the eighth), limited aleatory section (the ninth), sustained sound in bursting tutti (the tenth), limited aleatory section (the eleventh), and finally additive chordal sequence (the twelfth and last). Such a variety of textural ideas within *Epifanie* suggests that Berio may have been interested in reinforcing the modular and episodic character of the piece with the various textural ideas. Also, as the composer himself mentioned in an interview, the alternation of various textural ideas might indicate his attempt to compensate for the harmonic redundancy underlying each movement of the piece. The composer said, “There is a harmonic alliteration between the end of one piece [movement of *Epifanie*] and the beginning of another – in other words, the same thing is continued in a different context.” It is quite tempting to assume that here the different context could refer to the different textural ideas.

As the final analysis of the discussion, Table 6 shows Matthew Heap’s interpretation of the form of *Sinfonia*’s first movement. As with Tables 1 (*Sincronie*) and 2 (*Nones*), I have

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added here the emerging textural ideas that elaborate each section (the column at far right). Heap divides the movement into roughly three sections, labeled with A (or Water), B (or Fire), and A’ (or Water’); he also comments on the characteristics of each section. In addition, the author describes how the four reference chords, already discussed in chapter 3, define the main harmonic events of each section (e.g., the alternation of chords 1 and 2 define the main harmonic progression of section A). In the table we can observe again that the textural ideas differentiate the three divisions: section A, development of A and B, and section A’. In A, it is mostly sustained sound that characterizes the static atmosphere of the section. In the development, the gradual transformation from the unison melody to the additive chordal sequence strikingly differentiates this section from the previous ones. Finally, sustained sound marks the return of A’, though the additive chordal sequence yet continues until the end. Consequently, even though the textural ideas do not always emerge in every stage of the form, in Sinfonia’s first movement, they perform a significant role in outlining and characterizing the first and last sections.

Throughout this thesis I have proposed a stylistic relationship between Sincronie and Berio’s contemporary works, demonstrating this relationship by focusing on their shared identical textural ideas. Chapter 1 reviewed the existing academic literature of Berio’s string


87 If focused on the vocal part as well as Levi Strauss’s mythological text underlying the verbal aspect of the movement, Water-Fire labeling would be appropriate, and if focused on the orchestra part, the alphabetical labeling also could be applicable. Regarding the role of Strauss’s text in the movement, David Osmond-Smith, “From Myth to Music: Lévi-Strauss’s ‘Mythologiques’ and Berio’s ‘Sinfonia,’” The Musical Quarterly 67, no. 2 (April 1981): 230–60.

88 In chapter 2 I mentioned this coexistence with regard of the formal ambiguity of the movement, citing Heap’s words. See chapter 2, p. 25 of this thesis.
quartets as well as *Sincronie*, illuminating the gap in the current scholarship, the lack of consideration about the stylistic relationship between the work and the composer’s other works. Chapter 2, through a series of musical examples, illustrated how the five *Sincronian* textural ideas relate the quartet to the five orchestral works of the 1950s–60s. Chapter 3 demonstrated that these examples are underpinned by some consistent harmonic tendencies, such as a combination of interval cycles, prolongation, chromatic saturation, and permeation. This discovery implies that Berio’s textural ideas are involved with the characterization of harmony in his music. Finally, chapter 4 suggested that the various textural ideas perform an important role in the context of form. Outlining the overall structure and characterizing the individual sections, texture rises as one of the most significant determining elements in the compositions I have discussed. Consequently, this thesis suggests that an examination of textural ideas helps us to understand the stylistic background or origin of *Sincronie*, an obscure facet of Berio’s music in the 1950s–60s, and the unacknowledged position of the quartet; the work enables us to consider the five individual compositions in the context of texture, revealing the quartet’s role as the integrator of the composer’s various textural ideas.
Tables and Musical Examples

sustained sounds with initial strokes

dissociated section

Figure 3: An Excerpt from the Fourth Measure before Reh. 8 to Reh. 10. Berio, *Sincronie*, 3-4. Luciano Berio “Sincronie für Streichquartett” © Copyright 1964 by Universal Edition A.G., Wien/UE 31490.
Figure 4: An Excerpt from the Fifth Measure before Reh. 29 to Reh. 30. Berio, Sincronie, 12. Luciano Berio “Sincronie für Streichquartett” © Copyright 1964 by Universal Edition A.G., Wien/UE 31490.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Requirements</th>
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<tbody>
<tr>
<td>Sustained sound</td>
<td>✦ Inactive, static rhythm where one cannot percept pulses or beats and/or</td>
</tr>
<tr>
<td></td>
<td>✦ Sustained pitches</td>
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<tr>
<td></td>
<td>✦ Initial strokes or figurations as embellishments (option.)</td>
</tr>
<tr>
<td></td>
<td>✦ Proportional notation (option.)</td>
</tr>
<tr>
<td>Dissociated section</td>
<td>✦ Constant, free, and minute movements of each voice or instrument and</td>
</tr>
<tr>
<td></td>
<td>✦ Absence of the vertical rhythmic and metric relationship between each voice and</td>
</tr>
<tr>
<td></td>
<td>✦ Proportional notation</td>
</tr>
<tr>
<td>Additive chordal sequence</td>
<td>✦ Homorhythm or close-to-homorhythm in constant movement</td>
</tr>
<tr>
<td></td>
<td>✦ Prolonged stems (option.)</td>
</tr>
<tr>
<td>Limited aleatory section</td>
<td>✦ Entrance to- and exit from the section and</td>
</tr>
<tr>
<td></td>
<td>✦ Preset condition both creating and limiting an indeterminacy in ensemble</td>
</tr>
<tr>
<td>Unified Single Attack</td>
<td>✦ Same attack as well as duration for each voice or instrument</td>
</tr>
<tr>
<td>Single-Pitch Unison</td>
<td>✦ Same attack as well as duration for each voice or instrument and</td>
</tr>
<tr>
<td></td>
<td>✦ Same pitch for each voice or instrument</td>
</tr>
</tbody>
</table>

*Table 1: Criteria for Identifying Six Textural Ideas*
Figure 12: The String Parts in mm. 1–20 of *Epifanie*’s Movement d. Berio, *Epifanie*, movement d, 1–6. Luciano Berio
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Figure 13c: mm. 21–28 (end) of Epifanie’s Movement b. Berio, Epifanie, movement b, 4–5.
Figure 18c: The Beginning of *Sinfonia’s* First Movement. Berio, *Sinfonia*, 1. Luciano Berio
“Sinfonia für 8 Singstimmen und Orchester” © Copyright 1969, 1972 by Universal Edition
Figure 19b: The Second Half of *Epifanie’s* Movement e. Berio, *Epifanie*, movement e, 2.

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Figure 24: mm. 312–339 (End) of Nones. Berio, Nones, 36–38. Copyright by Sugarmusic S.p.A. – Edizioni Suvini Zerboni, Milano (Italy).
Figure 25: Illustrations of (a) All Twelve Tones, (b) C Major-Major Seventh Chord, and (c) E Major-Major Seventh Chord in a Form of Ascending Chromatic Scale
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(A) common pitch classes

(B) Identification of the interval cycles within (A)

(C) Rearrangement of the unison pitches in an ascending scale and the identification of the interval cycles
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(A) common tone relationships among the unison pitches

(B) rearrangement of the unison pitches in an ascending form, and the identification of interval cycles

(C) chain of thirds

(D) an example of triadic reference

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Figure 39b: A Pitch-Class Interpretation of Figure 39a
Figure 41: Four Reference Chords of *Sinfonia’s* First Movement
Figure 42: Osmond-Smith’s Harmonic Reduction of the First Section in *Sinfonia*’s First Movement (X+n means “n” measures after reh. “X”)
Figure 43: A Reinterpretation of Figure 42 in Pitch-Class Space
Figure 44: Charlotte Seither’s Analysis of Sincronie’s Limited Aleatory Section at Reh. 30. Berio, Sincronie, 6. Luciano Berio “Sincronie|für Streichquartett” © Copyright 1964 by Universal Edition A.G., Wien/UE 31490.
Figure 46a: Permeating Dyads within Each Flute Part of Figure 45
Figure 46b: Permeating Dyads of Flute 1 into the Remaining Three Parts
Figure 46c: Permeating Dyads of Flute 2 into the Remaining Three Parts
Figure 46d: Permeating Dyads of Flute 3 into the Remaining Three Parts
Figure 46e: Permeating Dyads of Flute 4 into the Remaining Three Parts
Charlotte Seither’s observations and emerging textural ideas in turn

<table>
<thead>
<tr>
<th>[A]</th>
<th>Beginning – Reh.11</th>
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<tbody>
<tr>
<td></td>
<td>“… systematically sets the four texture types as well as the disposition of the harmonic group, and closes with the first limited-aleatory section.”</td>
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<tr>
<td></td>
<td>Begin. – reh.1-1: Sustained sound</td>
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<tr>
<td></td>
<td>Reh.1: Dissociated section</td>
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<td></td>
<td>Reh.1+1 – Reh.1+3: Additive chordal sequence</td>
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<td>Reh.2 – Reh.2+1: Dissociated section</td>
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<tr>
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<td>Reh.2+2 – Reh.3+1: Additive chordal sequence (with accented single attack in reh.3)</td>
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<td>Reh.3+2 – Reh.4+2: Dissociated section</td>
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<td>Reh.4+3 – Reh.5+5: Additive chordal sequence (with accented single attack in reh.5+5)</td>
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<td>Reh.6: Dissociated section</td>
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<td>Reh.6+1 – Reh.6+6: Additive chordal sequence</td>
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<td>Reh.7: Dissociated section</td>
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<td>Reh.7+1 – Reh.7+2: Additive chordal sequence</td>
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<td>Reh.7+4: Single pitch unison (F#)</td>
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<td>Reh.8 – Reh.8+3: Additive chordal sequence</td>
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<td>Reh.9: Single pitch unison (F#)</td>
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<td>Reh.9+1 – Reh.9+3: Additive chordal sequence</td>
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<td>Reh.10: Limited aleatory section</td>
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<table>
<thead>
<tr>
<th>[B]</th>
<th>Reh.11 – Reh.30</th>
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<tr>
<td></td>
<td>“… presents freer combinations of textural and harmonic elements, marking its episodic character.”</td>
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<tr>
<td></td>
<td>Reh.11+2: Single pitch unison (B)</td>
</tr>
<tr>
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<td>Reh.11+5: Additive chordal sequence</td>
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<td>Reh.13: Dissociated section</td>
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<td>Reh.13+1 – Reh.13+7: Additive chordal sequence</td>
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<td></td>
<td>Reh.16 – Reh.16+5: Additive chordal sequence</td>
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<tr>
<td></td>
<td>Reh.20: Single pitch unison (F#)</td>
</tr>
<tr>
<td></td>
<td>Reh.22+19: Single pitch unison (B)</td>
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<td>Reh.25: Accented single attack</td>
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<td>Reh.25+5: Single pitch unison (F)</td>
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<td></td>
<td>Reh.25+10: Single pitch unison (E)</td>
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<td></td>
<td>Reh.26+1 – Reh.27: *Quasi dissociated section</td>
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<tr>
<td></td>
<td>Reh.28+10 – Reh.28+15: Successive single pitch unisons (F and D)</td>
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<td>Reh.29: Dissociated section</td>
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<tr>
<td></td>
<td>Reh.30: Limited aleatory section</td>
</tr>
<tr>
<td></td>
<td>(*= a section that shows the features of dissociated section, but still is in metric time)</td>
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</tbody>
</table>

Table 2a: Charlotte Seither’s Formal Analysis of *Sincronie* (with My Analysis of Textural ideas)(Sections A and B)
Charlotte Seither’s observations and emerging textural ideas in turn

[C]
Reh.31 – Reh.37
“… shows again the rigor of the part A, but in a freer way like the part B. The length of this part is relatively shorter than other parts.”

Reh.31: Additive chordal sequence
Reh.31+1: Dissociated section
Reh.31+2: Single pitch unisons (G# and B)
Reh.31+3: Dissociated section
Reh.31+4 – Reh.35+7: Additive chordal sequence
Reh.36+4 – Reh.36+6: Additive chordal sequence

[D]
Reh.37 – End
(Reh.42+29)
“… prolongs the relatively short part C, and revisits, varies, or breaks the materials already appeared before the part D, including the texture types and the harmonic groups.”

Reh.37+18 – Reh.37+22: ** Sustained notes in homorhtym
Reh.38+17 – Reh.38+20: Sustained notes in homorhtym
Reh.38+36 – Reh.38+37: Sustained notes in homorhtym
Reh.40 – Reh.40+6: Additive chordal sequence
Reh.41+5: Single attack with pizzicato
Reh.41+15: Single attack with pizzicato
Reh.42+4: Single attack with pizzicato
Reh.42+5 – Reh.42+14: Additive chordal sequence
Reh.42+18: Single attack with pizzicato
Reh.42+25: Single pitch unison (F)

(**= an intermediate texture type placed between sustained sound and additive chordal sequence)

Table 2b: Charlotte Seither’s Formal Analysis of Sincronie (with My Analysis of Textural Ideas)(Sections C and D)
<table>
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<tr>
<th>Episodes</th>
<th>Episode I</th>
<th>Episode II</th>
<th>Episode III</th>
<th>Episode IV</th>
<th>Episode V</th>
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<tr>
<td>Mm.</td>
<td>mm.1–39</td>
<td>mm.40–82</td>
<td>mm.83–156</td>
<td>mm.157–242</td>
<td>mm.243–339</td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td>mm.243–59: Sustained sound</td>
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<td></td>
<td>mm.312–39: Series of single attacks</td>
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<tr>
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<td>m.1 $\frac{\text{d}}{\text{=}72-76}$</td>
<td>m.40 $\frac{d}{=}126 \rightarrow$</td>
<td>m.83 $\frac{d}{=}192 \rightarrow$</td>
<td>m.157 $\frac{d}{=}100 \rightarrow$</td>
<td>m.243 $\frac{d}{=}76 \rightarrow$</td>
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<tr>
<td></td>
<td>m.68 $\frac{d}{=}108 \rightarrow$</td>
<td>m.133 $\frac{d}{=}168 \rightarrow$</td>
<td>m.210 $\frac{d}{=}144 \rightarrow$</td>
<td>m.211 $\frac{d}{=}96 \rightarrow$</td>
<td>m.259 $\frac{d}{=}92 \rightarrow$</td>
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<tr>
<td></td>
<td>m.73 $\frac{d}{=}126 \rightarrow$</td>
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<td>m.230 $\frac{d}{=}126 \rightarrow$</td>
<td>m.231 $\frac{d}{=}96 \rightarrow$</td>
<td>m.278 $\frac{d}{=}104 \rightarrow$</td>
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<td></td>
<td></td>
<td>m.241 $\frac{d}{=}72$</td>
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<td>m.286 $\frac{d}{=}92 \rightarrow$</td>
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<td>m.312 $\frac{d}{=}104 \rightarrow$</td>
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<td>m.319 $\frac{d}{=}112 \rightarrow$</td>
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<td>m.328 $\frac{d}{=}126 \rightarrow$</td>
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<td>m.338 $\frac{d}{=}208$</td>
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Table 3: Angela Carone’s Formal Analysis of *Nones* (with My Analysis of Tempo and Textural Ideas)
Figure 47: Two Main Twelve Tone Series of *Nones*
Figure 48: A Harmonic Reduction of mm. 243–269 of *Nones*
Figure 49: Interpretation of mm. 243–269 of Nones through Berio’s Two Twelve-Tone Series
<table>
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<th>Meter</th>
<th>Tempo</th>
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<th>M.</th>
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<th>mm.</th>
<th>M.</th>
<th>T.</th>
<th>mm.</th>
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<th>T.</th>
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<td>344</td>
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<td>432</td>
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<td>30</td>
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</table>

* = Meter, ** = Tempo

Table 4: Every Change in Meter and Tempo in Tempi concertati
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<td>c</td>
<td>F</td>
<td>E</td>
<td>d</td>
<td>G</td>
<td>D</td>
<td>e</td>
<td>b</td>
<td>C</td>
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<td>E</td>
<td>b</td>
<td>c</td>
<td>D</td>
<td>d</td>
<td>E</td>
<td>e</td>
<td>G</td>
<td>F</td>
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<td>D</td>
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<td>F</td>
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<td>C</td>
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<td>C</td>
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<td>E</td>
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<td>D</td>
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<td>b</td>
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<td>e</td>
<td>E</td>
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<td>D</td>
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<td>D</td>
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<td>F</td>
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<td>B</td>
<td>D</td>
<td>C</td>
<td>d</td>
<td>e</td>
<td>b</td>
<td>E</td>
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Table 5: Berio’s Fifteen Orders of Performance for *Epifanie* (with My Identification of Textural Ideas of the Movements)
<table>
<thead>
<tr>
<th>Section</th>
<th>mm.</th>
<th>Matthew Heap’s Descriptions</th>
<th>Emerging textural ideas in turn</th>
</tr>
</thead>
<tbody>
<tr>
<td>[A] (Water)</td>
<td>mm. 1-30</td>
<td>“[Reference] Chords 1 and 2. Largely static vocal lines. Narration.”</td>
<td>mm. 1-6: sustained sound mm. 7-10: sustained sound (orchestra), dissociated section (voice) mm. 11 (reh. A) – 25: tutti and then sustained sound mm. 26 (reh. B) – 30: sustained sound (orchestra), dissociated section (voice)</td>
</tr>
<tr>
<td>Transition to [B] (Fire)</td>
<td>mm. 31-42</td>
<td>“Chords 1 and 2. More regular rhythm and preponderance of [the word] feu [fire for French].”</td>
<td>mm. 31 (reh. C) – 42: tutti and sustained sound</td>
</tr>
<tr>
<td>Introduction of [B] (Fire)</td>
<td>mm. 43-45</td>
<td>“Announcement of The Raw and the Cooked. Chord 2”</td>
<td>mm. 43 (reh. D) – 45: sustained sound</td>
</tr>
<tr>
<td>[B] (Fire)</td>
<td>mm. 46-60</td>
<td>“Chords 1, 2, 3, and 4 (primarily 3 and 4). Vocal lines that move by 3rds. Angular motive in the piano and keyboard mirrored in the voice.”</td>
<td></td>
</tr>
<tr>
<td>Development of [A] (Water) and [B] (Fire)</td>
<td>mm. 61-138</td>
<td>“Chord 4. Water and fire vocal material. Angular motives develop into the permutation material.”</td>
<td>mm. 105 (reh. J) – 115: melody in unison mm. 115 – 134 (reh. L): development into additive chordal sequence mm. 135 – 147: additive chordal sequence</td>
</tr>
<tr>
<td>[A]’ (Water’)</td>
<td>mm. 139-147</td>
<td>“Chords 1 and 2. Static vocal lines. There is a hint of music that relates to fire in the solo flute line.”</td>
<td>mm. 140 – 147: sustained sound</td>
</tr>
</tbody>
</table>

Table 6: Matthew Heap’s Formal Analysis of Sinfonia’s First Movement (with My Analysis of Textural Ideas)
Bibliography


Berio, Luciano. Commentary to *Sincronie*. In the Program for the Premiere of *Sincronie* on November 25, 1964 at Roberts Theater, Grinell College, Iowa.


**Sound Recordings & Liner Note**


Website


Scores


