FLORIDA STATE UNIVERSITY

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ASSOCIATION AND INTERPRETATION IN RECENT CHAMBER MUSIC:

GESTURE AND DIALOGUE IN THREE COMPOSITIONS BY FRANCO DONATONI

By

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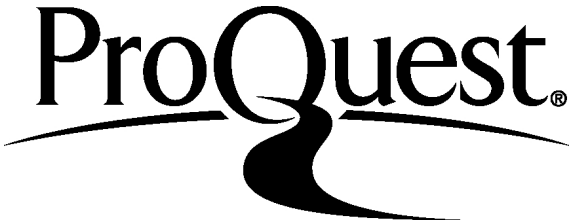

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TABLE OF CONTENTS

LIST OF EXAMPLES

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

Through detailed analysis of recent chamber works by Franco Donatoni, this dissertation explores the interpersonal, communicative dynamic created by the presence of multiple interpreters contributing to a single musical product, a component unique to chamber music and particularly relevant to contemporary repertoire. Dora Hanninen's associative orientation comprises the first tier of analysis, and the author's dialogical gestural analysis provides a second level, which adds depth to the analyses and enables small- and large-scale associations contributing to a greater understanding of each work by examining gestural relationships between different voices within an ensemble. The dialogical gestural perspective allows for the flexibility to address multiple interpretations and enables creative, experiential listening opportunities.

The opening chapter examines literature on musical gesture, agency, ancillary gesture, segmentation, and performance and analysis, which all contributed to the formation of the proposed methodology described in Chapter 2 and demonstrated through a brief analysis of excerpts of György Ligeti's *Sechs Bagatellen für Bläserquintett* (1953). The third chapter is a two-layer analysis of Donatoni's *Luci II* for Bassoon and Horn (1996), where the first layer is an associative analysis and the second a dialogical gestural analysis. Chapter 4 investigates *Rasch* for Saxophone Quartet (1990), which, in addition to the above two-layer analysis, includes an additional layer of associative organization based upon dialogical gestural relationships as well as a motivic analysis. Donatoni's *Arpège* for Six Instruments (1986) is analyzed with an associative perspective in Chapter 5, but a dialogical gestural analysis as demonstrated in

Chapters 3 and 4 proves unfruitful. Instead the author offers three solutions that incorporate dialogical gestural relationships resulting in more musically satisfying analyses.

CHAPTER 1

LITERATURE REVIEW

Introduction

In this dissertation, I will investigate the interpersonal, communicative dynamic created by the presence of multiple interpreters contributing to a single musical performance in recent chamber music. Although the performance and analysis of contemporary music has been explored by a number of authors in the last thirty years, few if any of them have considered this facet, which is unique to chamber music and is particularly relevant to contemporary repertoire. Taking gestural relationships into account adds depth to an analysis and enables new kinds of small- and large-scale associations, which contribute to a greater understanding of form. Using Dora Hanninen's associative organization, this project will illuminate the formal processes in the chamber music of Franco Donatoni. My dialogical gestural perspective will allow the analyst the flexibility to address multiple interpretations and enable creative, experiential listening opportunities.

I have chosen to analyze post-tonal works in order to contribute to the tools available to analysts of new music and to show that gestural analysis is as valuable an apparatus applied to post-tonal works as to tonal ones. Donatoni's chamber writing employs a wide variety of textures and as such lends itself to dialogical gestural analysis, and Donatoni's output includes many common and unusual mixed chamber ensembles. Donatoni was a member of the Darmstadt circle in the 1950s and a disciple of John Cage in the 1960s; his mature style involves a high degree of motivic development, driving rhythmic textures, and abrupt sectional divisions. While not associated with any compositional school, he was an influential teacher, with such composers

as Pascal Dusapin, Magnus Lindberg, and Esa-Pekka Salonen among his students.[1] I will focus on *Luci II* for Bassoon and Horn (1996), *Rasch* for Saxophone Quartet (1990), and *Arpège* for Six Instruments (1986). I have purposefully selected works that engage two, four, and six voices in order to compare and contrast the similarities and differences of texture when different numbers and types of musical forces are in play.

After introducing a two-tiered methodology that engages and builds upon Hanninen's theory of associative analysis, I will analyze *Luci II, Rasch,* and *Arpège* in order to illustrate the variety of small- and large-scale associations made possible through gestural analysis and to illuminate commonalities and differences in Donatoni's formal processes. I will also demonstrate that the categorization of gestural relationships affords a flexible and experiential methodology for chamber music analysis.

Literature Review

In this dissertation, I will primarily reference literature pertaining to metaphorical musical gesture (Hatten and Cumming) and segmentation theories (Lefkowitz and Taavola, Tenney and Polansky, Hasty, Hanninen, Uno Everett and Hübscher), and I will also comment briefly on the role of agency in gesture (Klorman and Rupprecht). I do not plan to address the primarily European concept of analysis of ancillary gestures (Cadoz and Wanderley, Wanderley and Vines, Wanderley et al., Godøy and Leman) because they are concerned with actual physical gestures of performers without consideration of metaphorical gestures within the music. I have included a substantial review of literature on performance and analysis because this body of work has

[1] David Osmond-Smith, "Donatoni, Franco," accessed November 6, 2015, http://www.oxfordmusiconline.com/subscriber/article/grove/music/07992.

strongly influenced my decision to pursue a dialogical gestural methodology as a means of producing an experiential analysis.

Musical Gesture

The greatest challenge posed to a prospective gestural analyst is that of defining musical gesture, a term used in many contexts with a number of different meanings. Musical gesture has regularly been employed as a means to understand expressivity in music.[2] Specific definitions of gesture, however, have required extensive discussion, sometimes spanning entire book chapters by such scholars as Robert Hatten and Naomi Cumming.[3]

Hatten's motivations for developing a theory of gesture strongly correspond with my reasons for choosing a form of analysis that incorporates gesture. In Part Two of his book, *Interpreting Musical Gestures, Topics, and Tropes*, Hatten states that

> Gesture is [a] rich and complex phenomenon, and we may well cherish its suggestive if imprecise range of connotations, since we use the term interchangeably to stand for either a singular motive or the sweep of a climactic passage, a spontaneous individual movement or the conventionalized measure of a social dance. Yet these seemingly radically different meanings share a common source in what we intuit as being "gestural." It is that deeply musical intuition, held in various ways by every musician and avid listener, that [Hatten wishes] to clarify and refine, by developing a theory of musical gesture…[4]

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[2] Stephen Davies, *Musical Meaning and Expression* (Ithaca: Cornell University Press, 1994); Nelson Goodman, *Languages of Art* (New York: Bobbs Merrill, 1968); Peter Kivy, *Music Alone: Philosophical Reflections on the Purely Music Experience* (Ithaca: Cornell University Press, 1990); cited in Cumming 2000, 133.

[3] Robert S. Hatten, *Interpreting Musical Gestures, Topics, and Tropes: Mozart, Beethoven, Schubert* (Bloomington and Indianapolis: Indiana University Press, 2004); Naomi Cumming, *The Sonic Self: Musical Subjectivity and Signification* (Bloomington and Indianapolis: Indiana University Press, 2000).

[4] Hatten 2004, 93.

Hatten helpfully provides numbered lists of facets of musical gesture throughout *Interpreting Musical Gestures.* See an abbreviation of the first of these lists below (Table 1). I have included Hatten's primary statement of each point but not the more detailed explanation that accompanies it. The elements of this list that I will employ will be discussed further in Chapter 2.

Table 1. Components of musical gesture excerpted from Hatten[5]

1. Musical gestures are grounded in human affect and its communication…
2. Musical gestures have meaning that is both complex and immediate, and often directly motivated by basic human expressive movements.
3. Gestures may be inferred from musical notation, given knowledge of the relevant musical style and culture.
4. Gestures may be inferred from a musical performance even when we do not have visual access to the motions of the performer.
5. Gestures may be comprised of any of the elements of music, although they are not reducible to them…
6. The prototypical musical gesture is a unit in the perceptual present (typically within two seconds).
7. When gestures encompass more than one musical event (a note, a chord, even a rest), they provide a nuanced continuity that binds together otherwise separate musical events into a continuous whole.
8. Gestures may also be hierarchically organized, in that larger gestures can be comprised of smaller gestures.
9. Certain motive-length gestures may be marked as thematic for a movement…
10. Gestures may encompass, and help express, rhetorical action, as in a sudden reversal, a collapse, an interruption, or a denial of implication.
11. Besides the correlative gestures a performer enacts in competently expressing a musical work on an instrument such as the piano, there may be higher-level gestures that a performer employs to direct the listener's attention to the main structural outlines of a form, or an expressive genre.
12. Gestures provide a level of musical truth…

[5] Hatten 2004, 93-6.

Hatten's theory of gesture contains stylistic and strategic gestures, the latter of which includes spontaneous, thematic, dialogical, and rhetorical gestures. The concept of dialogical gestures is most relevant, but they are the least discussed type of strategic gesture in Hatten's arsenal. He says merely that "dialogical gestures are those that appear to respond to each other, along the lines of a conversation among equals (Haydn quartets), a dialectical opposition of themes, or a textural opposition (*concertato* effects)" and proceeds to cite a few examples.[6] It is my intention that this project will begin the process of filling this lacuna in the literature.

Cumming's chapter on gesture in *The Sonic Self* contains several statements outlining her concept of gesture. She notes that

> [An] interaction is set up between three different, but interrelated, senses of "gesture"… a "gesture" is an inflected *performance* of some patterning, uniquely realized in a moment of time; it is a notated feature, closely aligned with a figuration or motif; it is also an aspect of melodic patterning that is systematically developed in some styles, in ornaments or short conventional figurations.[7]

Observe Cumming's emphasis on "performance" in the above quotation. She argues that the score contains gestural potential but that

> [Gestural potentiality] is not realized unless a performer brings to the figuration an understanding that establishes a unitary "kinesthetic" impulse… "Gesture" is not only a realization of a notated potentiality, but a marker of [the performer's] own "feel" for the shape.[8]

[6] Hatten 2004, 164.
[7] Cumming 2000, 138, her emphasis.
[8] Ibid., 147.

The second aspect of Cumming's three "senses of gesture" suggests that gesture exists within the score itself supporting Hatten's thoughts. Her alignment of a notated gesture with figurations or motifs is akin to Hatten's notion of thematic gestures, and her final aspect regarding "melodic patterning that is systematically developed in some styles" directly correlates with Hatten's stylistic gestures.

Additionally, Cumming asserts that, " [a] gesture can be recognized or (in some styles) dynamically 'felt' in sound, in its characteristic directionality, emphasis, and speed…"[9] This concurs with Hatten's sentiment that gesture can be inferred from a recording. As Hatten mentions the possibility for "higher-level gestures" engaged by the performer, so Cumming affirms that while "… the gestural 'likeness' does not depend on how the performance 'looks'… a live performance might provide some very useful cues to listening if the performer's movements are not too cluttered with extraneous tics."[10]

Agency

In his 2013 Ph.D. dissertation on "Multiple Agency in Mozart's Chamber Music," Edward Klorman traces the history of the metaphor of conversation within a string quartet bringing to light an ongoing interest in the communicative nature of chamber music. He also establishes the individual performers within an ensemble as agents separate from their musical parts. Klorman notes that, under his system "statements about the cellist can now potentially refer to several things at once," including "the cellist as a fictional persona that represents the personification of the cello part" and "the cellist as a real-world instrumentalist, who performs

[9] Cumming 2000, 153.
[10] Ibid., 152-3.

this fictional role."[11] Philip Rupprecht also discusses the instrumentalist as an agent in the context of new music in his recent essay, "Agency Effects in the Instrumental Drama of Musgrave and Birtwistle."[12] The performer as agent is an important idea, as it empowers the role of the performer in inferring and communicating both musical and physical gestures.

Ancillary Gesture

Wanderley and his co-authors have explored ancillary gestures, or gestures that "are not directly involved in the production of sound (e.g., raising the eyebrows or leaning the body forward)," using movement tracker data and other forms of movement analysis.[13] This type of gestural analysis may be an interesting third tier to the currently proposed two-tiered methodology, but at present this type of gesture is beyond the scope of this project.

Segmentation

A discussion of gesture inevitably overlaps with thoughts on segmentation, as gestures are necessarily segments. A survey of segmentation literature shows that there are a number of common threads in current scholarship, upon which I will base my segmentation decisions. Important commonalities that emerge from the literature include perceptible length of a segment, the notion of hierarchy or divisibility of a segment, and the distinctness of a segment.

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[11] Edward Klorman, "Multiple Agency in Mozart's Chamber Music" (Ph.D. diss., The City University of New York, 2013), 128.
[12] Philip Rupprecht, "Agency Effects in the Instrumental Drama of Musgrave and Birtwistle," in *Music and Narrative Since 1900,* ed. Michael L. Klein and Nicholas Reyland (Bloomington: Indiana University Press, 2013), 189-215.
[13] Marcelo M. Wanderley, et al., "The Musical Significance of Clarinetists' Ancillary Gestures: An Exploration of the Field," *Journal of New Music Research* 34/1 (2005): 97.

David Lefkowitz and Kristen Taavola (2000) observe that diversity in twentieth-century musical textures gave rise to theories of segmentation, such as those by James Tenney and Larry Polansky (1980), Christopher Hasty (1981), Dora Hanninen (1996, 1997, 2001, 2012), and Yayoi Uno Everett and Roland Hübscher (1995).[14] The lack of widely agreed-upon, traditional formal indicators in new music, namely harmonically-based cadences, demands that analysts justify their choice of phrase breaks or segments. Hanninen (2001) addresses the benefits of actively engaging segmentation and concludes that "when analysts articulate the rationales for particular segmentations, they open up the possibility for precise and reasoned intersubjective discourse about how their analytic interpretations differ, and about ambiguity, richness, and multiplicity of hearings," as well as the possibility that, "analysts who look closely at details of musical segmentation can often connect formal, and in some cases even quantifiable, aspects of music analysis with qualitative judgments and intuitions, interpreting the latter and perhaps enhancing cogency and clarity in music criticism."[15] Both of Hanninen's cited benefits are motivators in this project. A brief survey of several important works from the segmentation literature will

[14] David S. Lefkowitz and Kristen Taavola, "Segmentation in Music: Generalizing a Piece-Sensitive Approach," *Journal of Music Theory* 44/1 (2000): 171; James Tenney and Larry Polansky, "Temporal Gestalt Perception in Music," *Journal of Music Theory* 24/2 (1980): 205-241; Christopher Hasty, "Segmentation and Process in Post-Tonal Music," *Music Theory Spectrum* 3 (1981): 54-73; Dora A. Hanninen, "A General Theory for Context-Sensitive Music Analysis: Applications to Four Works for Piano by Contemporary American Composers" (Ph.D. diss., University of Rochester, 1996); Dora A. Hanninen, "On Association, Realization, and Form in Richard Swift's 'Things of August,'" *Perspectives of New Music* 35/1 (1997): 61-114; Dora A. Hanninen, "Orientations, Criteria, Segments: A General Theory of Segmentation for Music Analysis," *Journal of Music Theory* 45/2 (2001): 345-433; Dora A. Hanninen, *A Theory of Music Analysis: On Segmentation and Associative Organization*, (Rochester: University of Rochester Press, 2012); Yayoi Uno and Roland Hübscher, "Temporal Gestalt Segmentation: Polyphonic Extensions and Applications to Works by Boulez, Cage, Xenakis, Ligeti, and Babbitt," *Computers in Music Research* 5 (1995): 1-37.

[15] Hanninen 2001, 346.

show that while there are numerous ways in which analysts' methods differ, there are common threads as well.

Tenney's *Meta + Hodos and META Meta + Hodos* (originally published separately in 1964 and 1977, respectively) is the earliest example of segmentation literature discussed here and thus begins by recognizing "the equal potentiality of any sound being used as a basic element in a musical idea."[16] Tenney allows for focus on any and all parameters of musical sound and suggests that the "parametric focus will vary–not only from one piece to another, but within the same piece, or even within a single passage in a piece."[17] By plotting variations of a parameter over time, one arrives at Tenney's parametric profile of an element as seen in his Figures 3, 4, and 5 below (here Figure 1).

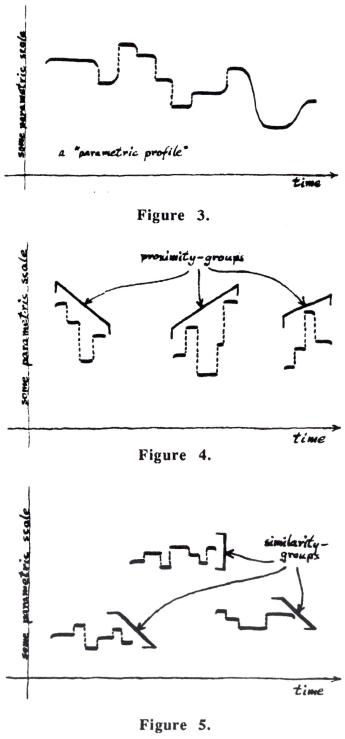

Figure 1. Tenney's parametric profile of an element

[16] James Tenney, *Meta + Hodos and META Meta + Hodos* (Lebanon, NH: Frog Peak Music (a composers' collective), 1986), 8.
[17] Ibid.,18.

Tenney notes that horizontal distances between elements on this graph will show proximity and vertical distances will show relative similarity or dissimilarity.

Tenney's works, *Meta + Hodos and META Meta + Hodos*, provide a base of terminology for the 1980 article jointly authored with Polansky, which regularly cites the earlier publications giving commentary and expanding on ideas. Tenney and Polansky (1980) suggest that

> For the musician, a piece of music does not consist merely of an inarticulate stream of elementary sounds, but a hierarchically ordered network of sounds, motives, phrases, passages, sections, movements, etc.–i.e., time-spans whose *perceptual* boundaries are largely determined by the nature of the sounds and sound-configurations occurring within them. What is involved in both cases is a conception of distinct spans of time–at several hierarchical levels–each of which is both internally cohesive and externally segregated from comparable time-spans immediately preceding and following it.[18]

Tenney and Polansky choose to call their segments, or time-spans, "temporal gestalt-units" (or TGs) after the more pervasive concept of spatial gestalt-units, which relate to visual rather than auditory perception. The fundamental hypothesis of Tenney and Polansky (1980) states that

> A new TG at the next higher level will be initiated in perception whenever a TG occurs whose disjunction (with respect to the previous TG at the same hierarchical level) is greater than those immediately preceding and following it.[19]

The model based on this hypothesis is a computer analysis program written by Polansky that hierarchically segments music. The authors clearly define the limitations of such a program before showing segmentations for Varèse's *Density 21.5,* Webern's Concerto, Op. 24, second movement (melodic line only), and Debussy's *Syrinx*.

[18] Tenney and Polansky 1980, 205, their emphasis.
[19] Ibid., 217.

Related to Tenney and Polansky (1980), Lefkowitz and Taavola (2000) base segmentation on musical parameters that they call Dimensions (after Morris 1987), which group into four Domains. Table 2 shows Lefkowitz and Taavola's "Domains and examples of constituent Dimensions."

Table 2. Domains and examples of constituent Dimensions[20]

Domain	Constituent Dimensions
Pitch	Pitch and Pitch Class Interval and Interval Class Register Contour
Timbre	Instrumentation Timbral Articulation (e.g., pizzicato) Texture (Register) (Expressive Markings)
Rhythm	Attack point Duration Meter Tempo
Articulation	Attack Type Dynamics Expressive Markings

Their Segmentation Algorithm boils down to "a <change in the rate of change>, in contrast to Tenney and Polansky's <largest interval surrounded by two smaller intervals>."[21] As such, Lefkowitz and Taavola believe that, "the fundamental difference between [their] Algorithm and the Tenney and Polansky algorithm is a preference for *similarity* in [their] Algorithm versus *proximity* in the Tenney and Polansky algorithm."[22] One of the challenges of rigorous approaches to segmentation such as those employed by Lefkowitz and Taavola (2000) and

[20] Lefkowitz and Taavola 2000, 176.
[21] Ibid., 177, their punctuation.
[22] Ibid.

Tenney and Polansky (1980) is determining parametric weighting. There is great opportunity for an analyst's interpretive input and thus variation in segmentation as a result of weighting. Lefkowitz and Taavola's system begins by weighting all four Domains equally. Their continued process of weighting places great emphasis on the idea that segments be comprised of three to five notes, those numbers determined by perception studies and a random sampling of music from the Western canon.[23] The more likely a Domain is to produce segments of three to five notes, the more weight is placed upon that Domain in any given musical work. Ultimately, Lefkowitz and Taavola produce a Framework that they hope "provides a method whereby a multivalent/multidimensional approach need not devolve into *ad hoc* postulating. Instead it presents a balanced and theoretically neutral way to compare different Domains; the system is generalized, yet it is still flexible and produces piece-specific results."[24]

Lefkowitz and Taavola's notion of a "theoretically neutral" approach contrasts strongly with that of Hanninen (2001, 2012), who proposes a theory of segmentation that allows for "'ambiguous' segmentations–that is, multiple interpretations of a single passage."[25] Hanninen observes that, "analysts often assume–rather than state or deliberately examine–the motivation or rationale for particular segments and segmentations," and that doing so "[treats] an important part of the analytic process as parenthetical, inaccessible to discourse and further inquiry."[26] Hanninen's theory of music analysis gives musicians a rich and complex analytical device that could not possibly be summarized properly within a review of literature. An overly reductive view observes that Hanninen's theory includes three analytical domains, the Sonic, the Contextual, and the Structural, and five levels, Orientations, Criteria, Segments, Associative

[23] Lefkowitz and Taavola 2000, 181.
[24] Ibid., 190.
[25] Hanninen 2001, 352.
[26] Ibid., 345-6.

Sets, and Associative Landscapes, as can be seen in Example 1.1 (reproduced here as Figure 2), a "schematic representation of the general theory of segmentation." There is additional terminology associated with each domain and level. The interpretational challenge and potential advantage of Hanninen's theory is that it allows the analyst to choose the orientation and criteria for association between segments. This choice supports Hanninen's statement at the opening of her 2001 article that "conceptualization and representation of musical relationships is a music analyst's (or the music-analytical) way of 'making music.'"[27] She views segmentation as an artistic endeavor in and of itself, which presumes that the analyst is an artist or musician.

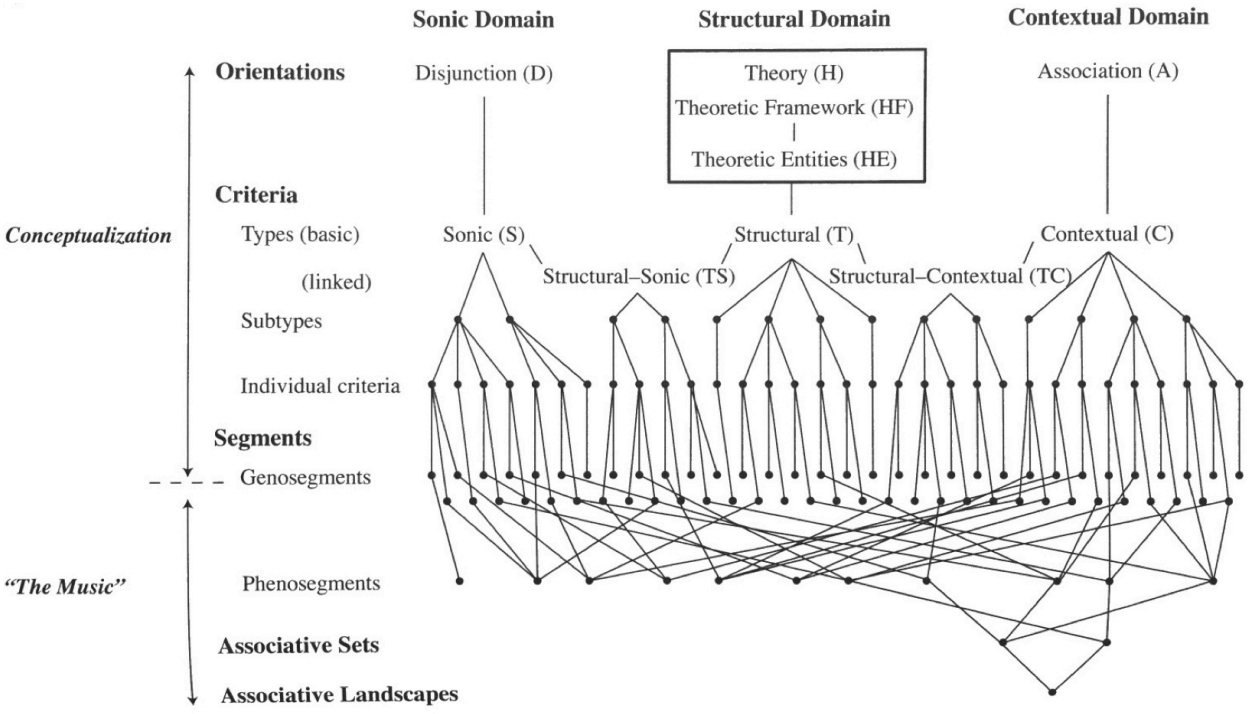

Figure 2. Schematic representation of the general theory of segmentation[28]

[27] Hanninen 2001, 345.
[28] Hanninen 2012, 6.

Over the course of this project, I will employ primarily an associative orientation, though Chapter 4 will also incorporate a theoretic orientation, and I will draw on all three types of criteria (sonic, structural, and contextual). Though I will discuss segments, specifically gestures, I will not delve into the complexity of phenosegments versus genosegments. Additionally, I will use associative sets and landscapes at some length.

Hanninen notes that most association graphs are "idiosyncratic and complex."[29] Hanninen's Example 3.26a (reproduced here as Figure 3) shows an association graph for a brief section of the right hand piano part to Morton Feldman's *Piano and Orchestra* focusing on pitch as the criterion for association. The object labeled R136.1, for example, shares pitches G4, A4, and A♭5 with the object labeled R135.1. Figure 3 uses thicker and thinner lines to show stronger and weaker association between set members. Figure 3 also shows two associative subsets, the left and right triangles in the graph, connected by a "bridge." My incorporation of associative graphs will not apply any similarity measures, such as thickness of lines or discussion of subsets, but will be used to establish associative sets for use in associative landscapes and maps.

Hanninen's associative landscapes offer analysts the opportunity to examine segment placement over time. She defines an associative landscape as "a level of organization and analysis concerned with the actual temporal disposition of associative sets and segments in a passage or composition." In turn, an associative map by Hanninen's definition is "a visual representation of one or more plots in an associative landscape."[30] Example 3.38a (reproduced here as Figure 4) depicts an association map of sets *J-M* from Arnold Schoenberg's *Klavierstück* op. 23, no. 3, mm. 1-4 in cutaway score format. In addition to cutaway score format association maps (as seen in Figure 4), which I have adopted for this project, Hanninen also uses running

[29] Hanninen 2012, 138.
[30] Ibid., 486.

text format maps and schematics. I have chosen cutaway score format maps because they read intuitively like a musical score. Hanninen states that "segments appear in musical notation, time goes from left to right, and vertical alignment indicates temporal simultaneity" in cutaway score format maps. The difference between musical scores and cutaway score format associative maps is that "in place of instrumental parts, horizontal alignment indicates associative set affiliation."[31] Figure 4 then has four distinct rows, one each for associative sets *J, K, L,* and *M,* and set members are placed within the row to represent their temporal placement in relation to one another. Goals and successes of Hanninen's theory of analysis, which make it ideal for this project and incredibly flexible, include the drive to "provide analysts with a conceptual framework and metalanguage for *looking at* or *thinking about* music" and ultimately to be "an interpretive tool" that "[*supports*], not [guides], the analyst's thought process."[32]

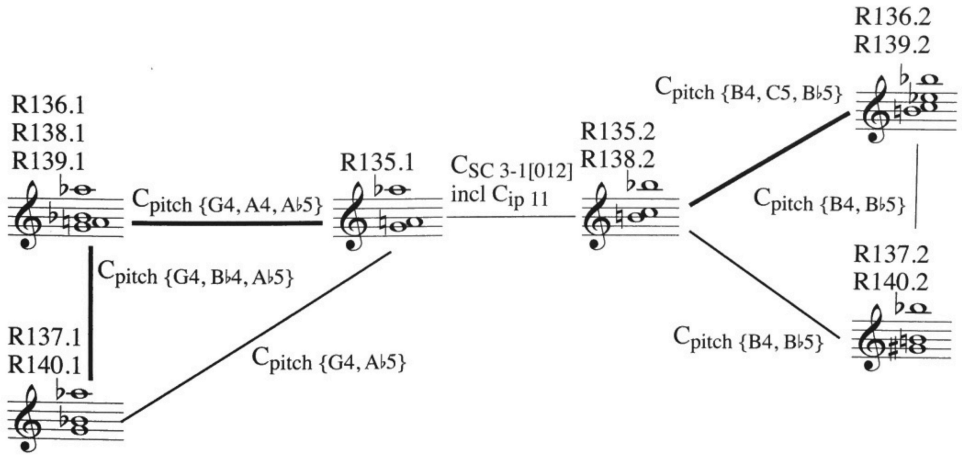

Figure 3. Hanninen's association graph of Feldman, *Piano and Orchestra*, mm. 135-40, right hand[33]

[31] Hanninen 2012, 161.
[32] Ibid., 4, her emphasis.
[33] Ibid., 139. "Segment names index score locations by hand, measure, and place in the bar (first or second chord)."

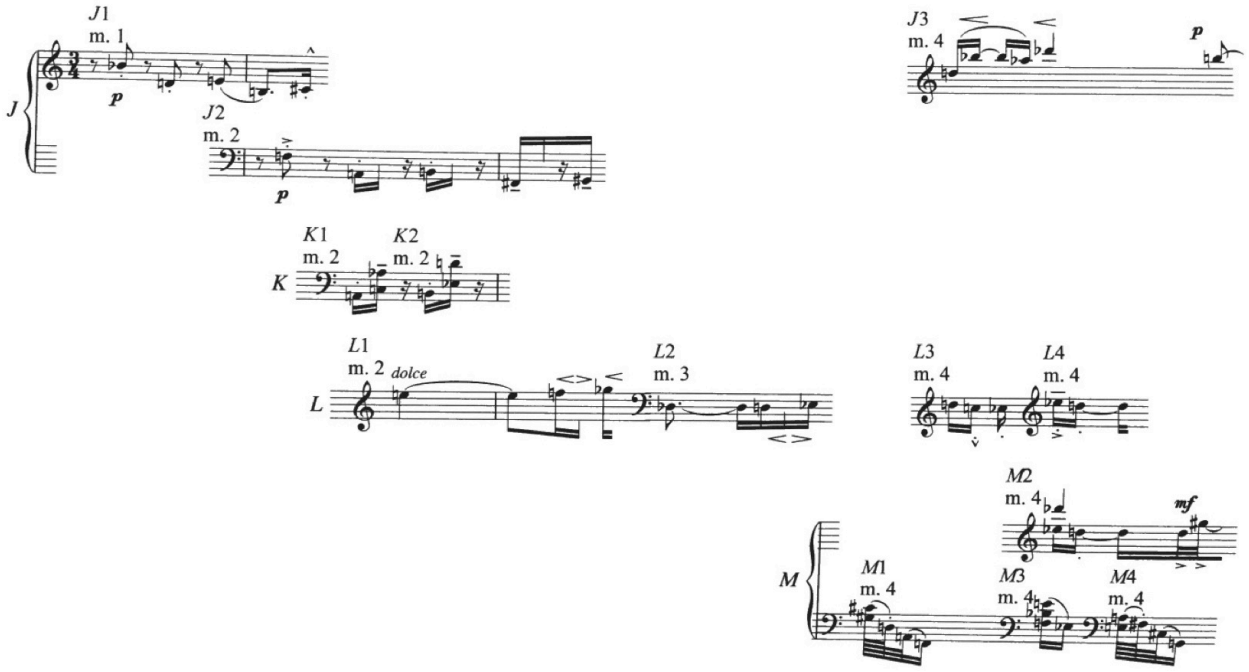

Figure 4. Hanninen's association map of sets *J-M*, Schoenberg, *Klavierstück* op. 23, no. 3, mm. 1-4[34]

Hasty's notable article on "Segmentation and Process in Post-Tonal Music" uses two steps to determine "structurally relevant pitch components of pitch-class sets."[35] The first step relies on an analyst's structural perceptions when listening, and the second step demands that the analyst devise rules that support and/or account for the previous perceptions. In Hasty (1981), "these two activities [are not] treated equally–emphasis [is] given to the theoretical component which predicates implicit musical perceptions."[36] Hasty's theory accounts for a variety of domains including timbre, dynamics, intervallic associations, register, and contour, among others. There are two requirements for Hasty's structures, or segments. The first is that segments

[34] Hanninen 2012, 162.
[35] Hasty 1981, 54.
[36] Ibid., 55.

have no change of value in a domain, and the second requirement is that segments must be distinct from other objects "by possessing a difference of value in some domain."[37]

Danuta Mirka (2000) and Judy Lochhead (1992) also wrote two additional articles that address issues of segmentation. Mirka (2000) sets out to analyze works from Penderecki's sonoristic period of the early 1960s and in doing so outlines a segmentation system that deals with texture of sound masses. Her basic system includes three parameters of auditory perception, loudness, pitch, and time, established as binary oppositions as seen in the reproduction of her Table 1 below (here Table 3). Mirka concludes that in this context, "segments are thus to be conceived of as *types of texture*, and hence invariant, abstract entities. Their variants may display considerable differences as to sound contents inasmuch as these differences do not threaten constitutive terms of a given segment."[38] She then goes on to analyze segments of *Threnody for the Victims of Hiroshima, Fluorescences,* and *Polymorphia.*

Lochhead (1992) discusses the role of repetition in "the delineation of formal contour" in selected works by Joan Tower.[39] She begins by addressing overall issues concerning the notion of form in music. She notes that twentieth-century composers apply a set of "basic principles" that shape form, citing Ian Bent, Wallace Berry, and Roger Sessions. Repetition, she observes, is the common thread between all three writers. Ultimately, Lochhead aims to place repetition within a larger formal concept. In the solo clarinet work, *Wings,* Lochhead notices that music similar to the opening and middle passages returns near the conclusion of the work but missing some sections. She describes the defining aspects of each area of music and compares that area

[37] Hasty 1981, 58.
[38] Danuta Mirka, "Texture in Penderecki's Sonoristic Style," *Music Theory Online* 6/1 (2000): [10].
[39] Judy Lochhead, "Joan Tower's Wings and Breakfast Rhythms I and II: Some Thoughts on Form and Repetition," *Perspectives of New Music* 30/1 (1992): 132-156.

to its return. These defining aspects include “climactic” trills, “sweeping gestures,” intervallic relationships, and pitch profiles. Thus, Lochhead’s segmentation is based not on direct repetition but on associations that deal with a variety of parameters including ornamentation, contour, rhythm, and interval and pitch content. Lochhead’s analyses of *Breakfast Rhythms I* and *II* track the repetition of pitch-class set motives giving less weight to other musical elements.

Table 3. Mirka’s parameters of auditory perception as binary oppositions

perceptual parameters	perceptual categories		
	+		-
loudness	loud dynamics	vs.	soft dynamics
pitch	high register	vs.	low register
	spatial continuity	vs.	spatial discontinuity
	spatial mobility	vs.	spatial immobility
time	temporal continuity	vs.	temporal discontinuity
	temporal mobility	vs.	temporal immobility

Clearly defining one’s concept of segment is paramount because of the substantive differences in the scope of this loaded term. Lefkowitz and Taavola (2000) explicitly state that a segment is ideally three to five notes in length, a statement that is troublesome given variation in tempi and note values across musical repertoire. Hasty (1981) demands that the first step in his method involve listening and noting perceptions, and Mirka (2000) discusses auditorily perceptible parameters in particular. One can conclude that a certain level of perceptibility is imperative in segmentation and therefore in gesture.

Tenney and Polansky (1980), as well as Hanninen (2001), address hierarchy or the

possibility of division within a segment. Tenney and Polansky specifically name elements, clangs, and sequences as different hierarchical levels within a segment. Hanninen asserts that a general theory of segmentation must accommodate a situation where segments are embedded. As such, my employment of segmentation will allow for nested segments, and it will be possible but not necessary for these segments to be hierarchically related.

Finally, many of the above-cited authors define distinctness of a segment primarily by discontinuity with surrounding elements, though authors also mentioned the repetition of segments and the proximity and similarity of elements within a segment as a means of defining distinctness. This project will combine the above common aspects of the segmentation literature with facets of gesture in order to arrive at musical segments that are perceptible, potentially divisible, and distinct.

Performance and Analysis

Thus far a great deal of the dialogue on the subject of performance and analysis has involved an attempt to negotiate the relationship between the two disciplines and how much and in what capacity they should intersect.[40] Not many scholars have actively engaged both performance and analysis in their writings, and even fewer have successfully appeased both theorists and performers in so doing. Numerous scholars have analyzed works with the intention that performers use their analyses as guides; others have analyzed performances or recordings, as

[40] Tim Howell, "Analysis and Performance: The Search for a Middleground," in *Companion to Contemporary Musical Thought* Vol. 2 ed. John Paynter, Tim Howell, Richard Orton, and Peter Seymour (London: Routledge, 1992), 692-714; Jonathan Dunsby, "Guest Editorial: Performance and Analysis of Music," *Music Analysis* 8/1-2 (1989): 5-20; Joel Lester, "Performance and Analysis: Interaction and Interpretation," in *The Practice of Performance: Studies in Musical Interpretation,* ed. John Rink (Cambridge: Cambridge University Press, 1995), 197-216; Joel Lester, "How Theorists Relate to Musicians," *Music Theory Online* 4/2 (1998).

in the case of expressive timing studies.[41] A few scholars have collaborated with performers and/or composers and studied a work together.[42] This section will survey the ways that theorists have tackled the subfield of performance and analysis in the last thirty years.

Janet Schmalfeldt's groundbreaking article, "On the Relation of Analysis to Performance: Beethoven's Bagatelles Op. 126, Nos. 2 and 5," from 1985, illuminated the connection between theorists and performers in a dialogic format.[43] Schmalfeldt took on both sides of the dialogue – she divided different facets of her musical personality into an Analyst and a Performer. Her unequal portrayal of the Performer as submissive to the Analyst earned her a number of critics, as did her prescriptive analysis. Nicholas Cook notes that, "the two Schmalfeldts tend to lecture one another rather than interact freely, and one is ultimately left with the impression that the analyst-Schmalfeldt holds all the cards."[44] Lawrence Rosenwald decries that the Performer's laudation of analysis "feels a bit too much like a Puritan conversion narrative," and Joel Lester asserts that while "[Schmalfeldt's] pianist-persona is learning to play the pieces… it is obvious from her prose that her analyst-persona has studied them long and hard."[45] Ultimately, however,

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[41] Daniel G. Barolsky, "The Analyst as Performer," *Music Theory Online* 13/1 (2007); Alan Dodson, "Expressive Timing in Expanded Phrases: An Empirical Study of Recordings of Three Chopin Preludes," *Music Performance Research* 4 (2011): 2-29; Cynthia J. Folio, "Analysis and Performance: A Study in Contrasts," *Intégral* 7 (1993): 1-37; William Rothstein, "Like Falling Off a Log: Rubato in Chopin's Prelude in A-flat Major (op. 28, no. 17)," *Music Theory Online* 11/1 (2005); Janet Schmalfeldt, "On the Relation of Analysis to Performance: Beethoven's Bagatelles Op. 126, Nos. 2 and 5," *Journal of Music Theory* 29/1 (1985): 1-31.

[42] Nicholas Cook, "Prompting Performance: Text, Script, and Analysis in Bryn Harrison's *être-temps*," *Music Theory Online* 11/1 (2005); Daphne Leong and David Korevaar, "The Performer's Voice: Performance and Analysis in Ravel's *Concerto pour la main gauche*," *Music Theory Online* 11/3 (2005); Daphne Leong and Elizabeth McNutt, "Virtuosity in Babbitt's *Lonely Flute*," *Music Theory Online* 11/1 (2005).

[43] Schmalfeldt, "On the Relation."

[44] Nicholas Cook, "Analysing Performance, Performing Analysis," *Rethinking Music*, ed. Nicholas Cook and Mark Everist (Oxford: Oxford University Press, 1999), 246.

[45] Lawrence Rosenwald, "Theory, Text-Setting, Performance," *The Journal of Musicology* 11/1 (1993), 61; Lester, "Performance and Analysis," 198.

these critics could not detract from the important role that Schmalfeldt's article played in initiating such a discourse. Twelve years later, Schmalfeldt addressed her critics via the Brazilian journal, *Per Musi*, offering explanation and self-evaluation of a young musician surer of herself as a theorist than a performer.[46]

Wallace Berry also wrote about performance and analysis in the 1980s. Berry's tone is one that exemplifies theoretical commentary on the subject in the second half of the twentieth century. Though he concedes that "there is no 'best' or 'correct' interpretation of a subject piece," he notes that there are "infinite possibilities of misrepresenting, and of interpretive intrusion, so that analysis must often tell the performer what should *not* be done."[47] William Rothstein advocates the same viewpoint, particularly in respect to the notion that aspects of a work should or should not be "brought out."[48] For example, in a discussion of Bach fugues and the great pains Bach takes to conceal certain entries, Rothstein asserts that "to 'bring out' such hidden entries would be to reveal not erudition, but boorish pedantry."[49]

Accordingly, Berry and Rothstein, like early Schmalfeldt, prescribe performance directions based on their analyses. Unfortunately, this prescriptiveness comes across as condescending to the performer. Cook observes that for Berry, "the direction is always *from* analysis *to* performance… Performers, it seems have a great deal to learn from analysis; the

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[46] Janet Schmalfeldt, "On Performance, Analysis and Schubert," *Per Musi Revista de Performance Musical* 5–6 (2002): 38–54; Janet Schmalfeldt, *In the Process of Becoming: Analytical and Philosophical Perspectives on Form in Early Nineteenth-Century Music* (Oxford Oxford University Press, 2011).
[47] Wallace Berry, "Formal Process and Performance in the *Eroica* Introductions," *Music Theory Spectrum* 10 (1988): 4, his emphasis.
[48] William Rothstein, "Analysis and the Act of Performance," in *The Practice of Performance: Studies in Musical Interpretation,* ed. John Rink (Cambridge: Cambridge University Press, 1995), 217-240; Rothstein, "Like Falling Off a Log."
[49] Rothstein, "Analysis," 219.

possibility of a reciprocal process of learning is apparently not considered."[50] In her discussion of Beethoven's second Bagatelle Op. 126, Schmalfeldt advises in one location that "the Performer's challenge here is to give the silence its full rhythmic value."[51] Similarly, Rothstein notes that in Brahms's Intermezzo in A minor Op. 116 No. 2, "the pianist should strictly observe Brahms's nuances."[52] While performers retain the prerogative of interpretation, being essentially told to accurately play what is written on the page is, as Timothy Howell puts it, "authoritarian."[53]

Cynthia Folio also issues similarly authoritarian recommendations in her "performer's analysis" of the first movement of Bartók's *Contrasts,* "Verbunkos."[54] She stresses that "the *fff* dynamics, downbow indications, and accent marks should be followed."[55] Again, a theorist is telling a performer to play what's on the page. More confounding than that though, is later in the article when Folio suggests that the performer absolutely *not* abide by the given markings. The ensemble, she notes, should "create momentum toward the downbeat of m. 26, despite the allargando [written] in m. 25."[56] Later, Folio directs that "a slight accent on each sixteenth-note triplet would emphasize the various qualities of thirds."[57] Folio takes the interpretation away from the performer and puts it firmly in the hands of the theorist.

Norman Carey's article, "An Improbable Intertwining: An Analysis of Schumann's *Kreisleriana I* and *II,* with Recommendations for Piano Practice," provides an example of prescriptive advice that does not strike me as falling under Howell's "authoritarian" umbrella

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[50] Cook, "Analysing Performance," 239-240.
[51] Schmalfeldt, "On the Relation," 12.
[52] Rothstein, "Analysis," 232.
[53] Howell, "Analysis and Performance," 709.
[54] Folio, "A Study in *Contrasts.*"
[55] Ibid.,12.
[56] Ibid., 28.
[57] Ibid.

because it addresses practice techniques. Carey provides background information with which many performers would be concerned and highly technical analysis with which they might not. Carey's practice recommendations, which include singing while playing, normalizing harmonies, and the bundle technique, are exceptionally authoritative in their wording but less so because they don't demand a given interpretation from a performer. Carey frees performers to come to their own conclusions but equips them with practice suggestions based on analysis.

The common thread in the points raised above is that theorists live and communicate in a verbal world while performers live and communicate in a non-verbal one. As Jonathan Dunsby points out, "understanding and trying to explain musical structure is not the same kind of activity as understanding and communicating music."[58] Lester discusses this idea at length in two articles on the subject, arguing for "a more reciprocal discourse [that] would enhance our understanding of music-theoretical issues as well as performance issues."[59] Lester challenges theorists to find a way to converse with performers where performers are not immediately disadvantaged by the verbal nature of the discussion.[60] He imagines a way in which "performers could enter analytical dialogue as *performers*–as artistic/intellectual equals, not as intellectual inferiors who needed to learn from theorists."[61] He asks where such an exchange could take place and muses that the internet might be the place, as one could post audio and video files in addition to traditional articles.[62] Ironically, this musing took place in Lester's article published in *Music Theory Online*.

Lester's call-to-arms did not go unanswered. In particular, Daniel Barolsky took Lester's ideas to heart and sought out a way to "understand the analytical claims put forth by

[58] Dunsby, "Performance and Analysis," 7.
[59] Joel Lester, "Performance and Analysis," 198.
[60] Joel Lester, "How Theorists Relate."
[61] Lester, "Performance and Analysis," 214, his emphasis.
[62] Lester, "How Theorists Relate."

performers."[63] Barolsky examines the last movement of Chopin's Piano Sonata No. 2 in B-flat minor Op. 35 the form of which has elicited a variety of analyses from analysts, such as Charles Rosen, Jurij Cholopow, and Hugo Leichtentritt. Additionally, there are over one hundred recordings of this movement by pianists, such as Alfred Cortot (1928), Ivo Pogorelich (1981), Wilhelm Kempff (1958), Sergei Rachmaninov (1930), and Mikhail Pletnev (1988). Barolsky asserts that "by listening to what performers emphasize and obscure and to how they respond to other performers and compositions, we allow them to prompt us to ask new questions and hear new answers."[64]

Alan Dodson and those interested in expressive timing take this analysis of recordings to another level. Dodson engages in empirical studies of the timing of asymmetrical phrase structures that are a result of phrase expansion in three different Chopin preludes.[65] He addresses the general tendency of a phrase to resemble an arch that begins slowly, accelerates, and ends slowly, with particular focus on the decelerating conclusion of the arch. He studies as many as sixty-four recordings of a single prelude in order to discern that "there is at least a partial consensus among the performers regarding 'how the piece goes.'"[66] Dodson compares and contrasts his findings regarding performers' timing with his own and others' analyses. Both Dodson and Barolsky have found ways to bring performance into the realm of analysis while at the same time leaving performers out of it.

[63] Barolsky, "The Performer as Analyst."
[64] Ibid.
[65] Dodson, "Expressive timing."
[66] Ibid., 6.

Daphne Leong attempted to bring performers into the process of analysis through collaboration. She has written two articles in this style, one with a flutist on Babbitt, and one with a pianist on Ravel.[67] In the case study on Babbitt's *None but the Lonely Flute*, Leong and her collaborator, Elizabeth McNutt, began learning the work at the same time and addressed the differences in their processes in so doing.[68] In particular, they note that the analyst began with generalities and honed in on specifics while the flutist did just the opposite and concede that the analyst must inevitably "choose particular issues and examples to discuss," while the performer "cannot omit, repeat, or recontextualize anything."[69] Despite these differences, they ultimately "discovered [their] perspectives on the work showed strong similarities."[70]

In her collaboration with pianist David Korevaar, Leong seeks to answer the question, "what can a performer's voice contribute to the analysis of a work?"[71] After a general survey of the subfield of performance and analysis, Leong and Korevaar consult historical recordings of Ravel's Concerto and incorporate many video examples to illustrate the physical constraints of performing solely with the left hand.[72] Furthermore, the two bring their intimate knowledge of the work as performers to the table, which they believe "contributed specific insights into metric structure, pedaling as a structural determinant, and the purely visceral experience of the work in motion."[73] Ultimately, Leong and Korevaar see far-reaching implications to their collaboration:

[67] Leong and Korevaar, "The Performer's Voice"; Leong and McNutt, "Virtuosity."
[68] Elizabeth McNutt, "A Postscript on Process," *Music Theory Online* 11/1 (2005).
[69] McNutt, "A Postscript."
[70] Ibid.
[71] Leong and Korevaar, "The Performer's Voice."
[72] Ibid.
[73] Ibid.

> This process of verbalization/analysis often occurs in the course of teaching a piece–somewhat haphazardly. However, integrating such considerations with structural analytical observations proves a strong and more relevant framework for performance interpretation. [The] exploration of the opening cadenza of Ravel's Concerto has served as a vehicle for introducing another analytical voice–that of the performer and not merely his/her performance–into musical analysis, complementing the voice of the theorist in the study of score and performance.[74]

Cook collaborated with composer Bryn Harrison, pianist Philip Thomas, and music academic Eric Clarke to work on Harrison's *être-temps*.[75] Their article is laid out almost like an interview where Cook's three collaborators interject freely throughout. Discussion topics include how Thomas went about learning the piece and complex rhythmic accuracy between hands. Cook cautions against performance analysis that focuses purely on recordings asserting that they "risk misreading or simply not grasping the social meaning inherent in the act of performance."[76] Despite advances made in the subfield of performance and analysis, he says that "[theorists] are vulnerable to the claim that the voices of performers have not really been heard, that theorists have… taken it upon themselves to speak for performers in a kind of ventriloquism."[77] Instead, Cook advocates for an ethnographic approach, which he claims "[has] a great deal of potential for contextualizing the now more traditional approaches to the empirical study of performance."[78]

This dissertation draws primarily from theoretical literature on performance and analysis, segmentation, and musical gesture. Work on ancillary gesture and agency are related but not

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[74] Leong and Korevaar, "The Performer's Voice."
[75] Cook, "Prompting Performance"; Nicholas Cook, Eric Clarke, Bryn Harrison, and Philip Thomas, "Interpretation and Performance in Bryn Harrison's *être-temps,*" *Musicae Scientiae* 9 (2005): 31-74.
[76] Cook, "Prompting Performance."
[77] Ibid.
[78] Ibid.

directly pertinent to this project. This dissertation then finds itself at the crossroads of these three important bodies of work, with each area contributing to the overall conception. From performance and analysis, I chose an analytical path and the voice with which I speak. From segmentation, I incorporate Hanninen's general theory of analysis, and from musical gesture, I have adapted concepts of gesture from Hatten and Cumming.

CHAPTER 2

METHODOLOGY

Analyses within this study will begin with Hanninen's segmentation theory and proceed to emphasize gesture. Non-gestural segments may also be included in situations where they provide evidential support for an argument. The earlier survey of segmentation literature showed that there are a number of common threads in current scholarship, upon which I will base my segmentation decisions. Commonalities that emerge from the literature include the perceptible length of a segment, the notion of hierarchy or divisibility of a segment, and the distinctness of a segment. Lefkowitz and Taavola explicitly state that a segment is ideally three to five notes in length, a statement that is troublesome given variation in tempi and note values across musical repertoire. Hasty demands that the first step in his method involve listening and noting perceptions, and Mirka discusses auditorily perceptible parameters in particular. As such, one can assume that a certain level of perceptibility is imperative in segmentation.

Tenney, Tenney and Polansky, and Hanninen address hierarchy or the possibility of division within a segment. Tenney (1986) and Tenney and Polansky (1980), specifically name elements, clangs, and sequences as different hierarchical levels within a segment.[79] Hanninen (2001), eleven years in advance of her comprehensive book, claims that a general theory of segmentation must accommodate a situation where segments are embedded.[80] As such, my employment of segmentation will allow for nested segments, and it will be possible but not

[79] Tenney and Polansky 1980, 206-7.
[80] Hanninen 2001, 351. Hasty (1981) is the only cited source to specifically ban divisibility in his theory of segmentation. He states that a structure (segment) "must have a unitary value in some domain, that is, there must be no change of value in this domain which would cause it to be broken up into subcomponents" (58).

necessary for these segments to be hierarchically related.

Finally, many of the authors cited demand distinctness of a segment be demonstrated primarily by discontinuity, though proximity, similarity, and repetition are mentioned as well. This project will combine the above common aspects of the segmentation literature with facets of gesture in order to arrive at musical segments that are perceptible, potentially divisible, and distinct. Hanninen's theory allows for associational connections that may seem sonically salient but theoretically perplexing or vice versa. I will primarily adopt an associative orientation, which allows one to focus on repetition, equivalence, or similarity as a means for segmentation. Segmentation within Donatoni's chamber works relies upon a combination of two of Hanninen's three analytical domains: sonic and contextual (omitting theoretical), the first of which calls for a disjunctive orientation, as segmentation is based on edge detection. Hanninen names two subtypes of sonic criteria – this project will focus on the first type. S_1 criteria (or sonic criteria in subtype 1) "assume temporal adjacency as a prerequisite for segmentation."[81] Hanninen gives examples of S_1 criteria, such as pitch, dynamics, and types of articulation ($S_{1\text{-pitch}}$, $S_{1\text{-dynamics}}$, $S_{1\text{-articulation (slur)}}$), noting that each sonic criterion segments successive events within the music.[82]

Ultimately, incorporation of Hanninen's associative sets enable larger groupings allowing for connectivity of gestures with the same duration and articulation, for example, but no discernable pitch relationship. Associative sets also allow for grouping segments of different cardinalities. In Donatoni's chamber works analyzed for this project, the use of associative sets shows a developing or evolving type of form. Associative sets can (but do not have to) include gestures.

[81] Hanninen 2012, 26.
[82] Ibid, 27.

Gestural analysis serves a variety of potential conceptual purposes. Thinking gesturally can lead to dynamic shaping within Donatoni's blocked dynamics. Though objectively ***p*** indicates the same approximate (soft) dynamic level, realistically there is a fairly wide acceptable range. Dynamic shaping in new music aids performers and listeners by creating an association to more traditional styles. Gestural concepts can help give direction to lines that could easily meander directionlessly. Performers regularly discuss music's direction–some even claim that all music is going to or coming from somewhere. Though this can clearly be disputed in some styles, it can be applied here. A further benefit of this type of thinking is that a gestural analysis encourages plurality of interpretations, as the specific direction of a line comprised of gestures is not necessarily suggested by such an analysis.

My own responses referring to Hatten's facets of musical gesture follow. Numbers reference the numbers in Table 1.

1) Hatten is primarily concerned with communication between performer and audience (as he studies solo piano repertoire), noting that musical gesture "whether intentional or not… communicates information about the gesturer."[83] In the current project, communication between members of an ensemble additionally will be of great interest, as I endeavor to highlight the interpersonal dynamic unique to the chamber music medium.

2) Hatten's incorporation of "human expressive movements" reflects other writings in this area that suggest that gestures must be communicated through bodily motion or exhibit the ability to be embodied through motion in some way.[84]

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[83] Robert S. Hatten, "Musical Gesture," *Cyber Semiotic Institute*, last modified 2001, accessed April 16, 2013, http://projects.chass.utoronto.ca/semiotics/cyber/hatout.html, Lecture 2.
[84] Manfred Clynes, *Sentics: The Touch of Emotions* (New York: Anchor Press, 1977), 30-1; Cumming 2000, 138; David Lidov, *Is Language a Music?* (Bloomington and Indianapolis: Indiana University Press, 2005), 132-3.

3) It is imperative for this project that gestures can exist given only a musical score, as that is the medium being studied at present. In *The Composer's Voice,* Edward T. Cone decries that "score reading is often described as if it were only a kind of abstract listening. It is not: it is also a kind of abstract performance."[85] An analyst's (or performer's) ability to "hear" and "perform" a work in her head prior to hearing or producing a live performance enables this facet of gesture. In inference of gesture, this act of an internal performance is no less important than a realized performance.

4) Just as gestures can exist through an internal performance, which clearly has no actual body motions, gestures can exist through a recorded performance. In these two instances, the physical aspects of gesture are embodied in the music and sound themselves.[86]

5) The literature now commonly recognizes that segments of music can be grouped based on any number of musical elements, but as this was not always so, Hatten states it explicitly.

6) A gesture must have the potential to be perceived. Segmentation literature based on perception and cognition studies suggests that perceivable segments are relatively brief.[87]

8) Hatten's notion of hierarchically-related gestures finds roots in the work of Tenney and Polansky, as well as an opponent in David Lidov.[88] My definition of gesture allows for but does not demand hierarchical relations.

11) I assert that the "higher-level gestures" of which Hatten writes can be employed not only "to direct the listener's attention to the main structural outlines of a form, or an expressive genre,"

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[85] Edward T. Cone, *The Composer's Voice* (Berkeley: University of California Press, 1974), 136.
[86] Andrew Mead, "Bodily Hearing: Physiological Metaphors and Musical Understanding," *Journal of Music Theory* 43/1 (1999): 1-19. Mead discusses how "a significant part of [his] engagement with music, be it as listener or composer, had to do with a sense of how the music was made – that the sound of the music was an embodiment of that making…" (2).
[87] Lefkowitz and Taavola 2000, 181.
[88] James Tenney and Larry Polansky, "Temporal Gestalt Perception in Music," *Journal of Music Theory* 24/2 (1980): 206-7; Lidov 2005, 132-3.

but also to direct the attention of collaborative musicians, thus engaging in a gestural dialogue between performers.[89]

In reference to Cumming's definition of gesture, I will loosely abide by her notion that "[gestural potentiality] is not realized unless a performer brings to the figuration an understanding that establishes a unitary 'kinesthetic' impulse," keeping in mind the aforementioned possibility of an internal performance as a means of gestural realization.

Gestural analysis of new chamber music will engender many challenges. As mentioned earlier, inclusion of stylistic gestures demands thought. The abundance of styles available to the late-twentieth- and early-twenty-first-century composer makes it difficult for an analyst to strongly place any musical work within a single style. As such, should potential gestures appear to draw recognition from an earlier stylistic period of which the analyst has knowledge, this should be taken into account. The vast number of potential gestures within a single work could prove challenging as well. If one views gesture as a subcategory of segmentation, as I do, then it is possible to account for every single note within a work as part of a gesture or multiple gestures. I, however, would not be particularly satisfied with an analysis that simply identified gestures. The aspect of interest to me is the relationship or network developed between rows or between gestures. Hatten's interests lie in topics and tropes, as indicated in the title of his most recent book, and he chooses to address gestures that support those lines of thought. As my intentions are to tackle the chamber music dynamic, I will give preference to gestures that highlight this phenomenon, such as those discussed in the following analyses.

[89] Hatten 2004, 95; Klorman 2013. Klorman explores the conversation metaphor as a means to further his argument for multiple agency. He engages with the performer as agent within this metaphor.

This project engages the performative aspect of gesture and draws attention to the gestural dialogue that occurs between different voices in a chamber ensemble. In order to clearly outline the facets that comprise my definition of musical gesture, I have created a list that adopts (and occasionally adapts) properties listed by Robert Hatten and/or Naomi Cumming.

1. Musical gestures are communicative. Previous scholars have been primarily concerned with communication between performer and audience. I am additionally interested in communication between members of an ensemble in my desire to highlight the interpersonal dynamic unique to chamber music.
2. Musical gestures convey a kinesthetic motion. Embodiment is a critical feature of gesture. Gesture must be embodied otherwise it is simply a segment. Embodiment could lead to or become a component of agential readings.
3. Musical gestures may be extrapolated from a musical score, recording, or live performance. Furthermore, just as gestures can be perceived through an internal performance, which clearly has no actual body motions, gestures can be perceived through a recorded performance. In these two instances, the physical aspects of gesture are embodied in the music and sound themselves.
4. Musical gestures may be comprised of any of the elements of music.
5. Musical gestures are perceptible and therefore relatively short in duration. A gesture must have the potential to be perceived. Segmentation literature based on perception and cognition studies suggests that perceivable segments are relatively brief. Hatten specifically mentions the length of two seconds, but I believe a greater degree of flexibility is warranted.

6. Musical gestures may be organized hierarchically or may be nested without a hierarchical relationship, based upon segmentation literature as discussed above.
7. Musical gestures may rely upon figurative patterning associated with a style or time period. As gestures are interpreted by a modern-day analyst, performer, and/or listener, that person will have knowledge of earlier styles, and therefore figurations from previous time periods will maintain a certain amount of meaning.
8. Musical gestures can be strengthened, highlighted, or transformed by physical gestures during performance. This is not limited to hands, as one might casually use the term gesture.

In excluding or condensing aspects of earlier definitions of musical gesture, it is my intention to simplify the general process of producing a gestural analysis so that it more accurately reflects "what we intuit as being 'gestural.'"[90]

I would like to broaden the concept of gesture beyond what is easily imaginable as a physical, bodily act, though this broader conception will still be a real part of a performer's experience. Most physical gestures that are connoted by musical notes don't actually give rise to gestures themselves; instead, the feeling of playing a musical gesture will parallel the feeling of leaping, chopping, flicking, swerving, etc. Thus a broader definition of musical gesture could depart from the realm of physical gesture, as long as the definition still refers to something in the music that is salient, finite, distinct from its musical "surroundings," and paralleled by some aspect of a performer's–or listener's–internal experience.

This project specifically highlights the benefit of a dialogical gestural analysis of chamber music. I will accomplish this by addressing ways that gestures between different voices

[90] Hatten 2004, 93.

relate to one another and exploring examples of these relations within the chosen literature. Table 4 shows types of dialogical gestural relationships. The definitions are deliberately broad and therefore inclusive.

Table 4. Dialogical gestural relationships

Imitative	One or more voices could imitate an existing voice with or without overlapping
Generative/Reactive	One or more voices could react to another voice or set of voices, or cause another voice to react
Mirroring or Layering	Two or more voices could mirror one another simultaneously or consecutively in inversion or parallel motion
Connective	Two or more voices could pass lines to create a single line
Overlapping	Voices could overlap with one another without any clear pass off or apparent melodic line, often to create a more dense texture
Punctuation, Accentuation, or "Hits"	One or more voices could act to accentuate given moments within the line of another voice or set of voices

While performing an individual line a performer might ask: do the gestures in my part lead to or come from one another, or do gestures in my part easily combine to form a line? When performing in a chamber ensemble, performers might further question whether or not their gestures (or lines) lead to or come from a different voice in the ensemble. Such questions can inform an ensemble's interpretation of a piece in regards to dynamic considerations and cueing especially. When a performer is aware that his/her line is passing to another voice, a cue to the person to whom (s)he is passing adds a layer of communication that might not otherwise take place. Communication of this nature, the kind that goes beyond downbeats, helps a piece come together more quickly and helps the group to formulate their own interpretation. Additionally, such cues inform the audience (and other group members) of the pass off.

Sample Analysis: György Ligeti's *Sechs Bagatellen für Bläserquintett* (1953)

György Ligeti's *Sechs Bagatellen für Bläserquintett* (1953) derived from *Musica ricercata* for solo piano (1951-1953) employs a wide variety of ensemble textures, capably demonstrating the gestural relationships between different voices listed in Table 4.[91] Measures 1-4 of the first movement of *Sechs Bagatellen*, *Allegro con spirito,* seen in Example 1, demonstrate Punctuation from the three bottom voices (clarinet, horn, and bassoon), which in turn create Generative/Reactive gestures from the two upper voices (flute and oboe).[92] The high woodwinds may conceive of their part as a continuation of the downbeat eighth notes, or they may view their lines as driving to the successive bass "Hits." Regardless, a gestural analysis that addresses the dialogue between the high and low voices in this example provides a flexible and experiential accounting of the music.

There are many sections within Ligeti's work that showcase a combination of Imitative and Connective gestures, such as measures 12-15 of the second movement (see Example 2). In measure 12, the first voice (flute) may be conceived as Connective to the second (clarinet) in order to create a single line composed of running eighth notes. The clarinet, however, may conceptually consider the part to be imitative in musical shaping and contour to the flute. One need not claim one conception as more correct than the other, as both are equally reliant upon the performers' or listeners' interpretations. Ultimately, the benefit of this type of analysis is that it draws attention to the communication and interactivity between the two voices.

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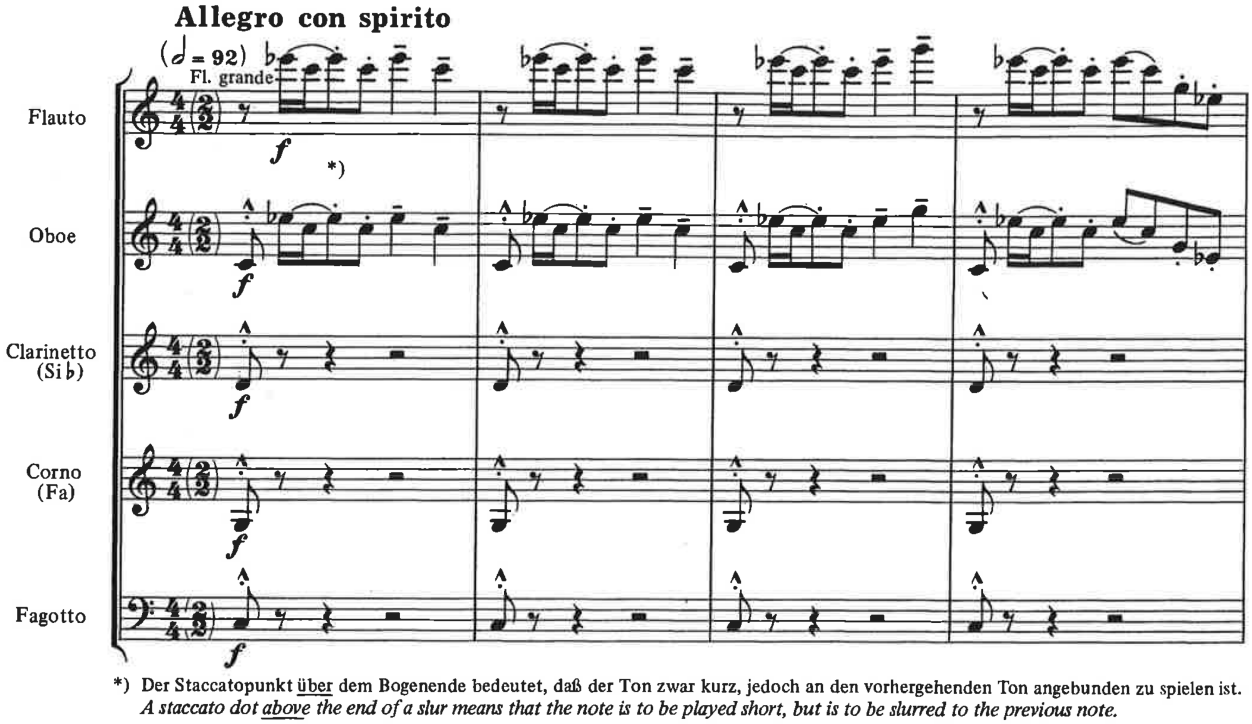
[91] The variation in types of ensemble textures is ironic given that the work is an arrangement of a solo piano piece. Perhaps, however, it is the thought that went into the arrangement that make the ensemble textures so rich and varied.

[92] Dialogical gestural relationships generated as a result of this project (as listed in Table 4) will be shown with the first letter capitalized.



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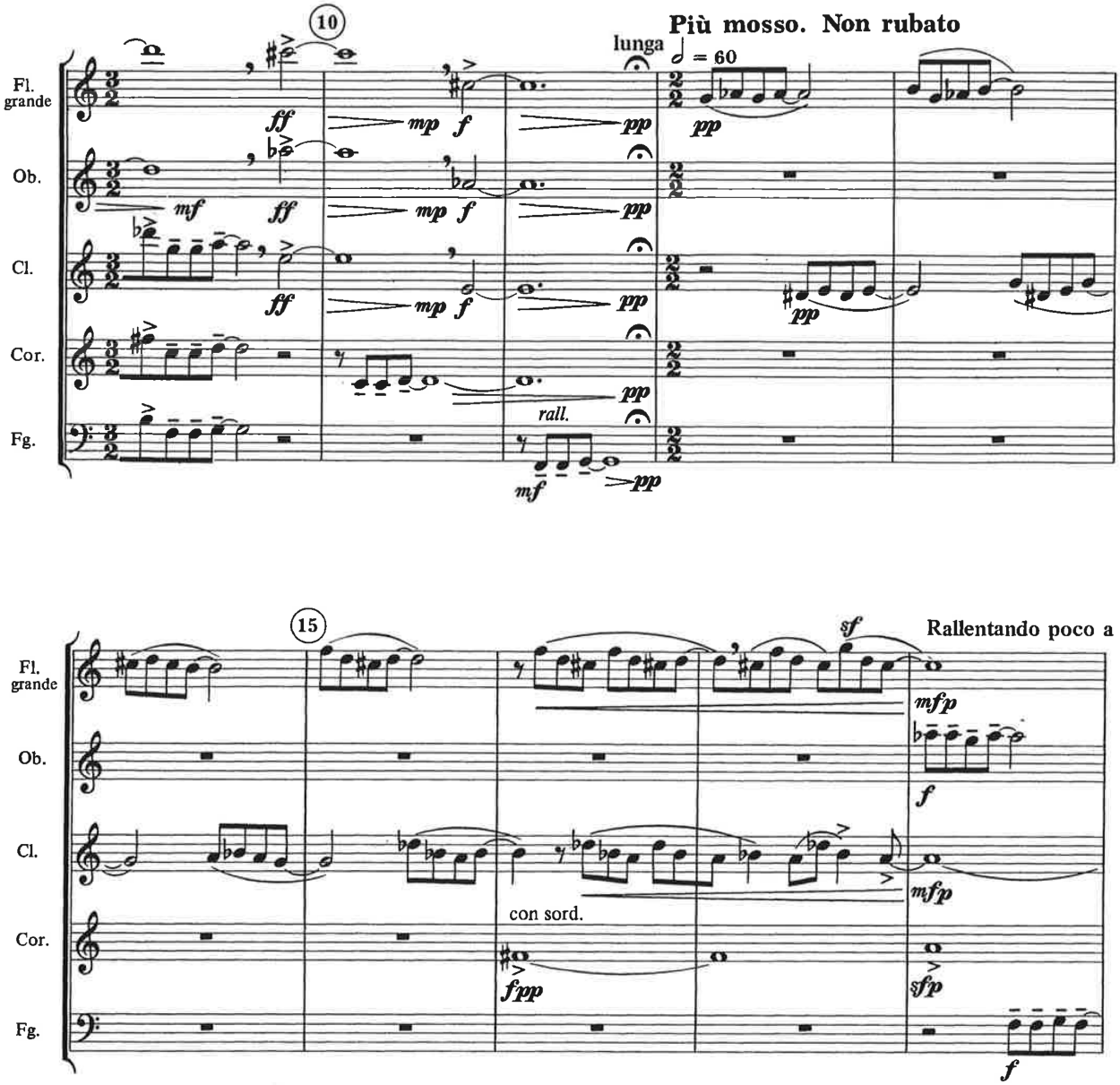
Example 1. Ligeti, *Sechs Bagatellen*, I. *Allegro con spirito*, mm. 1-4

The opening of the *Allegro grazioso* similarly demonstrates Imitative and/or Connective gestural relationships between the clarinet and bassoon (see Example 3). One or both voices may conceive of their one-measure gestures as passing to the following voice or as an imitation of the previous voice. Again, there is not a correct interpretation, as both may be simultaneously accurate. The benefit to performer, listener, and/or analyst is the treatment of each voice as an individual contributor to the end goal of a unified interpretation.



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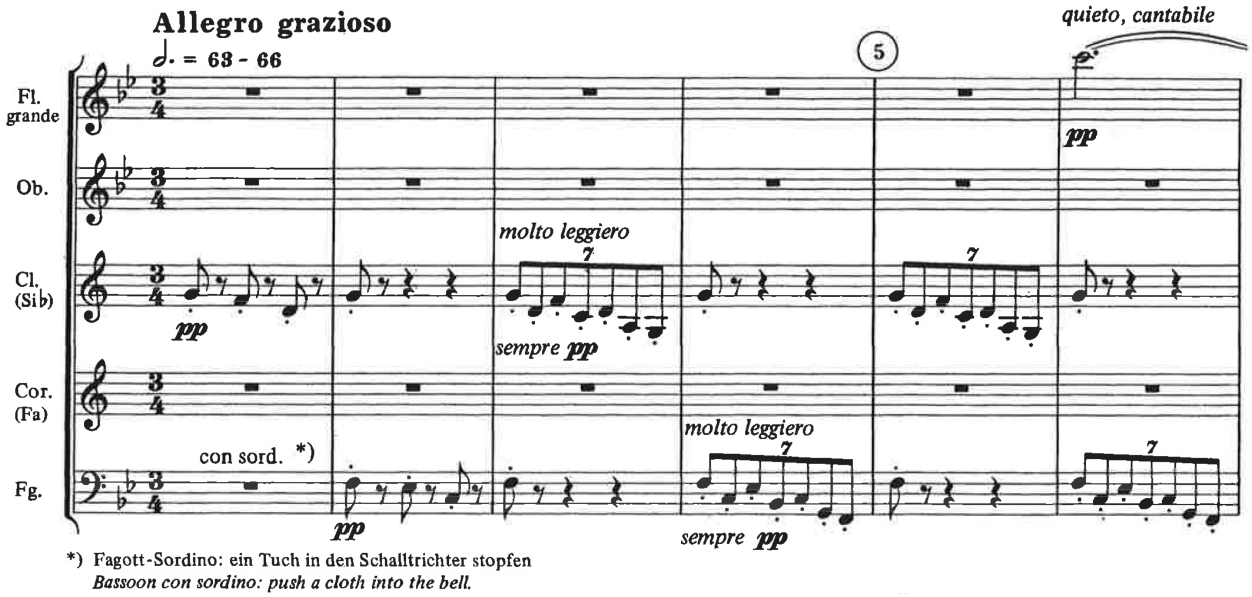
Example 2. Ligeti, *Sechs Bagatellen*, II. *Rubato. Lamentoso*, mm. 9-18



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Example 3. Ligeti, *Sechs Bagatellen*, III. *Allegro grazioso*, mm. 1-6

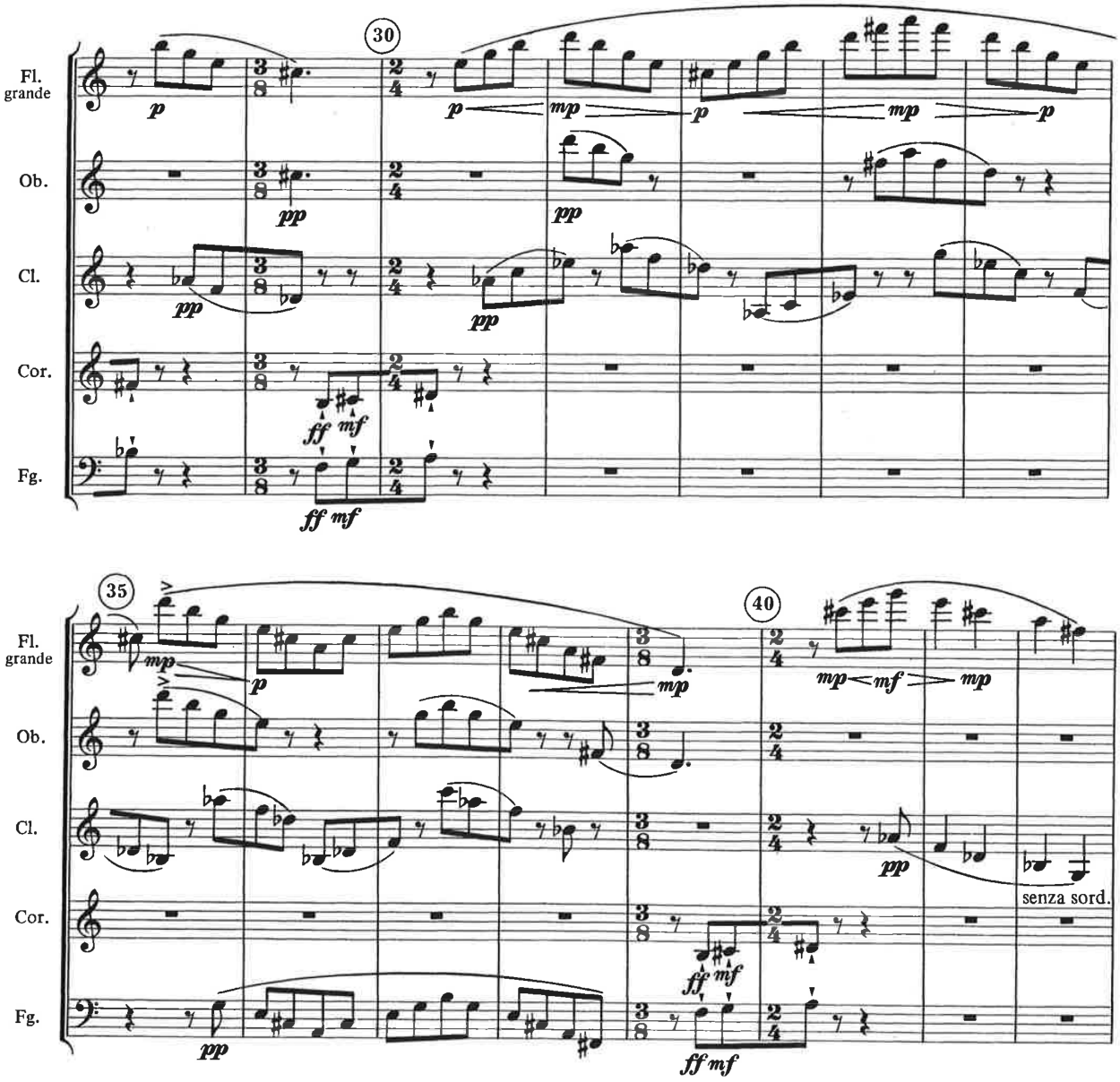
Example 4, from the sixth movement of Ligeti's work, showcases Overlapping gestures. The flute begins a four-measure stream of continuous eighth notes in measure 30, which is joined by the bassoon in measure 35. At the same time, the other voices have seemingly individual three- and four-note gestures that overlap the running eighth notes. These shorter, Overlapping gestures maintain the same contour as the primary line, adding density and perhaps highlighting certain moments within the line by coloring them differently. If one removed the flute from mm. 30-34, the remaining voices might consider their gestures as Connective given that they combine to form almost the entirety of the flute's line. The same Connective gestures can be found in the oboe and clarinet in mm. 35-40.

The final example from the sixth movement of Ligeti's *Sechs Bagatelles* demonstrates gestures that Mirror one another consecutively (Example 5). The flute and oboe play a descending line comprised of three eighth notes followed by four quarter notes, an eighth note, and a quarter note (in that order), and the clarinet and bassoon respond with an ascending gesture in the same rhythmic pattern. Dynamics and articulation are also identical between the two groups. The second group may view their gesture as Reactive and/or Connective as well as a Mirror of the original idea. Harmonically both groups are dissonant with their two voices a whole step apart from one another.

In addition to small-scale relationships, such as those mentioned above, gestural analyses that incorporate associative relations further enable large-scale connections across movements. Each movement can be parsed into one or more associative sets (groups comprised of segments and/or gestures that share at least one "contextual" criterion) via Hanninen's theory of association. Comparison of prominent associative sets in each movement identifies unifying qualities across the work.

Figure 5 is an associative map for five of the six movements of Ligeti's work that shows the arrangement of the most prominent associative sets (labeled *A* through *J*) for each movement over time. In associative analyses, many sets may share similarities (as *G* and *H* do in Figure 5). The fact that two sets are labeled separately is dependent entirely on the analysts definition of each set. It does not mean that there is an inherent difference between the two musical objects. This is not an innate truth but is simply based upon how one defines each associative set. It is particularly worthwhile to label sets separately in order to examine how these entities shift over time. In Figure 5, examining the cardinality of gestures (the number of notes per gesture) proves striking on its own. Associative sets *A, D,* and *H* are all comprised of seven-note gestures, where

associative sets *I* and *J* are comprised of nine-note gestures. Associative sets *B, C, F,* and *G* include three-note gestures, and associative set *E* includes five-note gestures.



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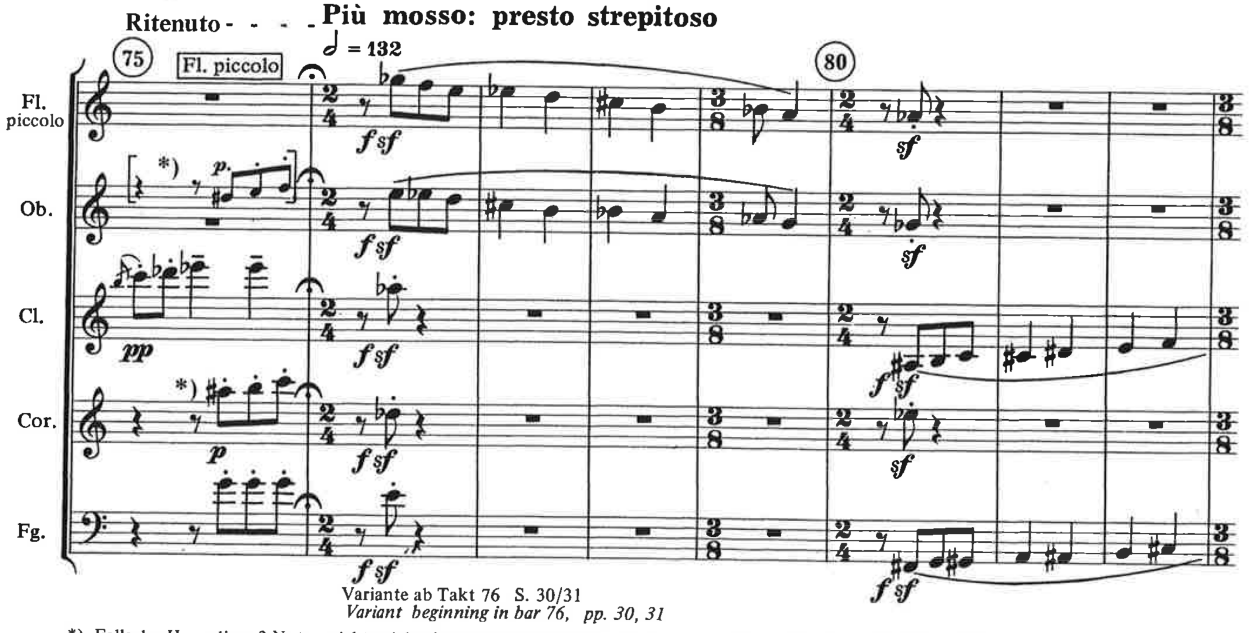
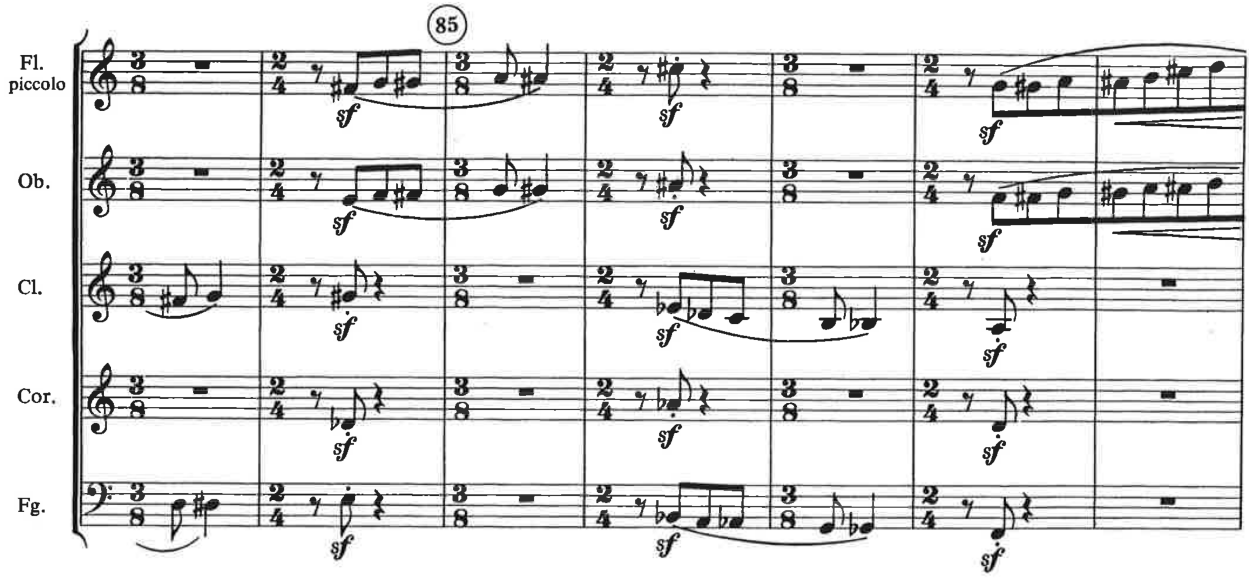
Example 4. Ligeti, *Sechs Bagatellen*, VI. *Molto vivace. Capriccioso*, mm. 28-42





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Example 5. Ligeti, *Sechs Bagatellen*, VI. *Molto vivace. Capriccioso*, mm. 75-89

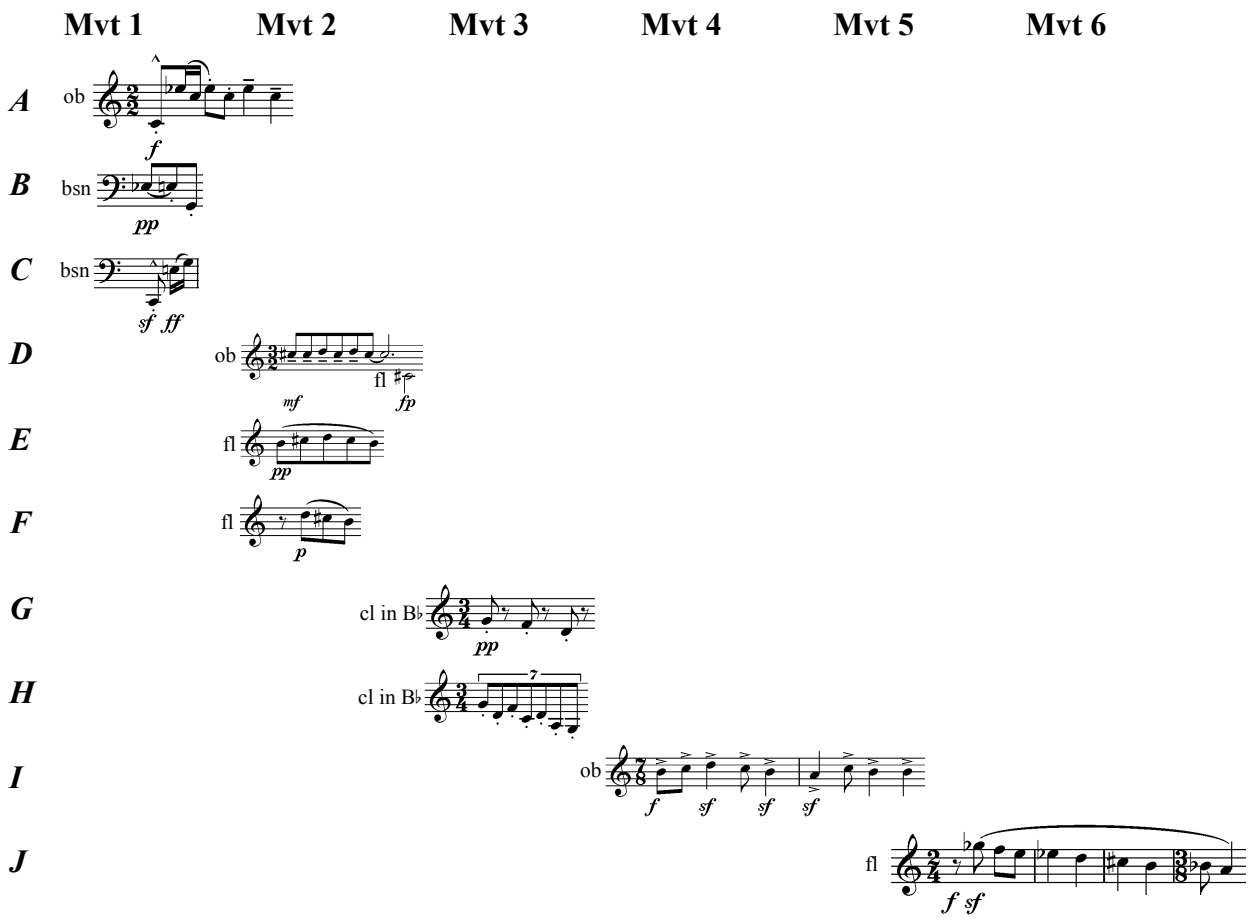


Figure 5. Associative map for Ligeti's *Sechs Bagatellen*

The length of gestures of this work's pronounced associative sets, particularly in regards to their arrangement over time, leads one to numerous conclusions, two of which I will now discuss. First, Ligeti appears to have a propensity for odd-numbered groups of notes in this collection, which is counterintuitive given the meter signatures in four of the six movements are in two, three, or four.[93] Beyond that, however, the identifiable seven-note groups appear in the

[93] The third movement is in 3/4 time marked to the dotted-half note. Hypermetric groupings are unequal and so could be said to foreshadow odd-numbered cardinalities of gestures, as well as the 7/8 meter of the fourth movement and the metric irregularity caused by 3/8 measures interspersed within the primarily 2/4 meter in the final movement.

first three movements, where the nine-note groups can be found in movements IV and VI.[94] In combination with Ligeti's well-known, self-imposed pitch limitations, wherein he began with only two pcs in the first movement of *Musica ricercata* and included one new pitch class in each subsequent movement, the growth of cardinality of gestures merely adds to the overall feeling of intensification.

While one could come to a meaningful analysis without considering dialogical gestural relationships, accounting for such interactions adds a new layer of depth. Analyses of chamber works often overlook the dimension of dialogue between multiple interpreters contributing to a single musical product. Taking gestural relationships into account adds depth to an analysis and enables new kinds of small- and large-scale associations, which contribute to a greater understanding of form. The thought processes necessary to produce such analyses could additionally lead scholars, critics, and ensemble members to approach chamber music in a more gestural, flexible, and experiential light.

[94] The fifth movement is the only movement in the set that incorporates primarily even-note gestures. Specifically, a two-note gesture first heard in the flute grows to four and then six notes before repeating the original two-note idea extensively and in various rhythms.

CHAPTER 3

ANALYSIS OF *LUCI II* FOR BASSOON AND HORN (1996)

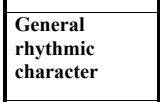
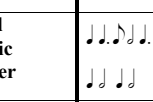
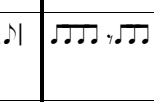
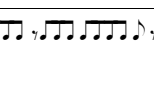
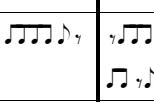
Luci II divides into fifteen dynamically-, metrically-, and texturally-contrasting sections (see Figure 6). However, there is no identifiable relationship between sections. For example, the second section shares durational values with the third, fourth, and fifth sections but not pitch, articulation, or gesture length, nor is there any clear evolution from one section to the next. The types of relationships found between sections instead lend themselves to analysis via Hanninen's concept of association. I have parsed *Luci II* into six associative sets (heretofore associative sets *A-F*) and three "melodies" (*melodies 1-3*). In this instance, *melodies* are characterized as longer lines that are not easily segmented, that are not repetitive but that share similar rhythmic and melodic qualities. Figure 7 presents an associative map for *Luci II,* which shows the arrangement of associative sets *A* through *F* and *melodies 1-3* over the course of the piece and exposes formal and dynamic evolution. [95]

Segmentation Decisions and Associative Analysis

Segmentation based on sonic criteria calls for a disjunctive orientation, as it relies upon edge detection. Sonic criteria for associative set *A* include $S_{1\text{-duration}}$ and $S_{1\text{-articulation}}$, more specifically $S_{1\text{-e}}$ and $S_{1\text{-slur}}$. According to Hanninen, "informally, one can thank of S_1 criteria as segmenting vertically (between notes that are temporally adjacent), while S_2 criteria segment

[95] In this figure and all that follow, as well as in the published score, the horn part sounds a perfect fifth lower than notated.

horizontally between notes that are literally or conceptually simultaneous."[96] Musical examples of associative set *A* can be found in measures 9, 28, and 41, as seen in Examples 6-9.

Section number	1	2	3	4	5	6
Begins in measure…	1	9	21	31	41	47
Time signature	7/4	7/4	7/4 + 1 measure of 6/4	7/4	7/4	10/4
Dynamic	***ppp***	***ppp***	***pp***	***pp***	***p***	***p***
General rhythmic character						
Common articulations	Tenuto, two-note slurs	Slurs, mezzo-staccato	Slurs, mezzo-staccato	Mezz-staccato	Slurs	Slurs
Similar texture to…						

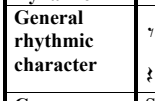
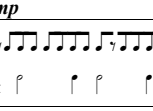
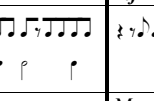
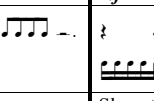
Section number	7	8	9	10	11	12
Begins in measure…	52	66	72	76	79	84
Time signature	7/4	7/4	8/4	8/4	8/4	10/4
Dynamic	***mp***	***mf***	***mf***	***mf***	***f***	***ff***
General rhythmic character						
Common articulations	Slurs	Mezzo-staccato	Slurs, tenuto	Staccato	Accents, slurs	Marcato, accents
Similar texture to…		Section 4	Section 7			Section 1

Figure 6. Outline of *Luci II*

[96] Hanninen 2012, 28.

Section number	13	14	15
Begins in measure…	89	94	99
Time signature	8 4	10 4	10 4
Dynamic	***ff***	***fff***	***fff***
General rhythmic character			
Common articulations	Marcato, accents	Accents	Marcato
Similar texture to…	Section 7	Section 10	Sections 1 and 12

Figure 6 – continued

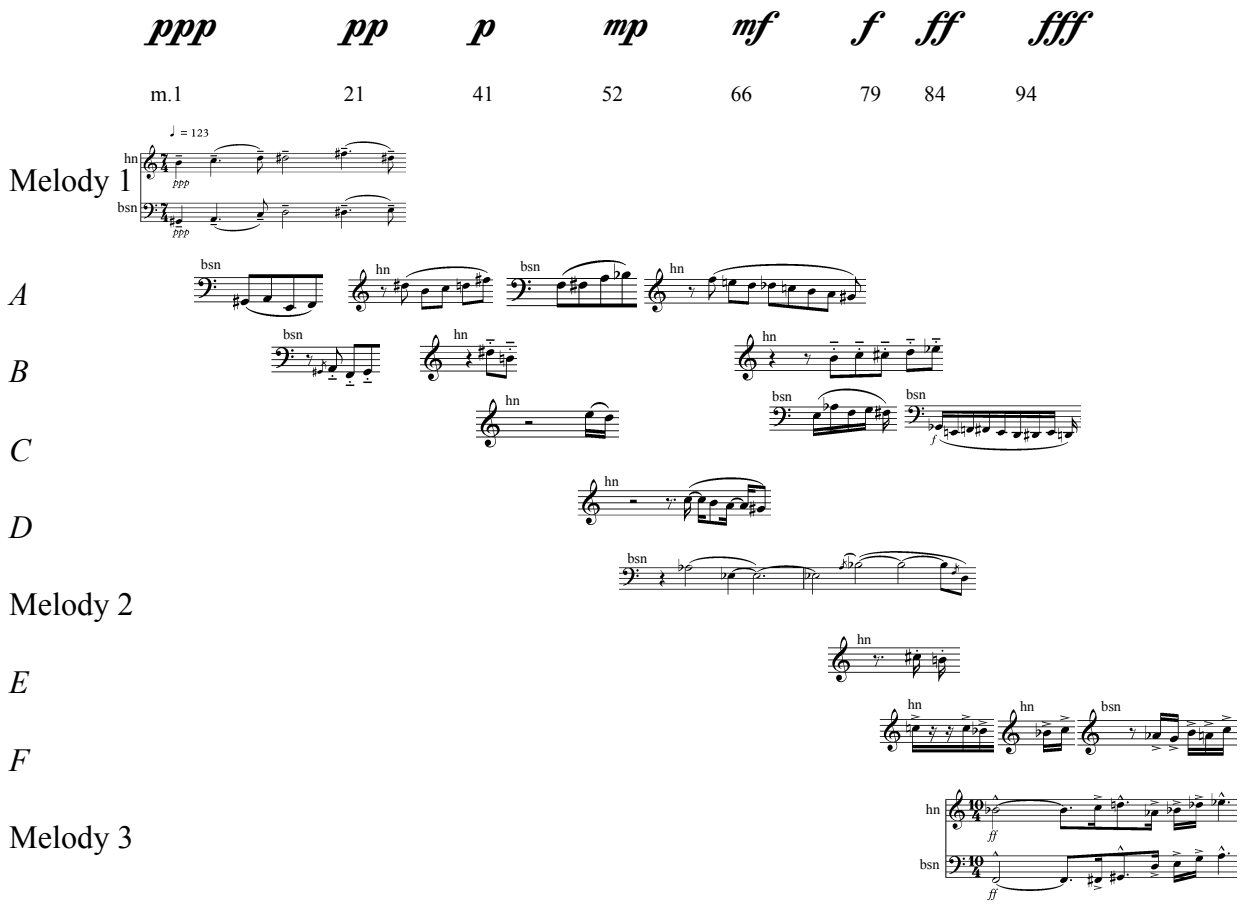
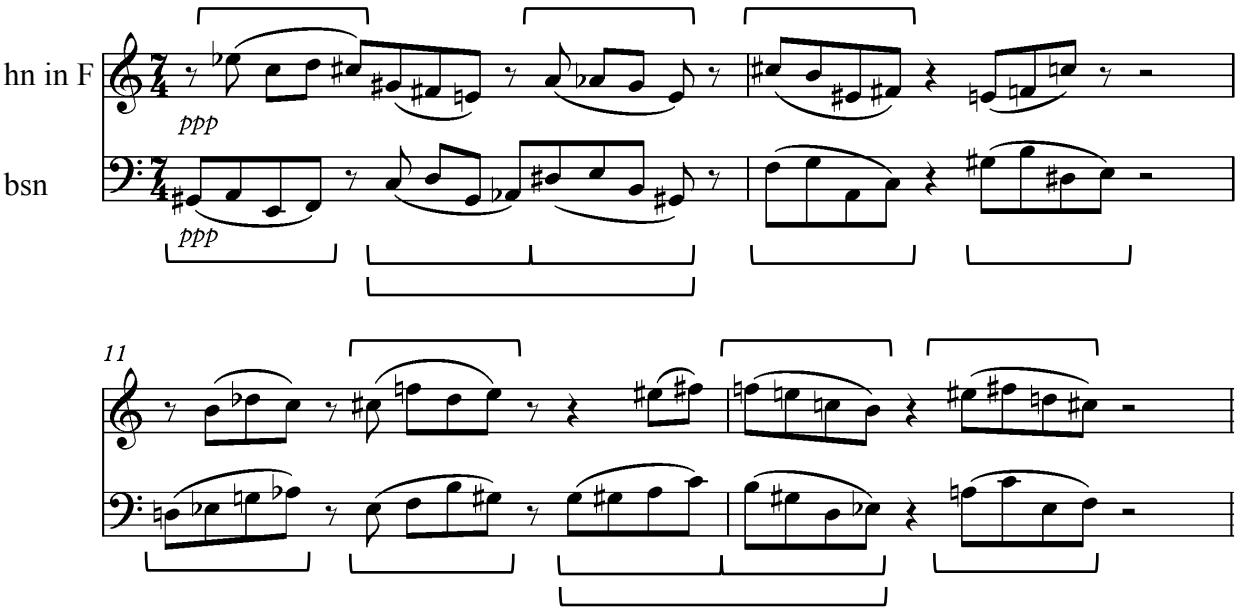
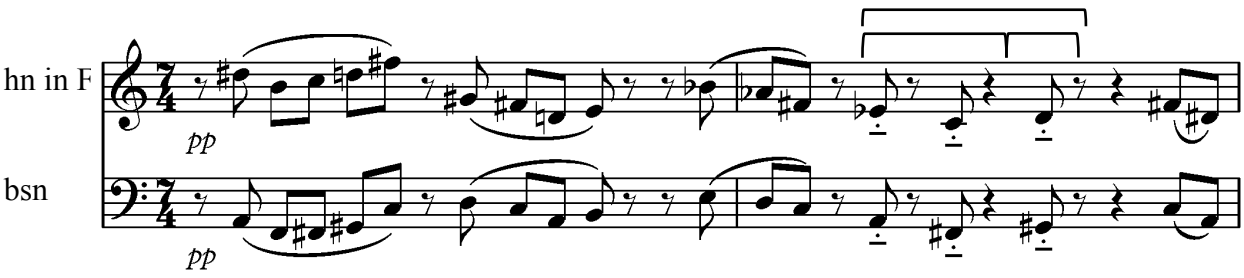


Figure 7. Associative map for *Luci II*



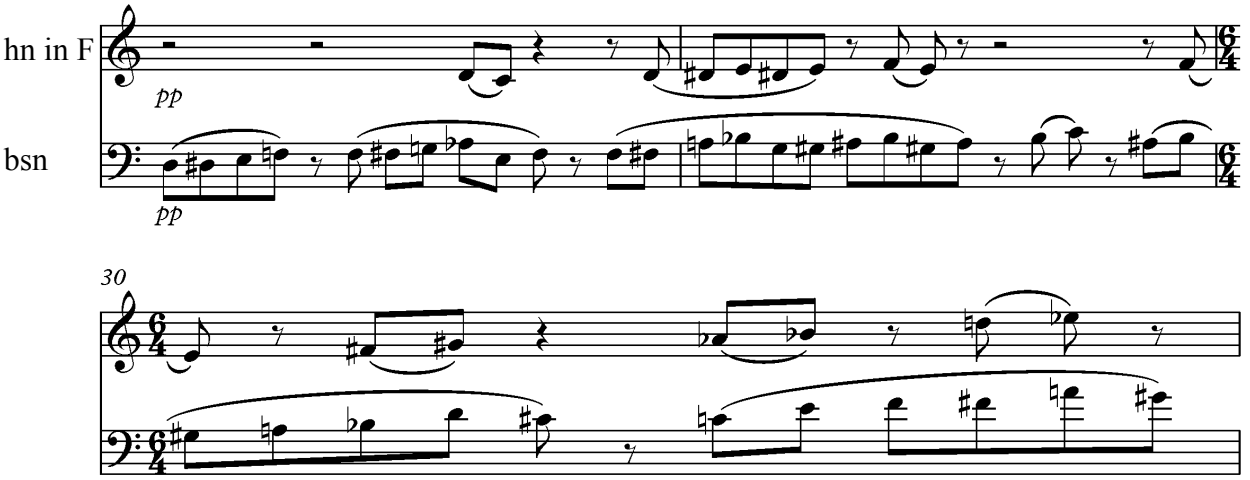
Example 6. Donatoni, *Luci II,* mm. 9-12. Potential 4- and 8-note groupings

Measures 9-12 (Example 6) can be segmented according to the location of rests, or according to the location of leaps of larger sizes. Contrarily, these measures could also be segmented using the slurs as indicators of a group. Measure 9, when divided using rests, produces segments that are either four or eight eighth-notes long. Measures 10-12, divided in either way, produces segments that are primarily four eighth notes long. Example 7 depicts primarily music that can be segmented according to the location of rests, which align with slur markings. However, the three individual eighth notes on the upbeats of beats two and three and the downbeat of beat five of m. 22 may be grouped together in multiple ways, as shown in brackets, or considered individually. Additional examples of associative set *A* demand similar decisions from the interpreter.

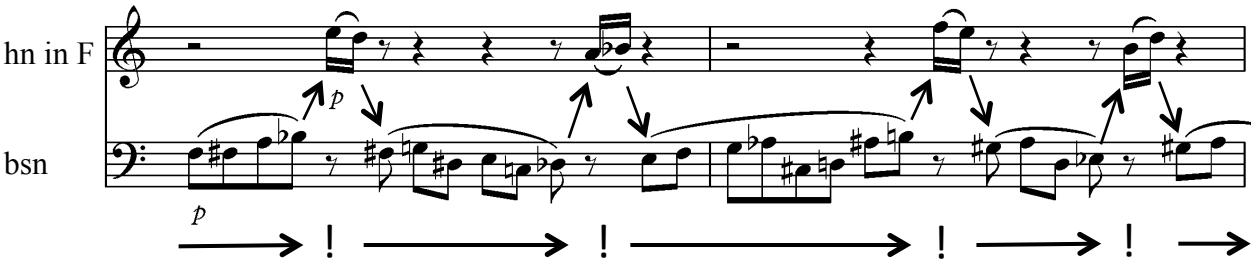


Example 7. Donatoni, *Luci II*, mm. 21-22. Potential groupings of individual notes

When considering longer lines or phrases, there is the potential to segment them through nested or connected gestures within a single voice or between voices within an ensemble. For example, gestures of smaller cardinality that lie within one voice may be nested within gestures of a larger cardinality of the second voice. Such an example of ensemble texture could be characterized as Overlapping (as seen in Table 4). Example 8 shows an Overlapping relationship where the brief horn gestures may be conceptualized as nested within the longer gestures of the bassoon. In Example 9, the two-note gestures in the horn (which do not belong to associative set *A* but rather associative set *C* to be discussed later), connect the gestures in the bassoon voice, employing a Connective relationship and ultimately creating a longer line. Contrarily, one might view the horn gestures as Punctuations or "Hits" to the ongoing bassoon line. A dialogical gestural perspective allows the analyst the flexibility to address multiple interpretations and enables creative, experiential listening opportunities.

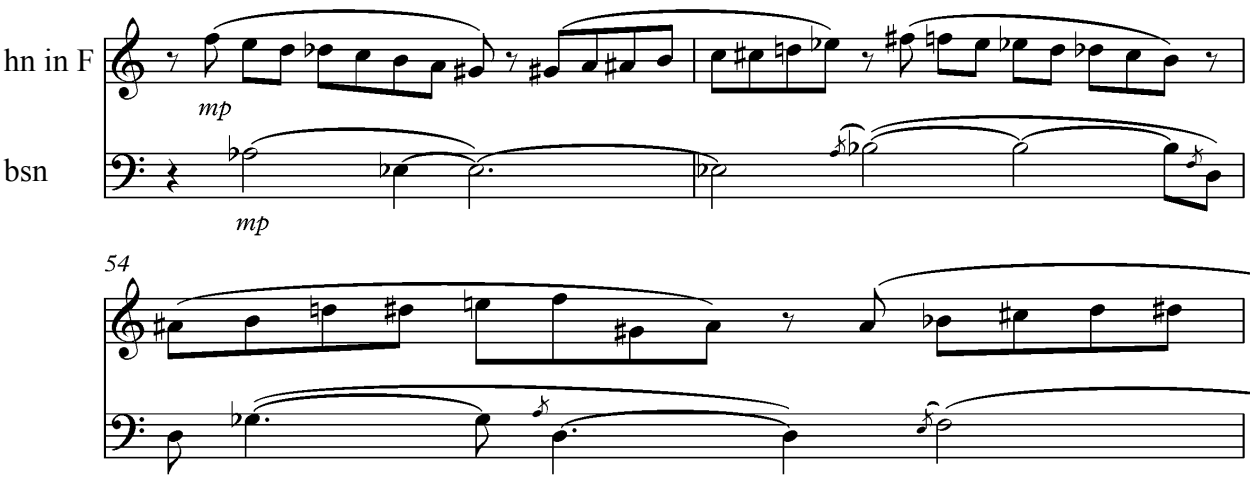


Example 8. Donatoni, *Luci II*, mm. 28-30. Horn gestures Overlap the longer bassoon gestures



Example 9. Donatoni, *Luci II*, mm. 41-42. Horn gestures could Connect bassoon gestures (diagonal arrows) or could Punctuate bassoon gestures (horizontal arrows)

I will not discuss the process of defining associative sets *B-F* here except to say that they too are often associated by articulation and duration. An example of one of the melodies, *melody 2*, can be seen in the bassoon part in Example 10. In *Luci II,* I define melodies as longer lines that are not easily segmented, that are not repetitive but that share similar rhythmic and melodic qualities. This is not to say that these melodies could not be segmented or do not contain gestural qualities but instead that given the context, I have chosen to leave them as longer, unsegmented sections of music.



Example 10. Donatoni, *Luci II*, mm. 52-54

Figure 8 shows an association graph that connects segments within associative set *A* via sonic criteria. Associative set *A* includes associations by inclusion of rhythmic durations and articulations. In Hanninen's terms, $S_{1\text{-duration}}$ and $S_{1\text{-articulation}}$ are the S_1 subtypes (or the sonic criteria 1 subtype) and $S_{1\text{-}\♪\♪\♪\♪}$ and $S_{1\text{-slur}}$ are the individual criteria.

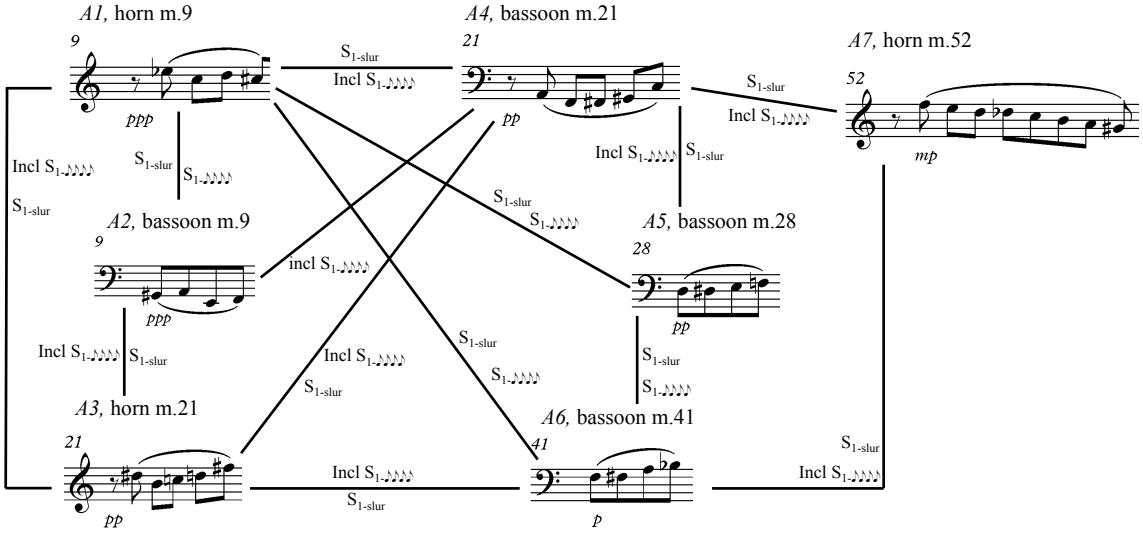


Figure 8. Association graph for associative set *A, Luci II*

Referring again to the associative map outlining the entrances of all associative sets and melodies in Figure 7, one can see that while associative sets occasionally reappear, and overlap with one another in different manners, there is no clear repetition of any kind nor is any traditional form present. Instead, there is a sense of an ever-changing, constantly evolving progression through the piece, much like the dynamic levels, which do not repeat but constantly build to the conclusion.

Again, I am particularly interested in elucidating the interpersonal dynamic unique to chamber music. The constantly mutating relationship between the two voices in this work is especially striking. The following figures depict pitch-time graphs of excerpts from several different sections, which shed light on the dialogical gestural relationships found in *Luci II*. The vertical axis shows pitch where the numbers represent octave designators, and the horizontal axis represents a consistent rhythmic pulse of either quarter notes, eighth notes, or sixteenth notes, dependent upon the section. The red points represent bassoon pitches, and the green points represent horn pitches, and the smaller blue points show the axis point(s) between the horn and bassoon pitches in several of the sections.

Sectional Gestural Analysis

I will briefly address five of the fifteen texturally-contrasting sections beginning with the first, which projects a fairly common relationship between the voices of a duet. Since there are few dynamic indications and uniform articulations throughout sections, comparison of contours provides one of the stronger indicators of gesture in this work. In the opening section (Figure 9), the voices each have their own contours, which may encourage different gestural readings,

however, the voices clearly share a Layered relationship with uniform rhythm and articulation. The resultant sound is that of one instrument with a unique timbre.

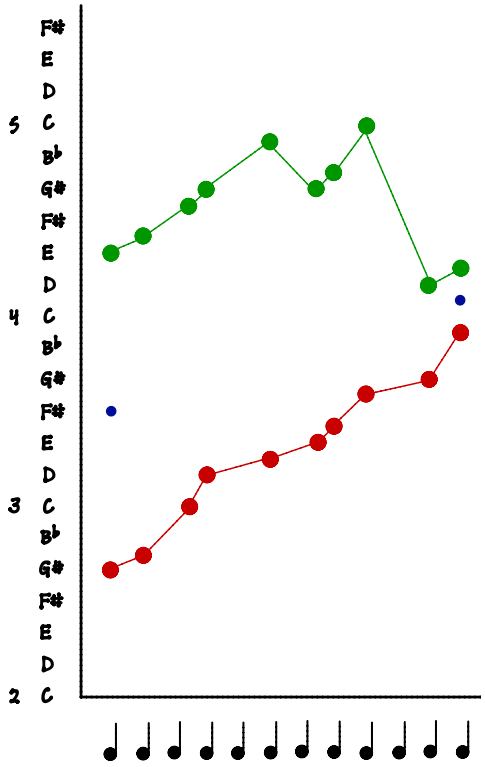


Figure 9. Pitch-time graph for *Luci II*, mm. 1-2, where green (top segment) represents horn pitches and red (bottom segment) represents bassoon pitches

In the third section, beginning in m. 21 (Figure 10), the horn and bassoon share consistent but not identical contours. Anytime that the two parts do not have the same contour, as in the first section, there is the opportunity for different interpretations. My goal now and in the future is not to determine the sole interpretation of any piece (as such a thing could not exist) but to highlight areas in the music where choices between different gestural segmentations or relationship conceptualizations could make subtle differences. Looking at the music notation

(Example 7), one can see that again in this section, the relationship between the two parts could be considered Layered. The interpretive challenge here would then be the potential hierarchical grouping of smaller gestures. In other words, in a musical situation devoid of common-practice traditional harmonic structures, how long is the phrase? Are there subphrases? What musical elements suggest answers to these types of questions?

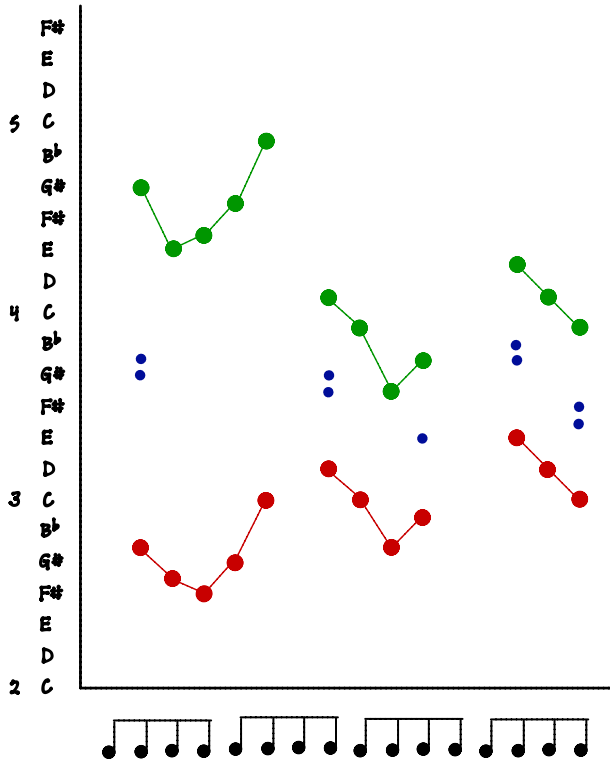


Figure 10. Pitch-time graph for *Luci II*, mm. 21-22, where green (top segment) represents horn pitches and red (bottom segment) represents bassoon pitches

One potential interpretation is to nest gestures based upon the length of rests. In mm. 21 and 22, there are four rests of eighth-note duration, two of quarter-note duration, and one of dotted-quarter duration. One could consider quarter rests as an indicator of subphrases and the dotted quarter rest as the conclusion of this phrase. I find this a satisfying solution for the first subphrase but not the second, as musically I would like to group the three individual mezzo-

staccato eighth-notes into the same subphrase. Therefore, I would extend my second subphrase based upon matched articulation, resulting in two subphrases that combine to form a single phrase, (though perhaps an open-ended, half-cadence analogous-type phrase).

The sixth section beginning in m. 47 (Figure 11) provides an example of identical contours between voices in a texture where the horn "echoes" the bassoon. The bassoon makes a statement in sixteenth notes, and just like an echo that produces augmented rhythms that are less stable than the original, the horn response occurs in syncopated eighth notes. I call this relationship Generative/Reactive because depending upon which voice one attends to, one might hear the bassoon gesture as Generating the horn gesture, or one might hear the horn as Reacting to the bassoon line (as in the potential case of an echo).

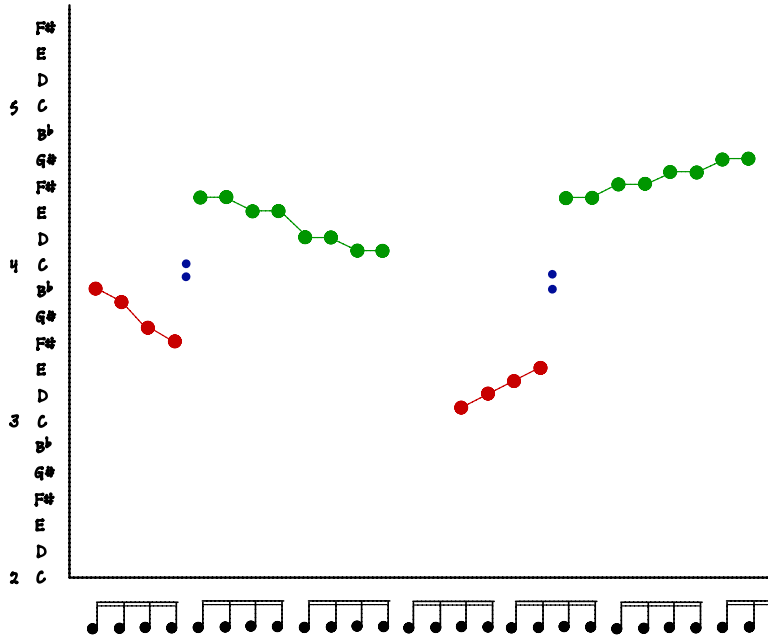


Figure 11. Pitch-time graph for *Luci II,* m. 47, where green (top segment) represents horn pitches and red (bottom segment) represents bassoon pitches

In the eighth section beginning in m. 66, the voices relate to one another inversionally producing mirror images in the graph (Figure 12), and clearly falling under the dialogical gestural relationship category of Mirrored. While there is not a constant axis of symmetry, the axis between the two voices hovers around middle C for much of this section before rising to D a step higher, as seen in the final gesture on the graph. Again, there are regular rests that provide a fairly clear segmentation for interpreters.

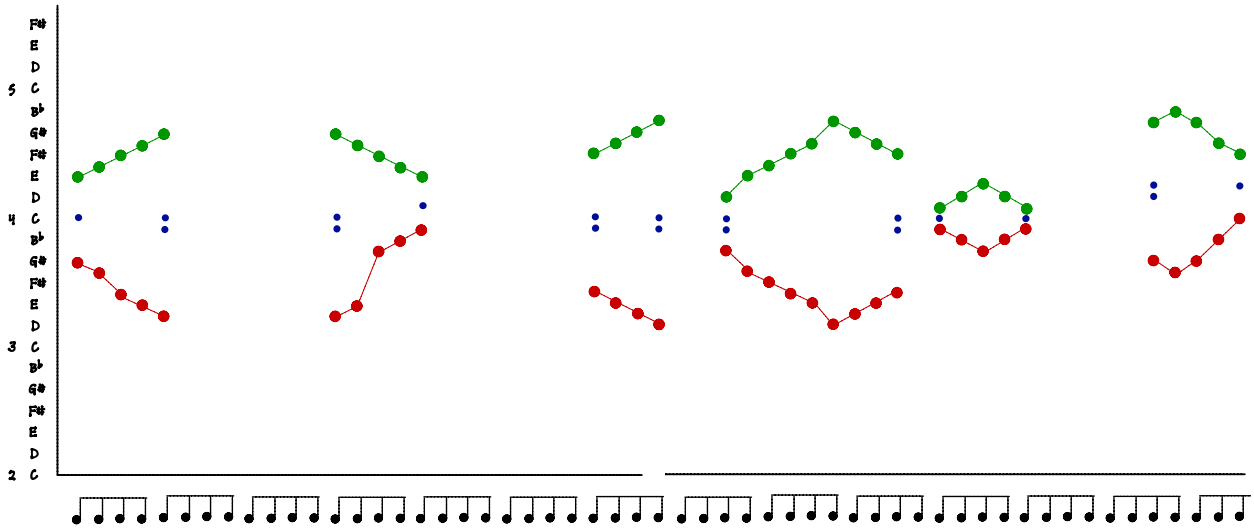


Figure 12. Pitch-time graph for *Luci II*, mm. 66-69, where green (top segment) represents horn pitches and red (bottom segment) represents bassoon pitches

Other sections prove more challenging to segment. The tenth section (of fifteen) beginning in m. 76 consists of groupings of three staccato sixteenth notes in the bassoon immediately followed by two staccato sixteenth notes in the horn (Figure 13). This texture gives the performers a choice between playing individual two- or three-note gestures where the horn line Punctuates or adds "Hits" to the bassoon line, or attempting to pass energy from the bassoon

to the horn and create Connective five-note gestures, the latter of which is more demanding in terms of ensemble coordination. This situation could easily fall under the category of nested gestures where a larger five-note gesture is comprised of two smaller gestures. I also find it an interesting aural exercise to attempt to hear this in these two different ways: as a single Connected line or as a situation where the bassoon line is constantly Interrupted or Punctuated by the horn interjections.

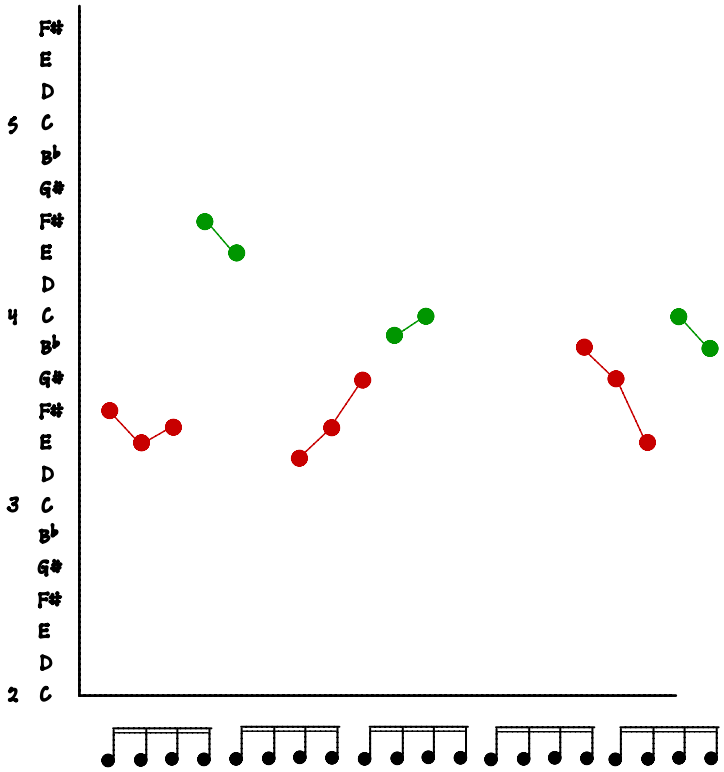


Figure 13. Pitch-time graph for *Luci II*, m. 76, where green (top segment) represents horn pitches and red (bottom segment) represents bassoon pitches

Throughout the majority of the nine-minute work, the horn maintains the top voice and the bassoon the bottom. However, in the penultimate section (Figure 14), the instrumental voices cross in what Ellie Hisama has called "twist." In her analysis of Ruth Crawford's String Quartet, Mvt. 3, Hisama asks readers to attend to the atypical registral play between the four voices of the

ensemble. She likens the voices to "strands of sound that are woven together throughout the piece" and notes that, rather than remaining in separate registers, the instrumental voices "begin to twist and weave together." Hisama outlines permutational and numerical notations for the weaving of sound-strands, which she employs to formulate the "degree of twist," or "the number of times an instrument is 'out of sequence' as compared with the reference pattern." As there are only two voices in this work rather than four, there is no variation in the degree of twist. A simultaneity or consecutiveness is either twisted or not. Anytime that the red bassoon pitches appear above the green horn pitches in Figure 14, the voices are twisted. In *Luci II*, this occurs only in the penultimate section when the bassoon is voiced in the treble clef and results in nine twisted handoffs between the two voices. The resultant texture is a climactic, Connective, single melody line that changes timbre frequently–a pinnacle of unified texture at the moment of dynamic peak.

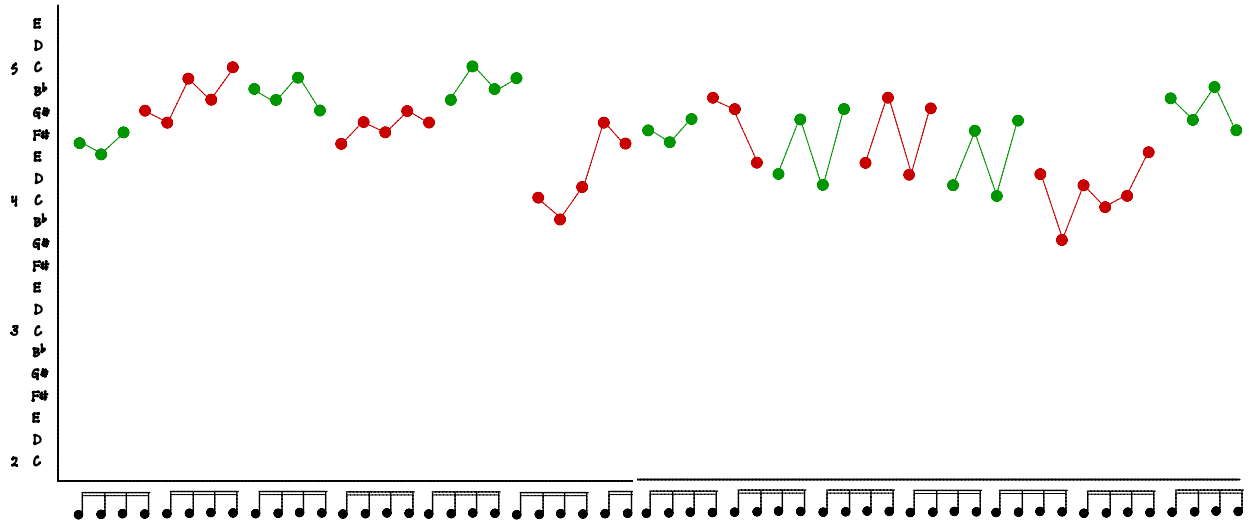


Figure 14. Pitch-time graph for *Luci II*, mm. 94-95, where green (first segment) represents horn pitches and red (second segment) represents bassoon pitches

In *Luci II,* a gestural analysis highlights the ensemble interplay that climaxes at the dynamic pinnacle of the work with this "twisted" melody line. Dialogical gestural relationships of this sort provide the opportunity for some of the most stunning moments in chamber music. While one could come to a meaningful analysis without considering dialogical gestural relationships, accounting for such interactions adds a new layer of depth. An analysis that considers dialogical gestures encourages interpretive plurality when considering individual parts alone and in conjunction with additional voices. Finally, I hope to have shown that the categorization of gestural relationships affords a flexible and experiential methodology for chamber music analysis.

CHAPTER 4

ANALYSIS OF *RASCH* FOR SAXOPHONE QUARTET (1990)

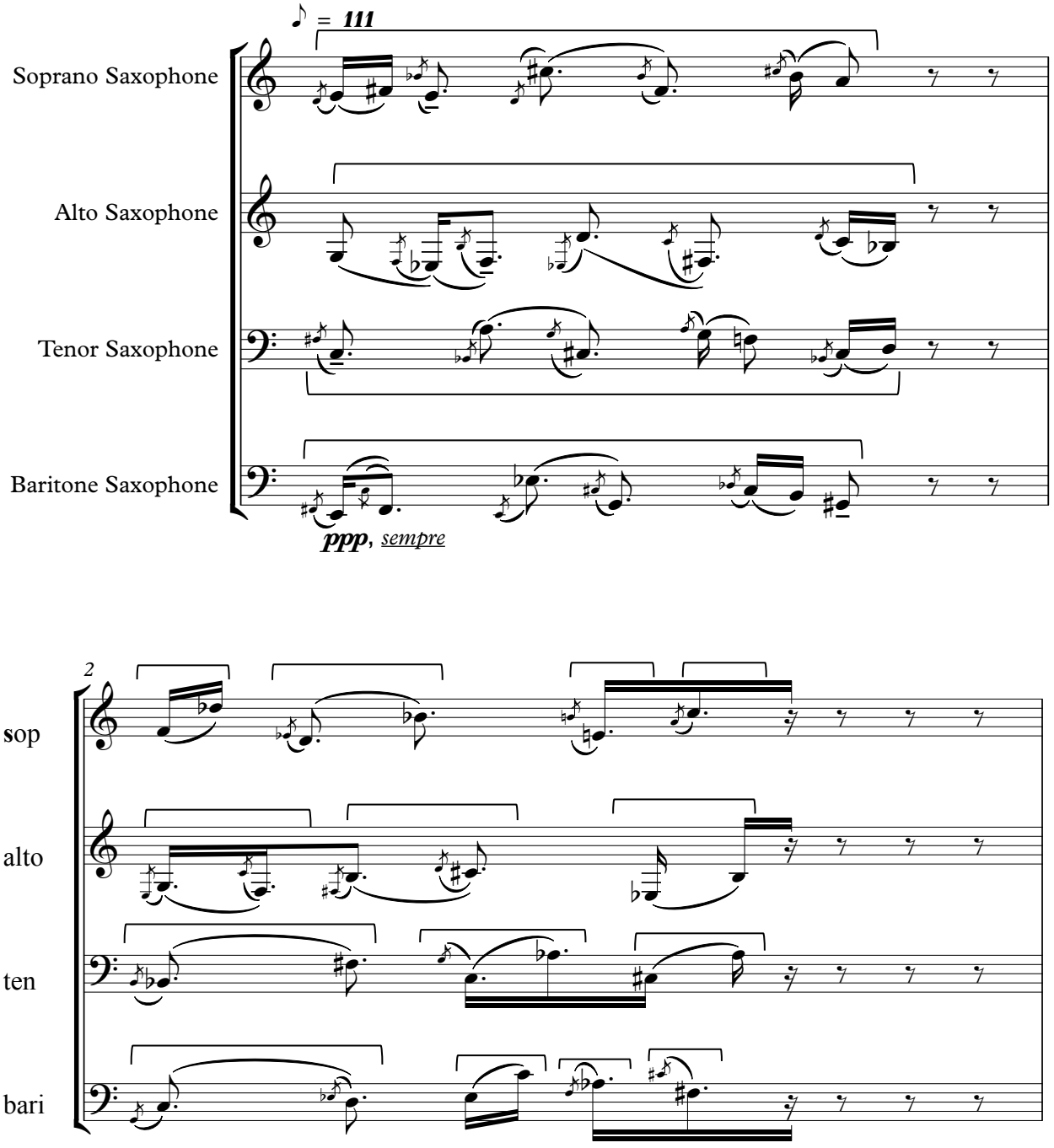
Rasch for Saxophone Quartet divides into eleven dynamically and texturally contrasting sections. Like Donatoni's other chamber works mentioned here, *Rasch* exploits the different instrument groupings available given the chosen instrumentation. In this quartet, the composer uses groups of four, three, and two, as well as individual voices to vary texture. Primarily, however, he employs either Mirrored, unison rhythms mimicking a single line or Overlapping gestures that create a dense texture with no apparent individual line standing out. This analysis will contain two layers of complementary associative organization, one focusing primarily on the sonic domain with some support from the contextual domain and one dedicated to the structural domain, and a sectional account of dialogic gestures.

First Layer of Associative Organization

The first layer of associative organization is based primarily on sonic criteria, as in the *Luci II* analysis of Chapter 3. At a short 69 measures, *Rasch* can be broken down into four associative sets using rhythm and articulation as defining characteristics.

Associative set *A* segments share mixed but relatively short durations. Associative set *A* segments, that are two or more notes long, engage rhythms that are equal to or shorter than a dotted eighth note and longer than a 32^{nd} note, and the articulation is slurred. Examples of associative set *A* can be found in mm. 1-5 and 7-14 in all four voices. Example 11 shows mm. 1-2, which might be divided using rests and voices to determine segmentation, as shown in m. 1, or

using slurs, as shown in m. 2. Both segmentations reveal a different facet of the relationship between voices.



Example 11. Donatoni, *Rasch*, mm. 1-2 bracketed to show potential segmentations

In m. 1, one can see that, despite a lack of rhythmic alignment within the measure, all four voices contain segments of the same total length. In m. 2, one can see that not only is the total length the same, but the smaller gestures that comprise the measure are also the same length though ordered differently. The segmentation of m. 2 also highlights the slight differences in slurs between the soprano and baritone voices, and the alto and tenor voices. The association graph in Figure 15 shows selected relationships between members of associative set *A*. Members of associative set *A* are related by the inclusion of durations and articulation, or Incl $S_{1\text{-duration}}$ and $S_{1\text{-articulation}}$ (sonic criteria 1 subtype). Incl $S_{1\text{-}\sixteenthnote}$ or $S_{1\text{-}\dottedeighthnote}$ (or in some cases the inclusion of more than a single note value) and $S_{1\text{-slur}}$ are the individual criteria for membership into the associative set.

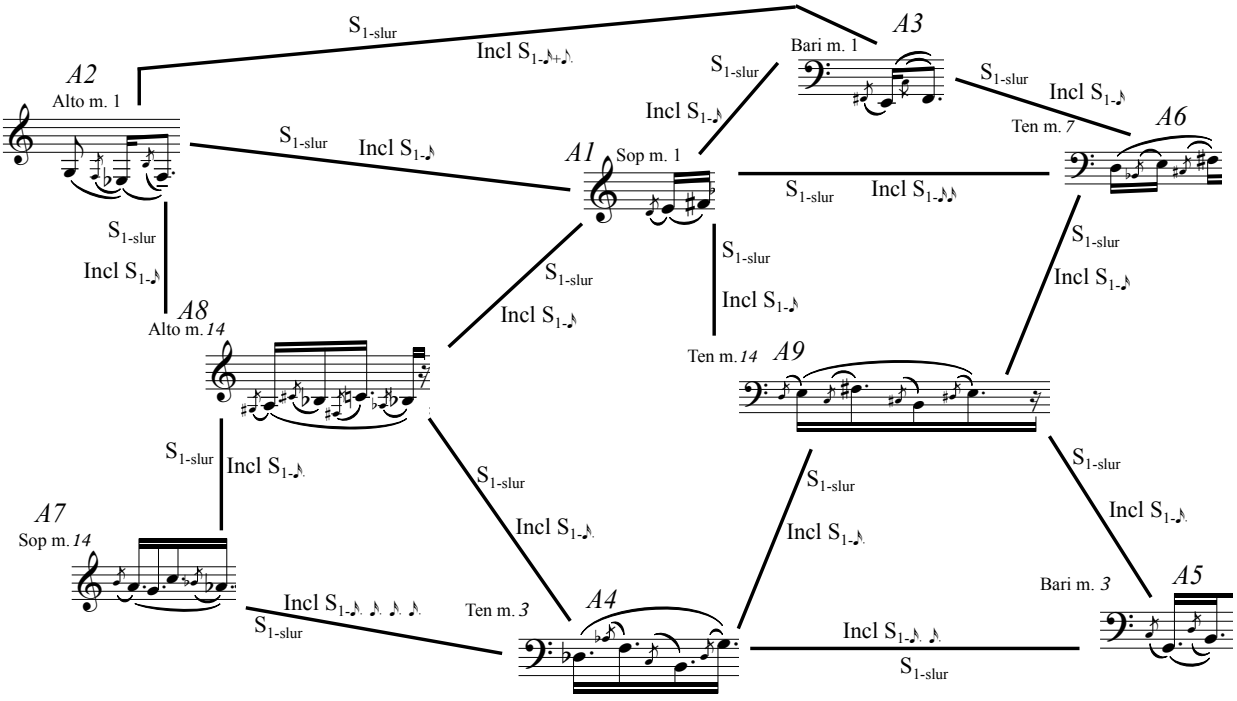


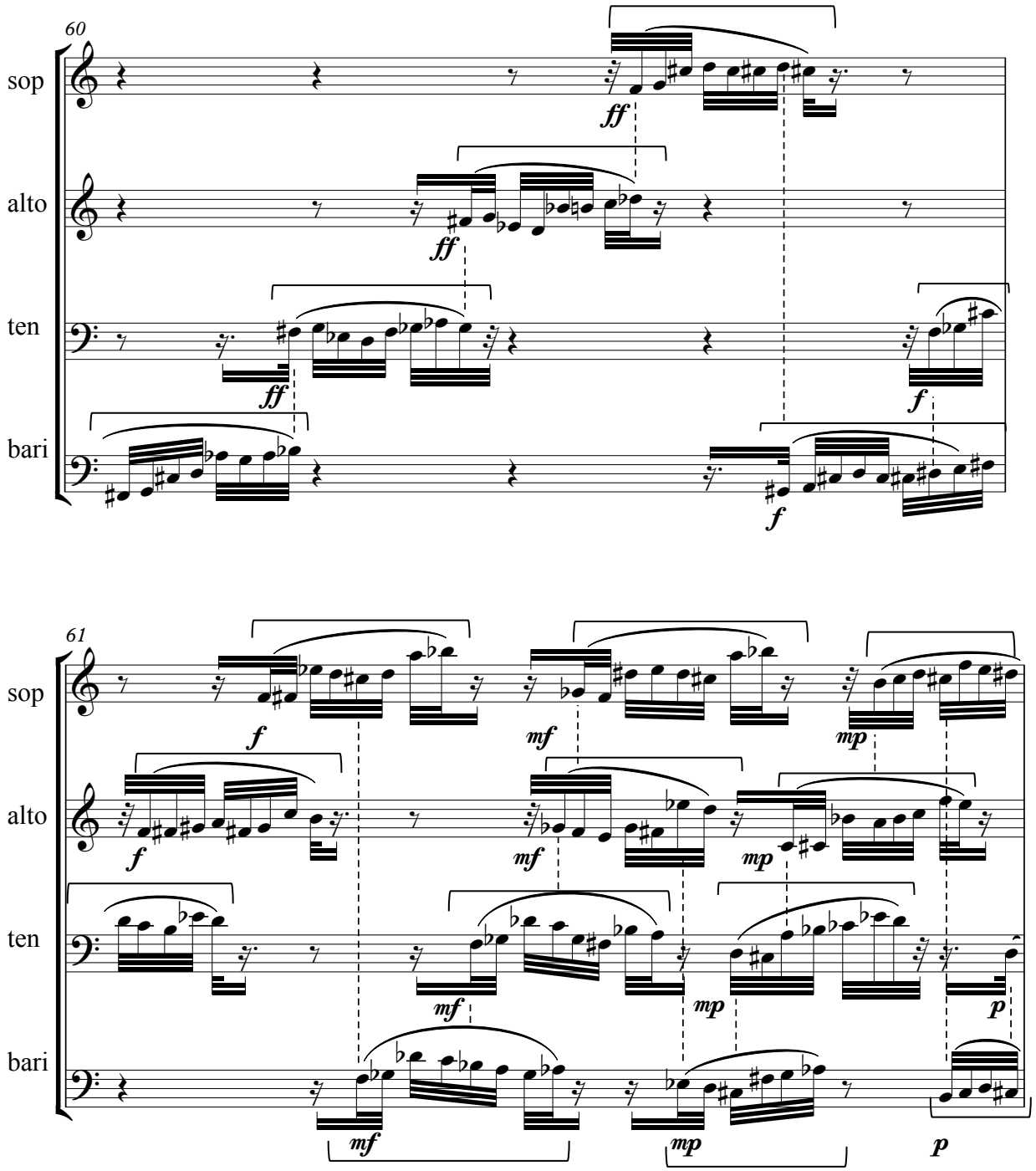
Figure 15. Association graph for set *A, Rasch*

Members of associative set *B* contain only 32nd notes and so includes shorter durations than associative set *A*. Specifically, associative set *B* is comprised of gestures that contain two or

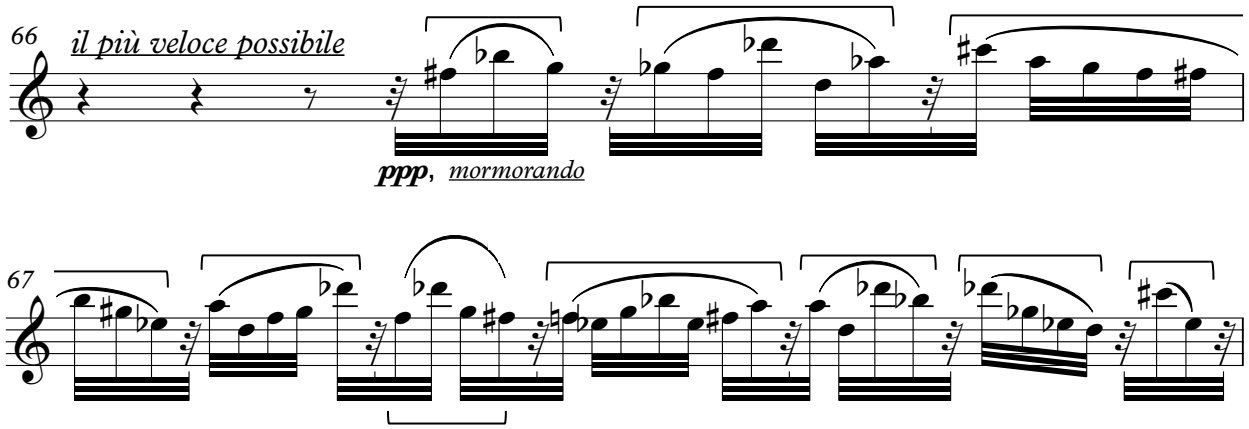
more slurred 32nd notes. This set also includes *sforzando* attacks in some occurrences. Examples of associative set *B* can be found in mm. 15-19, 21-28, 29-37, 40-45, 50-54, 60-62 (exclusively), 64, and 66-69 (soprano voice only). In most instances, associative set *B* alternates with or apparently Generates other associative sets. However, in mm. 60-62 (Example 12), all four voices exclusively engage in associative set *B*, as does the soprano voice in mm. 66-69 (Example 13). Gestures in both examples are easily divided by rests and slurs, as seen in the annotations. Figure 16 shows relationships formulated from sonic criteria between members of associative set *B.* Additionally, relationships based on contextual criteria, such as shared pitches or pitch classes, pitch class sets, or contours, further strengthen relationships founded on sonic criteria, as can be seen in Figure 17.

Associative set *C* shares its rhythmic duration with set *B* but includes more aggressive articulations with staccatos, slap tongue articulations, and accents. Associative set *C* is comprised of one or more 32nd notes with a staccato or slap tongue articulation, which may or may not include an accent as well. Examples of associative set *C* can be found in mm. 15-28, 29-37, 38-39 (exclusively), 45b-49 (exclusively), and 63-65. More often than not, members of associative set *C* alternate with other sets, as shown in Examples 14 and 15, though it occurs exclusively in two sections of the work at mm. 38-39 and 45b-49. Figure 18 shows an association graph plotting the shared rhythms and articulations between members of associative set *C*.

Associative set *D* includes rhythms that are equal to or longer than eighth notes and may be trilled, marked *tenuto,* or slurred. In short, this set accounts for relatively longer durations within the work. There is the possibility for rhythmic overlap between associative sets *A* and *D* in that both may include eighth notes and dotted eighth notes (and tied values between the two).



Example 12. Donatoni, *Rasch*, mm. 60-61 with gestures segmented by rests/slurs



Example 13. Donatoni, *Rasch*, soprano saxophone, mm. 66-67 with gestures segmented by rests/slurs

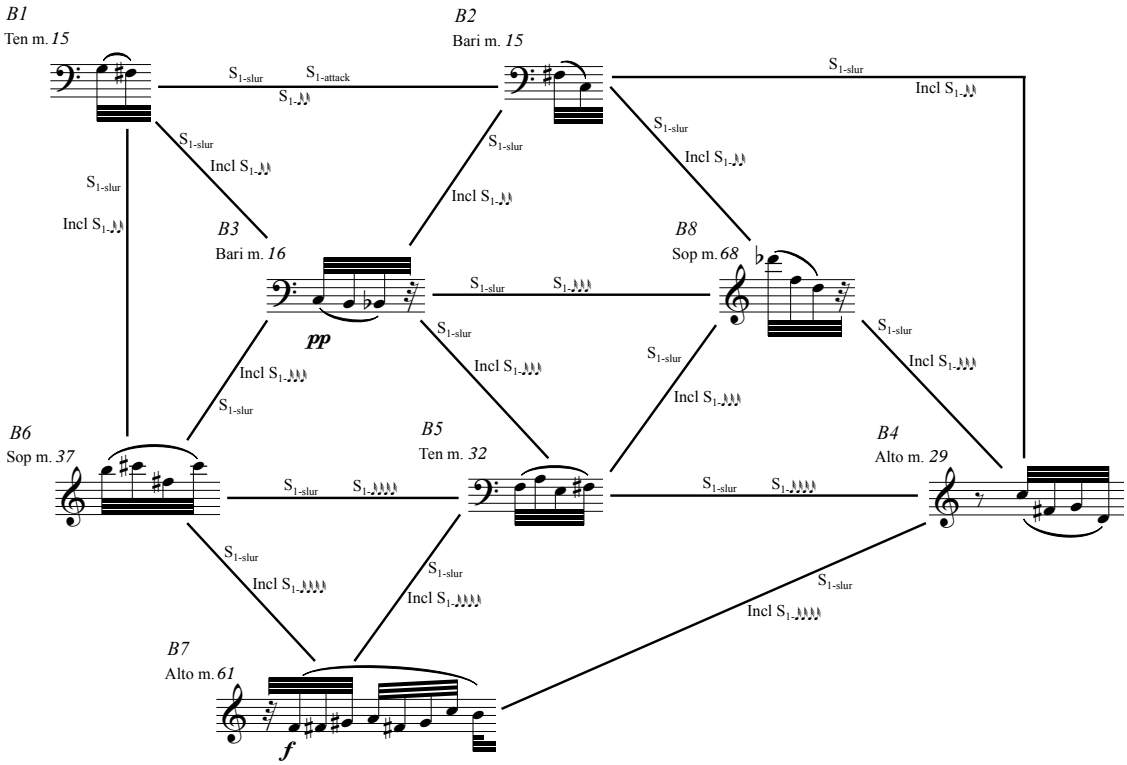


Figure 16. Association graph for associative set *B*, *Rasch*, based on sonic criteria

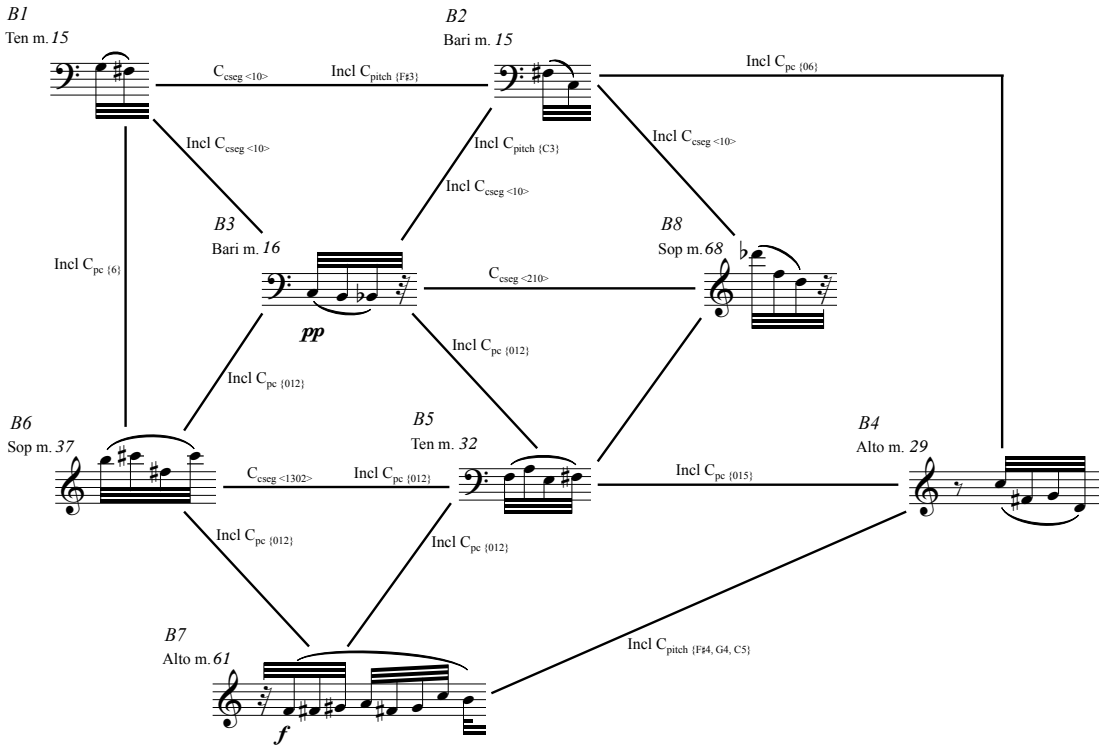
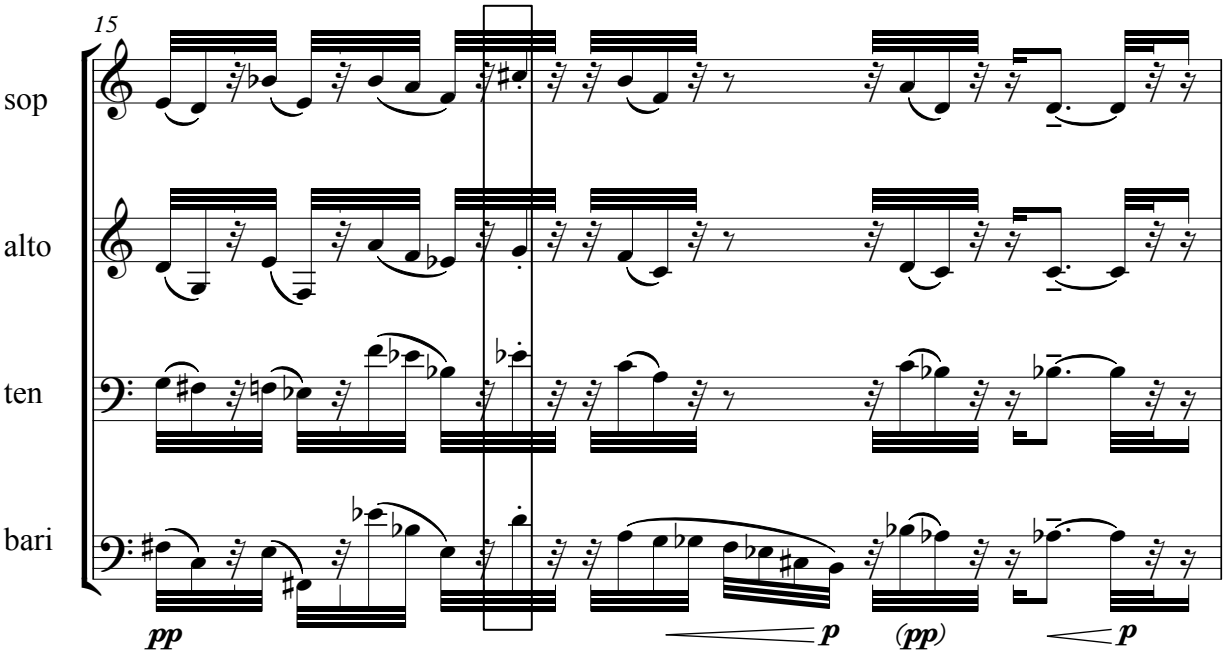
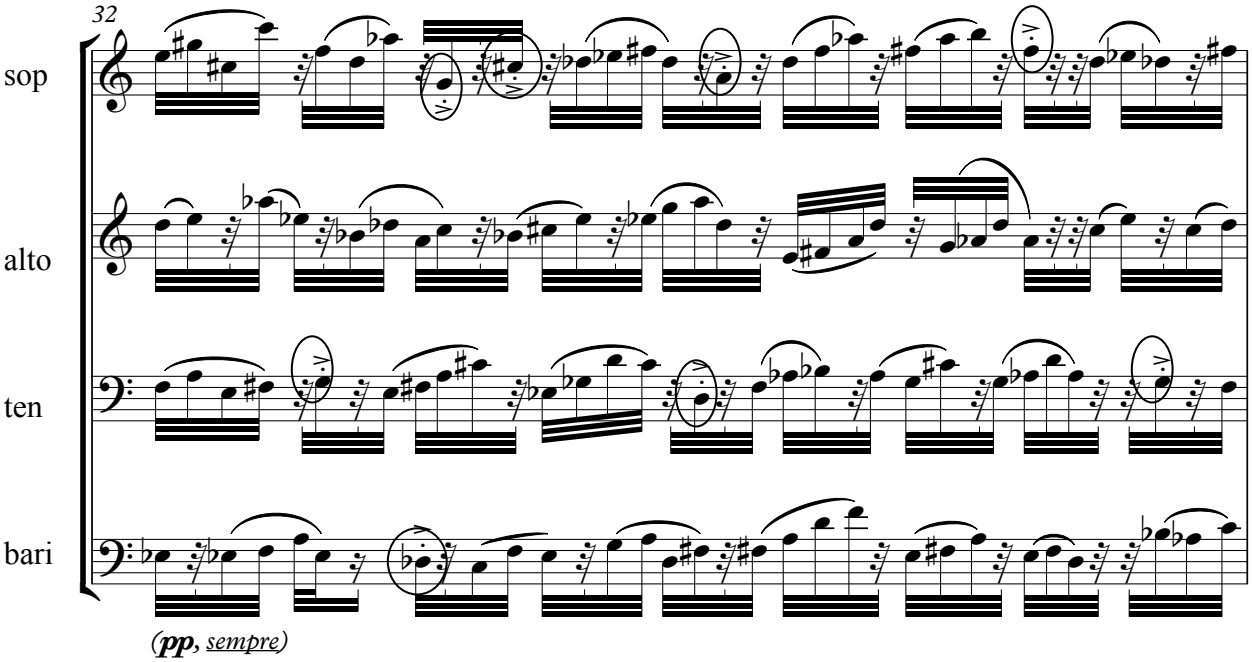


Figure 17. Association graph for associative set *B*, *Rasch*, based on contextual criteria



Example 14. Donatoni, *Rasch*, m. 15 where blocked segment shows interjection of associative set *C*



Example 15. Donatoni, *Rasch*, m. 32 where circled segments show interjections of associative set *C*

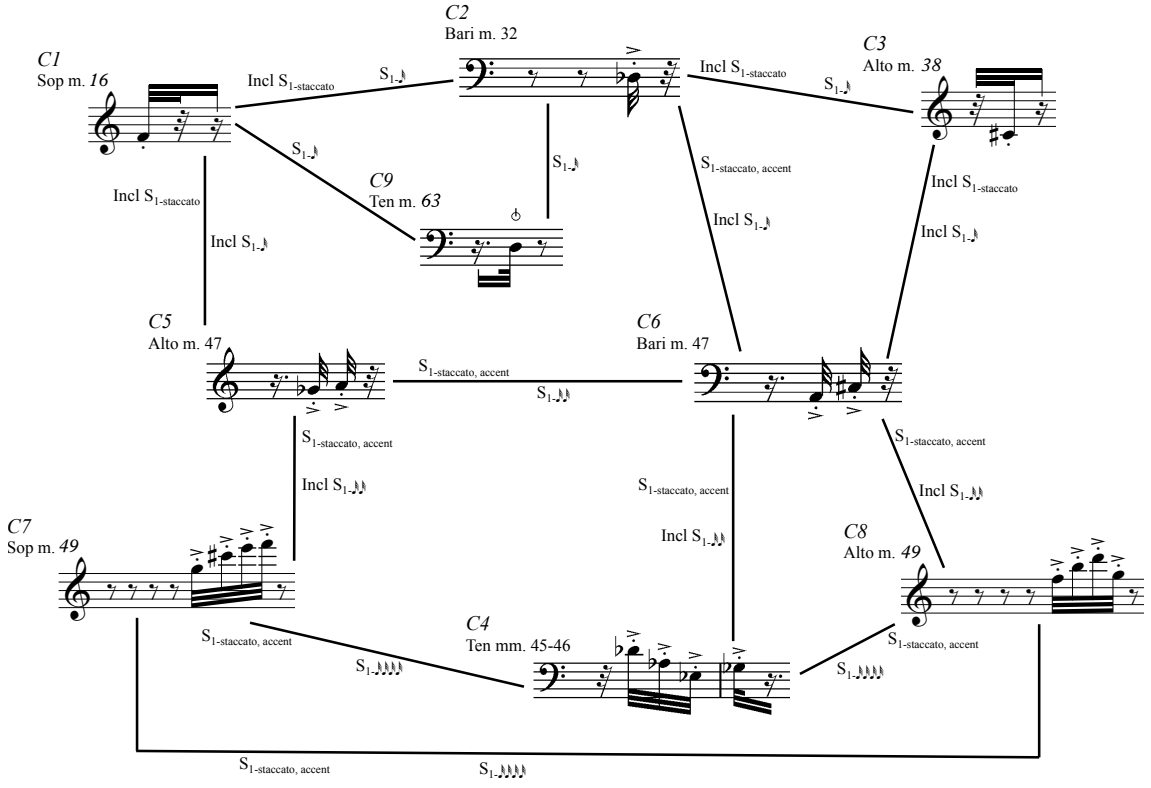


Figure 18. Association graph for associative set *C*, *Rasch*

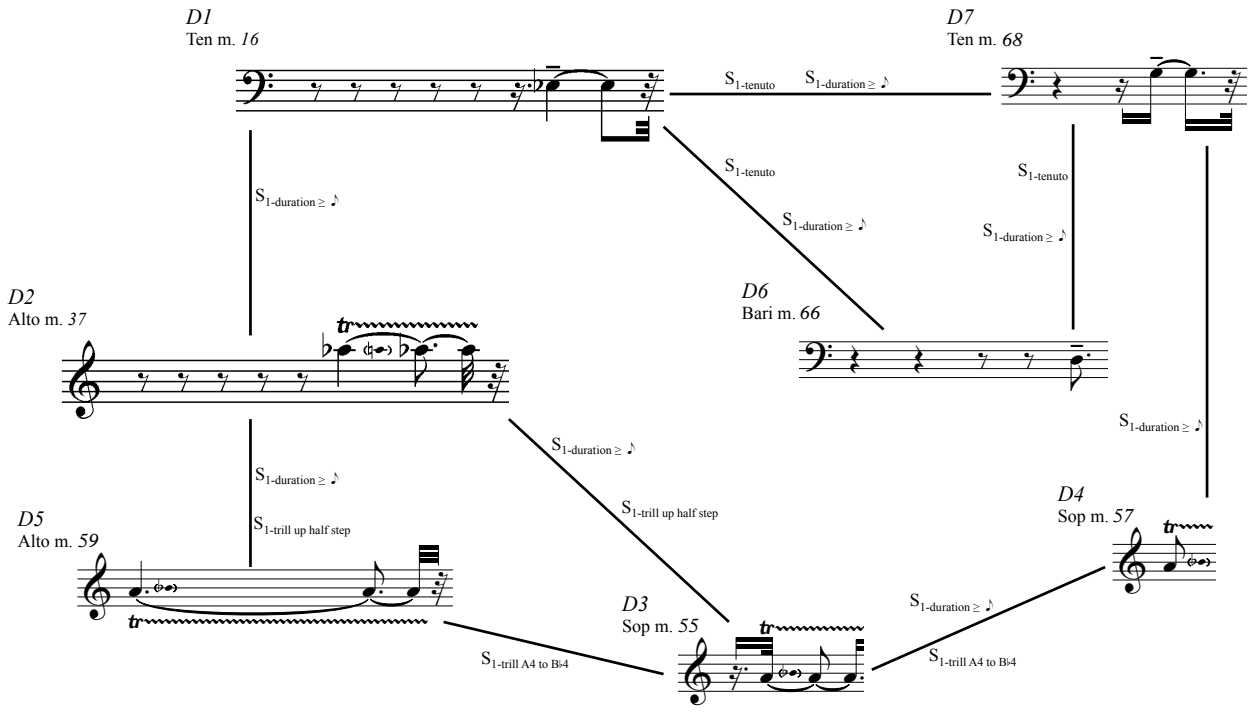


Figure 19. Association graph for associative set *D*, *Rasch*

However, my definition of associative set *A* demands that segments have a cardinality of two or more, and associative set *D* has no cardinality requirements. Examples of associative set *D* occur in mm. 15-16, 18, 20, 24, 25-26, 37, 40-45a, 55-59 (exclusively), and 66-69 (bottom three voices only). Figure 19 shows relationships based on sonic criteria durations, articulations, and ornaments between members of associative set *D*.

Figure 20 is an associative map for sets *A* through *D* that plots entrances of each associative set throughout *Rasch*. This figure enables one to view the evolutionary form employed by Donatoni, which bounces from one set to another and back. Associative set *A* is unique in that once it is completed at the end of m. 15, it does not return. Sets *B* through *D* layer and play off of one another in different combinations throughout the remainder of the work from m. 15 through m. 69. The thirty measure hiatus of associative set *B* from around m. 32 until m.

61 gives it a punctuating quality to the conclusion of the work. This is notable because on the surface of the music associative sets *C* and *D* serve as local punctuation.

Second Layer of Associative Organization

The second layer of associative organization addressed here is that based upon structural criteria. Hanninen's structural domain (T) "indicates active reference to a theory of musical structure or syntax (H) [in this case a theory of gesture] chosen (or perhaps developed) by the analyst that recommends segments and guides or confers interpretations for musical events. Such a theory has two components: a theoretic framework (HF) and theoretic entities (HE) [gestures]."[97] In order for a theory of musical structure or syntax to best integrate Hanninen's theory, it "must clearly reference sounding aspects of a composition through its HEs [theoretic entities]… [This] ensures that H [the theory] has the potential to shape the way a listener constitutes a sonic surface as music *from the bottom up*, by recommending particular groupings of notes for consideration as segments."[98]

Segments in this layer of analysis will be based upon structural criteria, which "depend on the orienting theory–the theoretic framework (HF) and individual theoretic entities (HE)–to determine which groupings of tones can be interpreted as structural units according to that theory; which cannot; and, for a given grouping, the range of theoretically cogent interpretations available."[99] In other words, Hanninen's theory can include a process that enables the analyst to segment according to pre-existing theories of structure or syntax.

[97] Hanninen 2012, 7.
[98] Ibid., 8, her emphasis.
[99] Ibid., 44-5.

Figure 20. Associative map of sets *A, B, C,* and *D*, *Rasch*

Figure 21. Associative map of sets *E* and *F, Rasch*

The two primary examples that she employs in her book are those of Schenkerian and twelve-tone analysis. In this analysis, I will apply dialogical gestural relationships as structural criteria for segmentation and association. *Rasch* can be parsed into two associative sets when engaging a dialogic gestural theoretic orientation.

Associative set *E* includes the Overlapping dialogical gestural relationship. In this scenario, $T_{dlg\ gest}$ is the T subtype and $T_{overlapping}$ is the individual criterion. Gestures in this set produce a micropolyphonic texture that is audibly dense. Gestural attack points between voices do not commonly align in this texture. However, as many as three voices may share attack points and still achieve an Overlapping quality relationship. The association graph depicted in Figure 22 gives examples of the $T_{overlapping}$ texture.

Associative set *F*, also formulated with a dialogic gestural theoretic orientation, includes rhythmically Mirrored dialogical gestural relationships. The texture is homorhythmic or voices share unison rhythms in this set. As in associative set *E,* $T_{dlg\ gest}$ is the T subtype for associative set *F* and $T_{mirroring}$ is the individual criterion. In many instances of set *F,* all four voices act as one. However, as few as two voices may share the same rhythm and exhibit a Mirrored quality. Figure 23 shows examples of members of associative set *F*.

One might observe that given the definitions for membership, it is possible for a single unit of music belong to both associative set *E* and *F*, or to demonstrate the qualities $T_{overlapping}$ and $T_{mirroring}$. Members *E7* and *F7* are even the same excerpt of music. In this case (m. 66), the soprano voice has running 32^{nd} notes while the alto, tenor, and baritone voices together interject with long duration harmonies. The occurrence of two different rhythmic lines is a quality of

associative set *E,* while the unison rhythm of the bottom three voices is the defining quality of associative set *F.*[100]

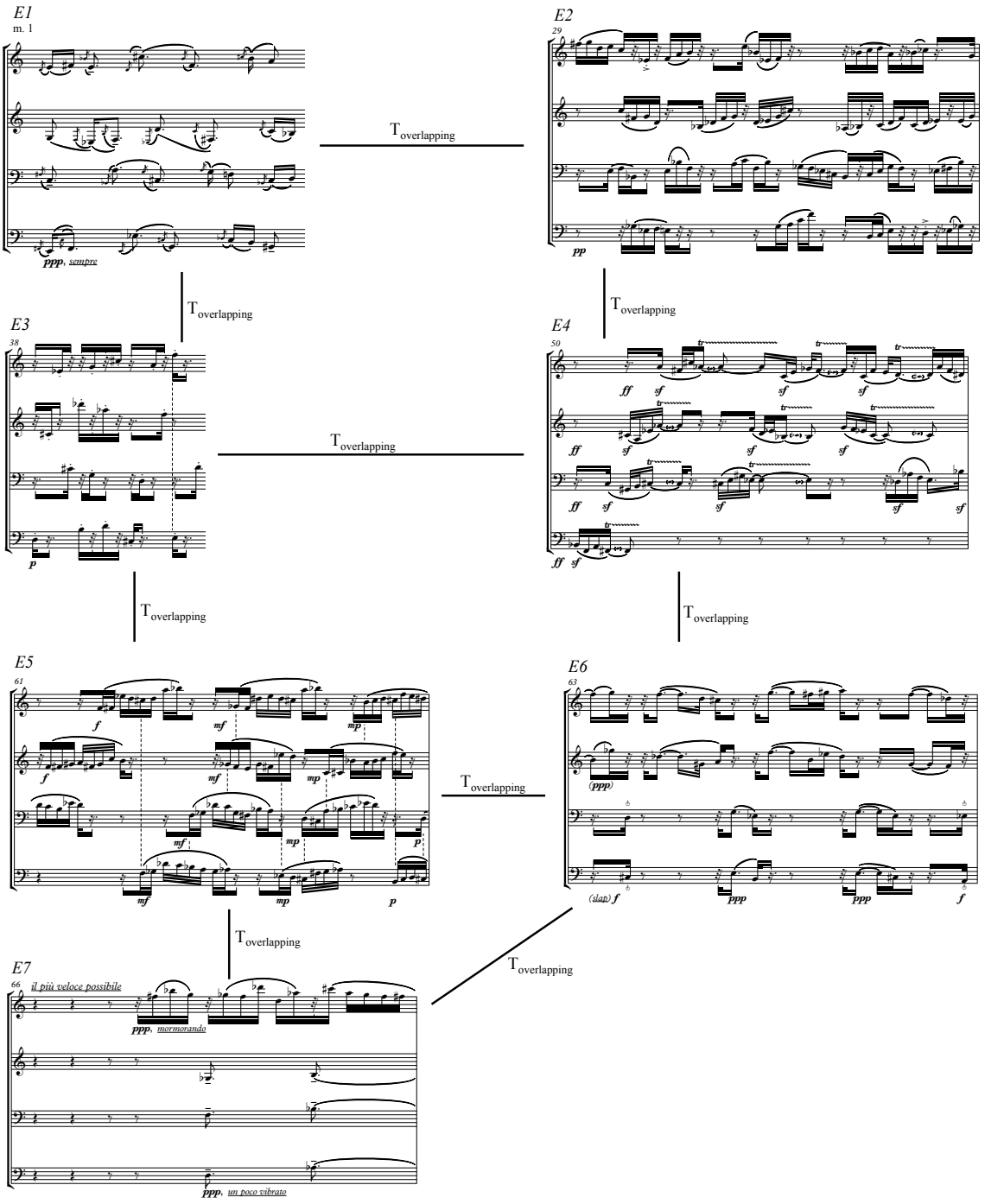


Figure 22. Association graph of set *E*, *Rasch*

[100] Future expansions of this project may seek out similarity measures to address the balance between multiple dialogical gestural relationships.

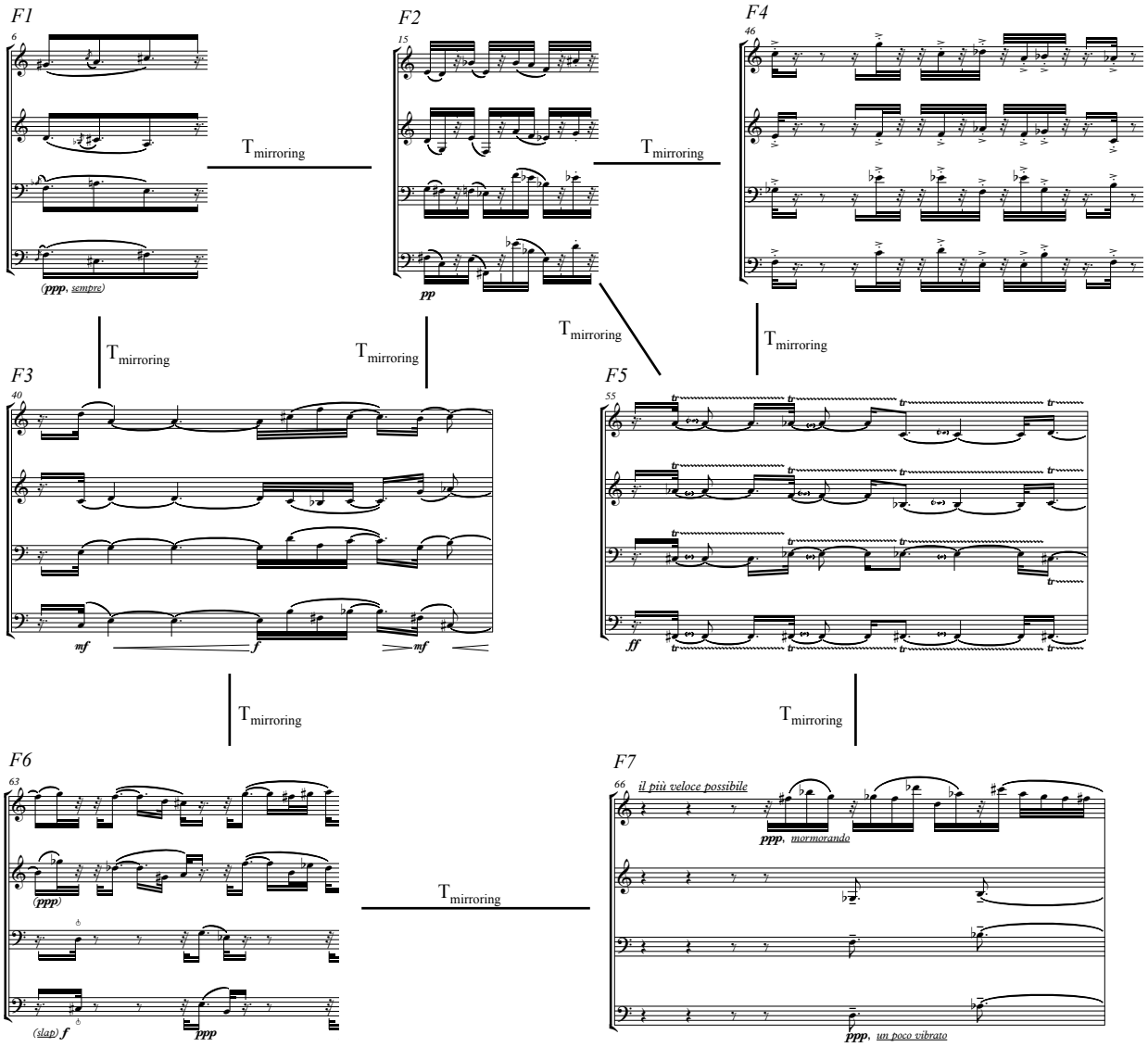


Figure 23. Association graph of set *F*, *Rasch*

With a smaller number of voices, this would not be possible, but as the number of voices increases in a chamber work (or larger ensemble), so too does the opportunity for incorporation of multiple dialogical gestural relationships simultaneously. Further evidence of this phenomenon will be discussed in Chapter 5.

Figure 21 shows an associative map of sets *E* and *F*, a plotting of these two associative sets over the course of the piece. In the context of the work, each set occurs for multiple

measures. In the figure provided, the set member that begins each section of music is presented for as long as that set continues. For example, in the first iteration of associative set *E* on the map, only one measure is shown despite the fact that associative set *E* continues to occur (divided into numerous segments) until m. 15. Associative set *F* interjects at m. 6, as shown in the figure, and also occurs beginning at m. 15.

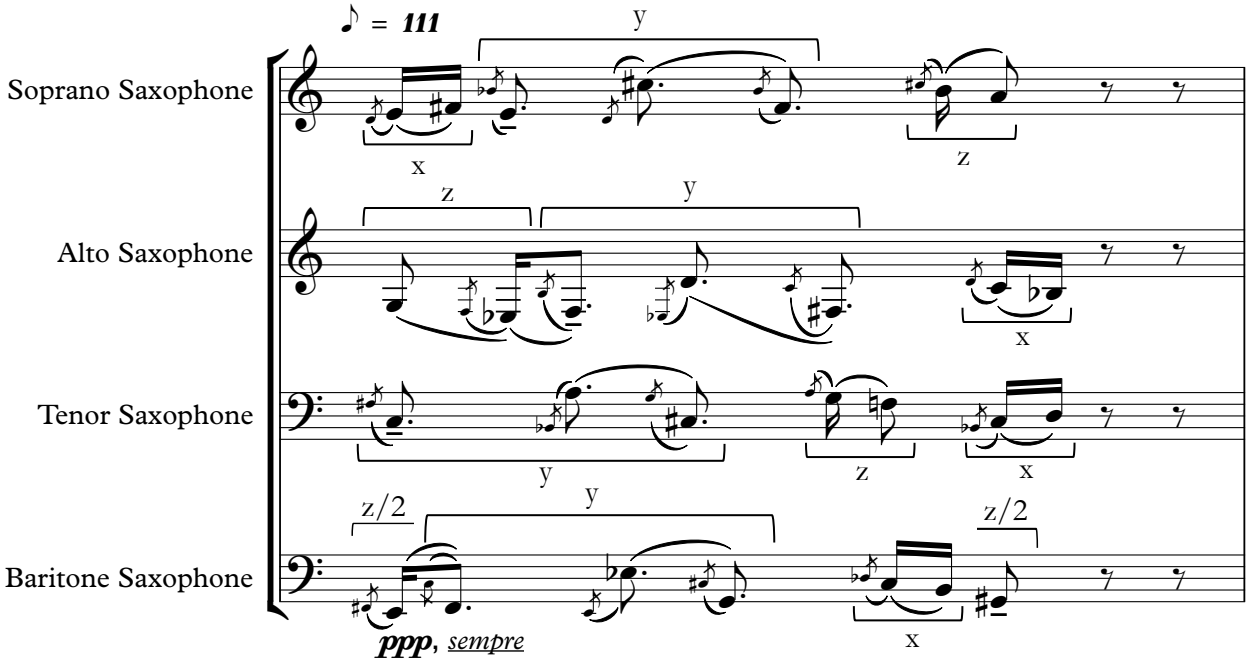
Figure 21 illuminates the balance created between the two contrasting dialogical gestural relationships in *Rasch*. First, observe that both sets *E* and *F* begin in seven different locations within the work. Beyond that, associative set *E* occurs over a total of 38 bars, and associative set *F* occurs over a total of 34 bars (where mm. 63-69 include both sets)–a fairly balanced representation of both sets.

The associative maps that show sets *A-D* and *E-F* (Figures 20 and 21, respectively) can be seen as two form-generating layers. Depending to what a listener attends (individual gestures or dialogical gestural relationships), either map may be heard as a form-defining layer. It is clear, however, that the two maps are contrary to one another in some locations and similar in others. One example of similarity is the high degree of activity in both maps following the fade to the ***ppp*** dynamic marking in m. 62. An example of contradiction occurs surrounding m. 32 where the map for sets *A-D* shows a peak of activity while the map for sets *E-F* shows only a single dialogical gestural relationship in play. In locations of inconsistency between the maps, one layer might be seen as form-defining while the other is viewed as form-disrupting.

Motivic and Sectional Gestural Analysis

Motivic analysis at the smallest level in the opening section of *Rasch* shows balance as well. As shown in Example 16, the same three motivic cells occur in each voice in m.1 in

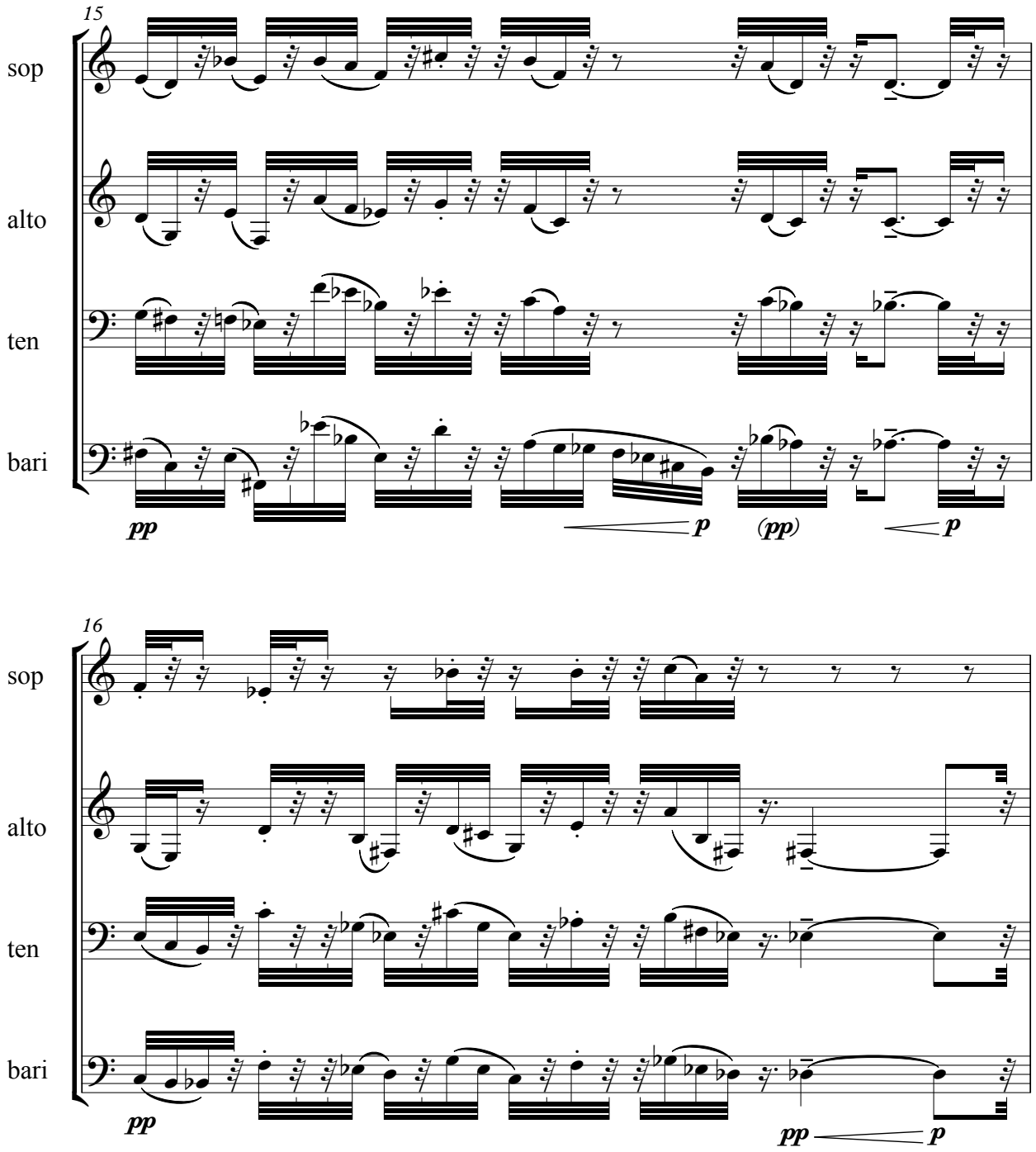
different orders. Motivic cells in this section are based on rhythm. Pitch relationships are present as well, though as these are not a primary focus of this study, I will not mention them further. Grace notes are abundant and variable throughout this piece and many of Donatoni's chamber works. The cell labeled z may be the least clear in the example, as it contains a sixteenth note and an eighth note but not necessarily in that order. In the baritone saxophone, the sixteenth note occurs at the beginning of the measure, and the eighth note at the end, with cells y and x occurring between the two components of z. Similar motivic manipulations occur in each measure of the first section (mm. 1-14).[101]



Example 16. Donatoni, *Rasch*, m. 1 with motivic relationships

[101] Following this rhythmic formula, it is apparent that there are errors in Donatoni's handwritten score regarding rest durations in all four parts in m.3. It is also apparent that there are rhythmic errors in the engraved soprano part published by Ricordi in m. 3.

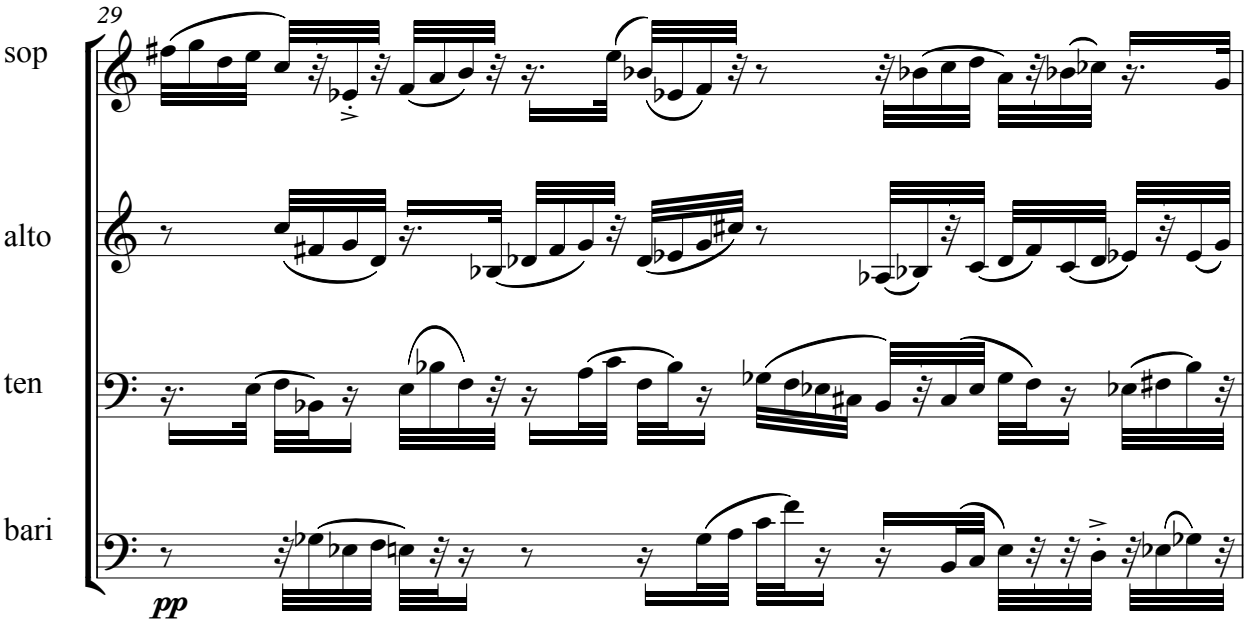
Additional defining characteristics of section 1 (mm. 1-14) include ensemble rests at the conclusion of each measure, overlapping gestures that result in a thick dense texture, only one measure (m. 6) with rhythmic unison, occasional rhythmic duos hidden within the texture, and a consistent ***ppp*** dynamic. Section 2 (mm. 15-28) is truly comprised of gestures. Rhythms are primarily divided into 32nd notes that are surrounded by short rests. These 32nd notes are found individually and in segments of cardinalities between two and five. There are also longer durations (doubly-dotted eighth notes and longer) that add Punctuation within the section. The section maintains the ***pp*** dynamic with punctuations at ***p***. Throughout, section 2 primarily engages Mirrored four-part unison rhythms that trail to 3-, 2-, or 1-part by the end of longer 32nd-note groups. For instance, in m. 15, all voices play in unison rhythm and articulation, but the baritone saxophone also plays an additional five 32nd notes during the fourth and fifth beats of the bar (see Example 17). In the section of music from mm. 15-29, the baritone regularly extends the musical line with these miniature solos. The bottom two or three voices will also occasionally add a note or two as well, as in m. 16, beat 1. Less frequently the top three voices will have a stand-alone Hit, as in m. 20, and once only during this section in m. 25, beat 2 the alto and tenor have an individual note. Using these groupings (baritone, tenor-baritone, alto-tenor, alto-tenor-baritone, soprano-alto-tenor), Donatoni creates an evolving form based on Mirrored unison rhythmic gestures within this section of the work.



Example 17. Donatoni, *Rasch*, mm. 15-16

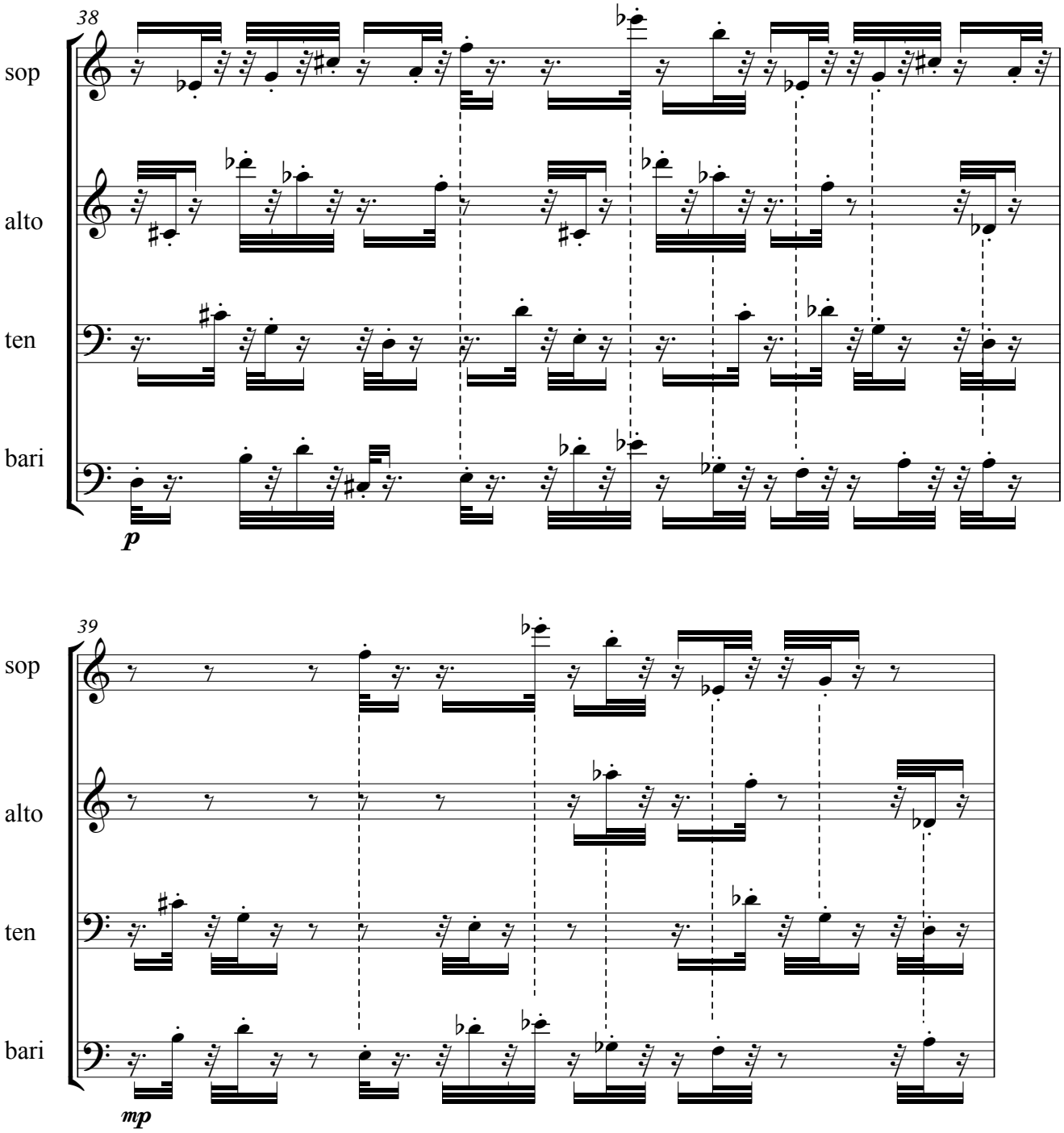
Like section 2, section 3 (mm. 29-37) also includes slurred 32nd-note gestures of 2-5 notes (see Example 18). In contrast to the second section, the third section includes Overlapping

groups with very few Mirrored unison rhythmic gestures between voices, and the Punctuating 32nd-notes are accented in addition to being staccato. The dynamic is ***pp*** *sempre* throughout, and the conclusion of the section is marked with a trilled 𝅗𝅥𝅘𝅥𝅘𝅥𝅮.. . The overall affect is similar to section 1 in that the textural density makes it nearly impossible for a listener to discern an individual line. One might apply the term "micropolyphony" to this section.[102]

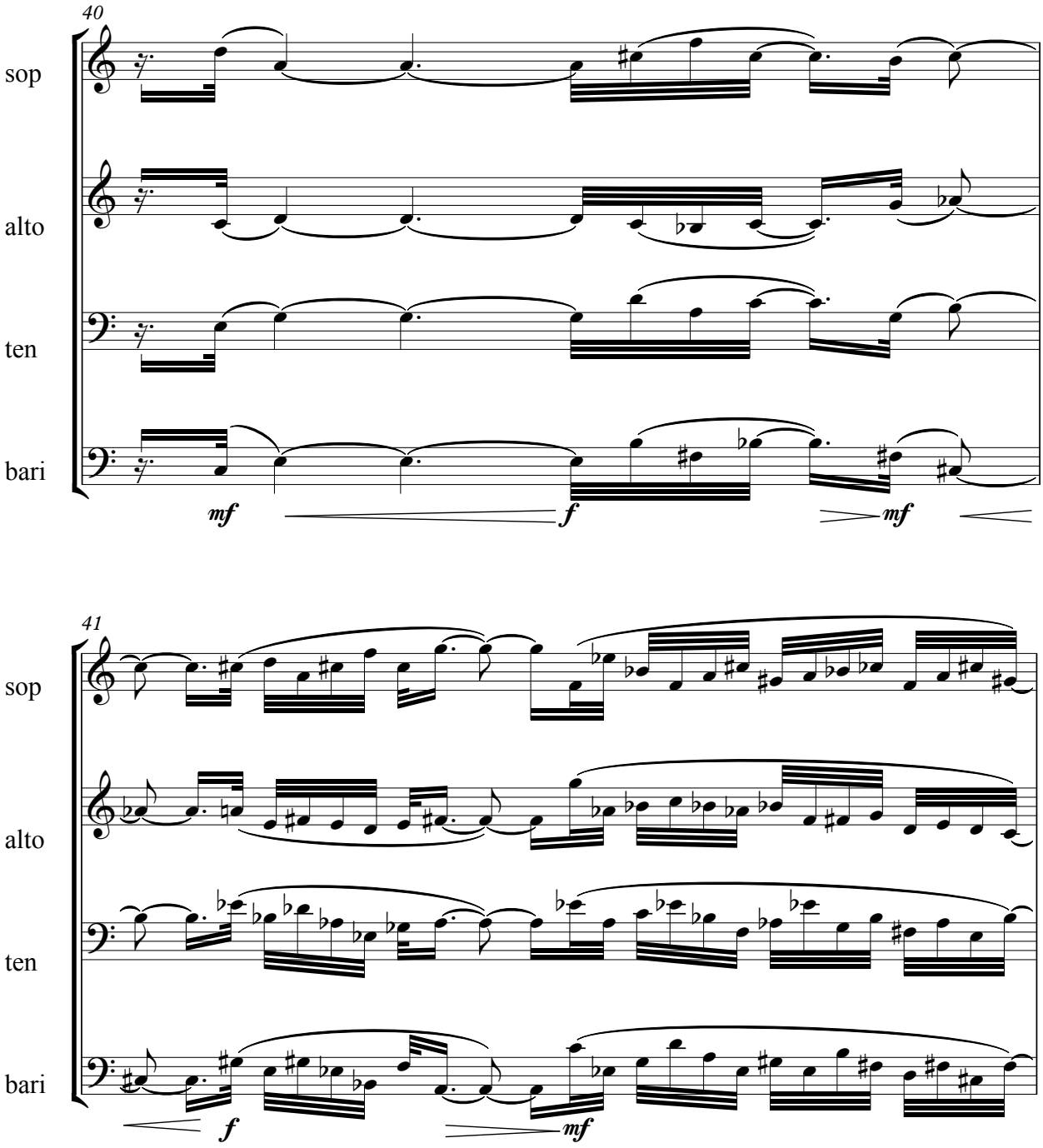


Example 18. Donatoni, *Rasch*, m. 29

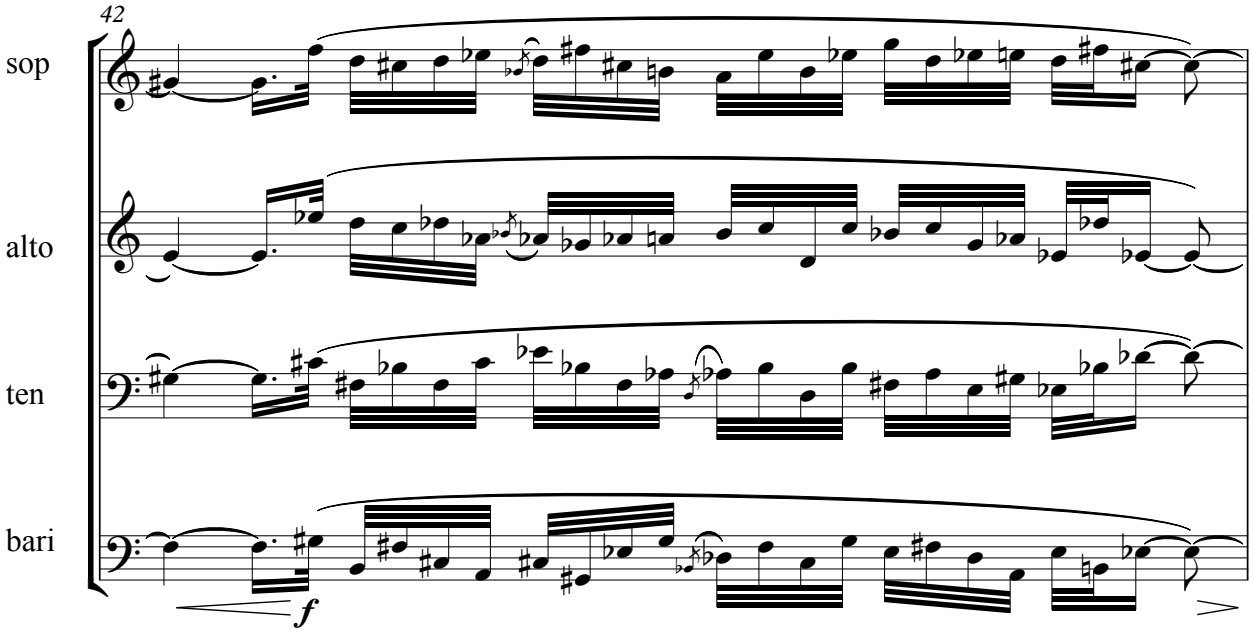
[102] Jane Piper Clendinning, "Structural Factors in the Microcanonic Compositions of György Ligeti," in *Concert Music, Rock, and Jazz Since 1945: Essays and Analytical Studies,* ed. Elizabeth West Marvin and Richard Hermann (Rochester: University of Rochester Press, 1995), 229; Paul Griffiths, *Modern Music and After*, 3rd ed. (Oxford: Oxford University Press, 2010), 147.



Example 19. Donatoni, *Rasch*, mm. 38-39



Example 20. Donatoni, *Rasch*, mm. 40-42



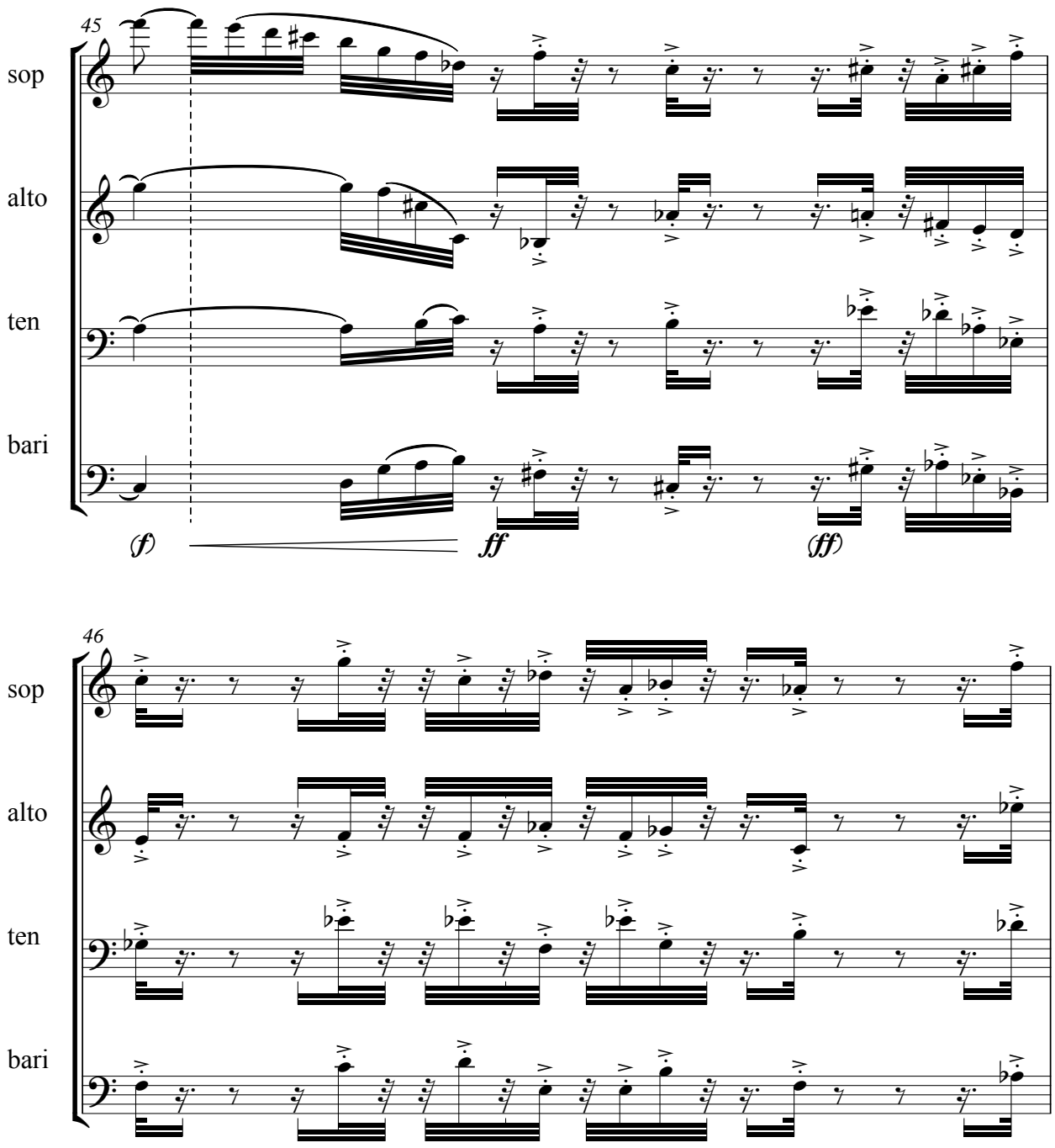
Example 20 – continued

Section 4 (mm. 38-39) is the shortest section at just two measures and is comprised almost entirely of individual, staccato 32nd-notes separated by brief rests, occasionally in 2- or 3-voice groupings but mostly individual hits. The section has a beginning dynamic of ***p*** that changes to ***mp*** in the second measure of the section. Despite all of the rests (space) in this section, the resultant texture is surprisingly dense. Ensemble gestures are potentially marked by longer duration rests between attacks.

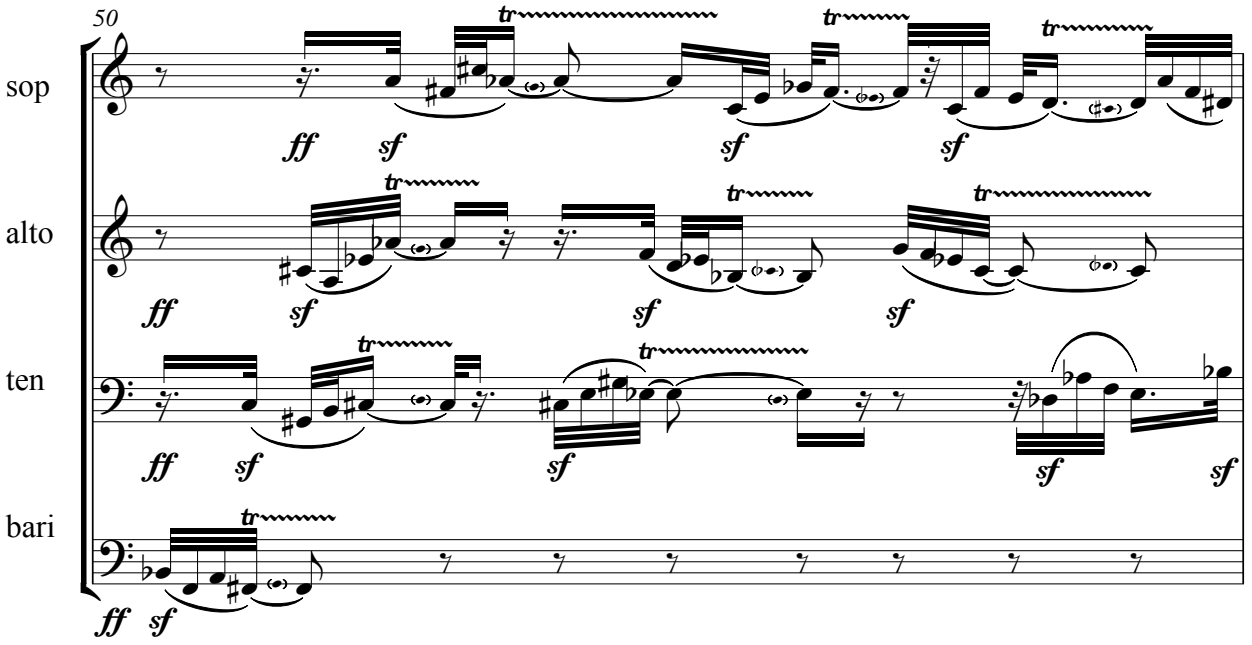
In contrast to the previous two sections, section 5 (mm. 40-45a) is entirely in a Mirrored homorhythmic texture and includes slurred 32nd-note passages leading to longer duration harmonies, no rests, and dynamic levels that swell from ***mf*** to ***f*** and back down before building to ***ff*** leading into the next section. This section proves challenging to address from a gestural perspective. Thirty-second note runs of six or so notes, as in m. 41 beats 2-4, can be said to

clearly lead into the following sustained pitch on beats 4-6. These 32nd notes can be grouped into a single gesture. However, longer passages, as in m. 42 beats 3-8, potentially stretch the boundaries of length for a single gesture. While the group plays in unison rhythm during this passage (excepting grace notes), contours between voices vary widely, so any attempt at nesting smaller gestures would result in different segmentation for different members of the ensemble. One choice available to a performing ensemble would be to push energy through the entire run to the sustained pitch in an attempt to maintain an aural relationship for the listener between the ideas introduced in mm. 40 and 41, and this idea in m. 42.

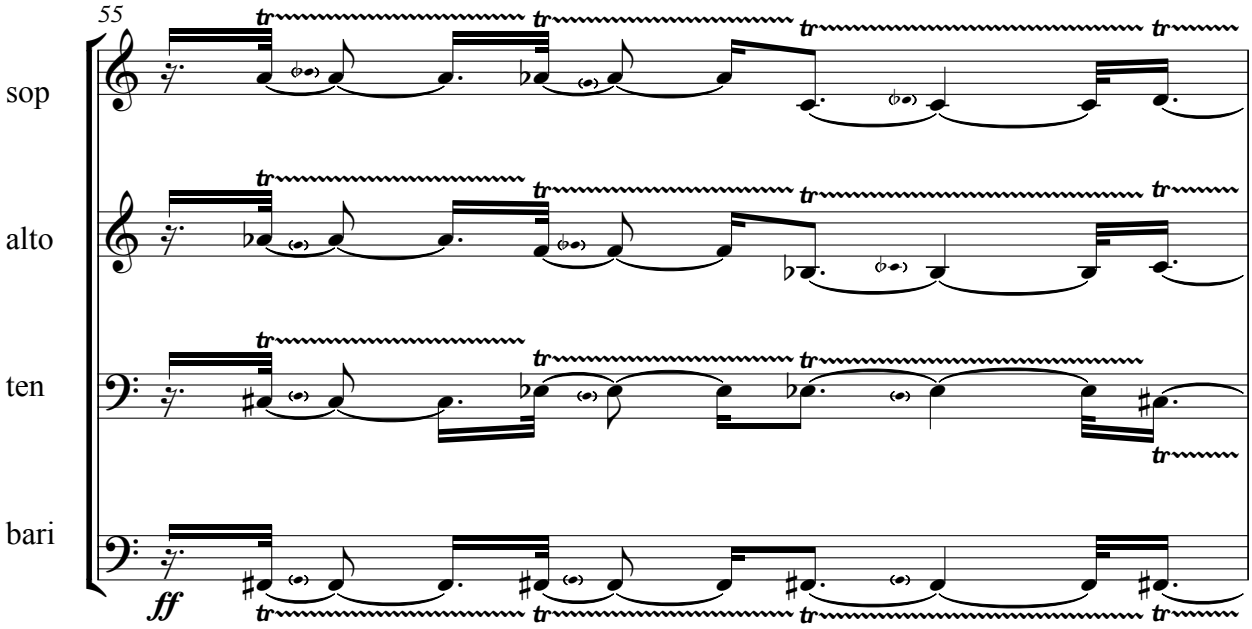
Like section 5, section 6 (mm. 45b-49) also includes entirely unison rhythms, however the articulation and note values change to staccato, accented 32nd-notes in cardinalities of 1-5 separated by 32nd and multiples-of-eighth rests (longer duration rests than most sections since the first) (see Example 21). The dynamic level of the sixth section is ***ff*** and grows to ***fff*** at the section's conclusion–the loudest dynamic marking in the work, which occurs approximately two-thirds through the piece. Gestures in this section could be as short as individual notes, but more often larger segments provide a sense of direction for performer, listener, and analyst alike. For example, m. 46 beats 3-6 contains four individually-struck 32nd notes and one group of two 32nd notes, that could be grouped together into a larger gesture segmented by the longer duration rests from the end of beat 1 through the midpoint in beat 3 in the front, and the beginning of beat 7 through the final 32nd note of beat 9 at the end. The rests that precede and follow this segment are of longer duration than any that occur within the gesture itself. Other gestures in this section are easily identified, as in m. 49 beat 5 or m. 49 beat 8. Again, however, these two gestures might be grouped together to form a larger gesture.



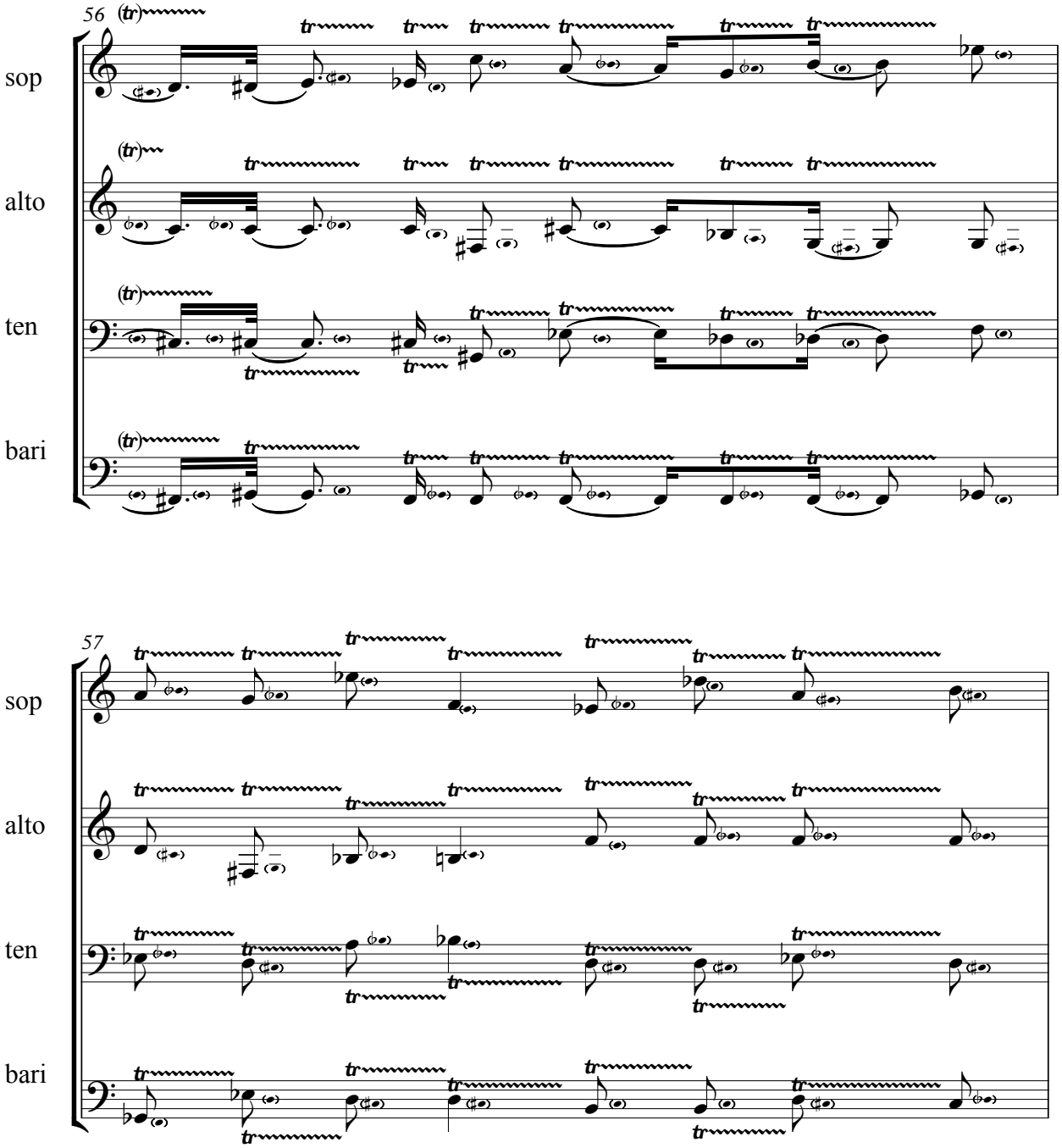
Example 21. Donatoni, *Rasch*, mm. 45-46



Example 22. Donatoni, *Rasch*, m. 50



Example 23. Donatoni, *Rasch*, mm. 55-57



Example 23 – continued

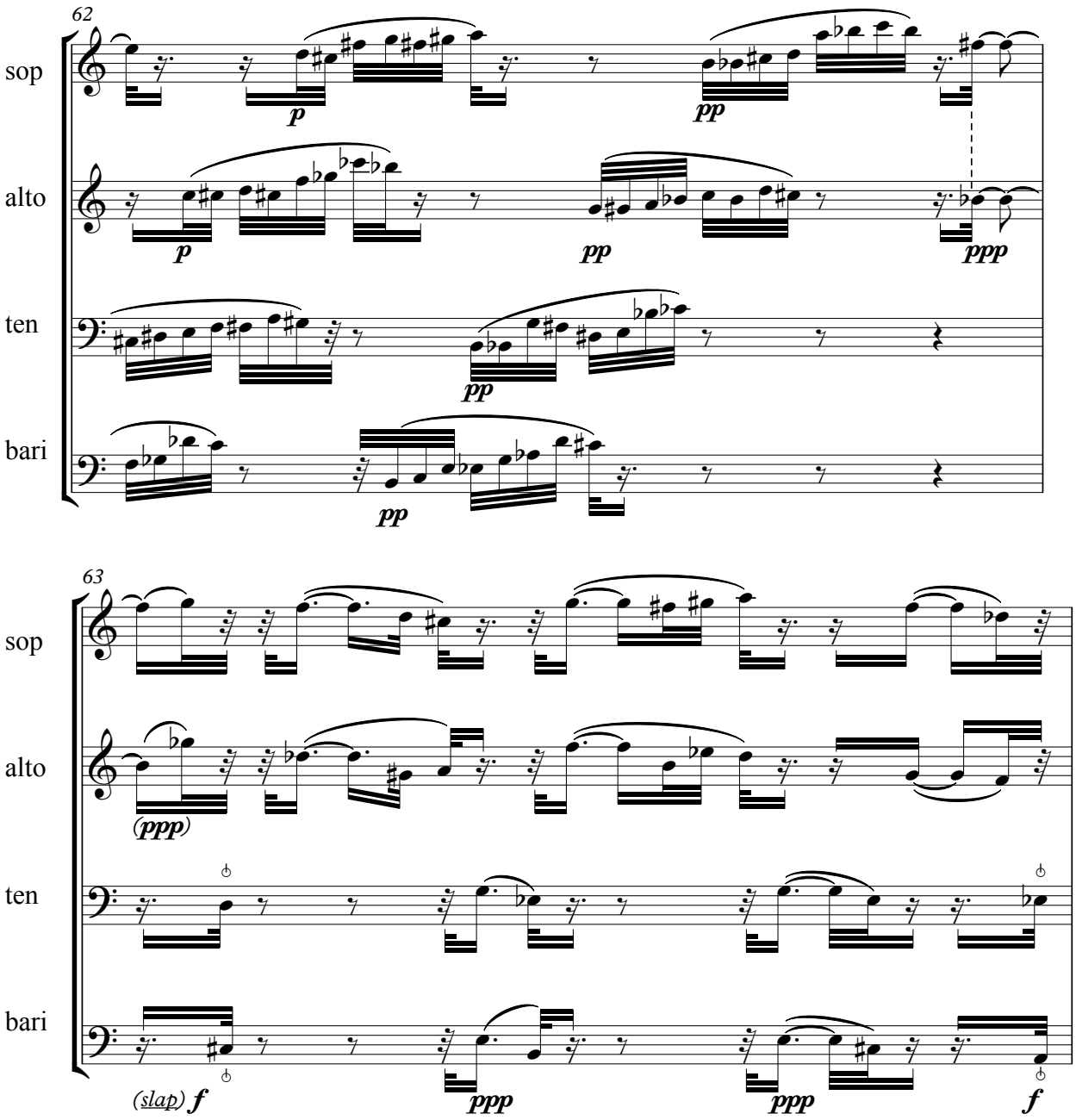
Defining characteristics of section 7 (mm. 50-54) include cascading entrances that *overlap* one another (baritone, tenor, alto, soprano), ***sf*** articulations that begin groups of three

32nd-notes that lead to trilled durations greater than a 32nd-note, and ***fff*** dynamic levels throughout. The lack of unison rhythms as well as the trills and dynamic level contribute to a thick texture, though the baritone voice actually plays very little in this section.

Section 8 (mm. 55-59a) includes unison rhythm trills of longer durations (primarily eighth-notes or longer) and ***fff*** dynamic markings (see Example 23). Compared to the surrounding sections, the note durations throughout this section are substantially longer. Gesture and line can again be determined by moving toward a longer duration. For example, in m. 55, the first two notes might lead to the third note because it is longer, and one could group these three notes together into a gesture. In m. 57, the three eighth notes at the beginning of the measure could lead to the quarter note that begins on beat 4.

Defining characteristics of section 9 (mm. 59b-62) include cascading entrances (again baritone, tenor, alto, soprano) with the interonset interval (or IOI) of each entrance getting progressively shorter. In this section, 32nd-note lines pass with a single Overlapping 32nd-note that leads to progressively more Overlapping 32nd-notes. Additionally, the overall dynamic level *descrescendos* from ***fff*** to ***f*** to ***mf*** to ***p*** to ***pp*** with each baritone entrance triggering the beginning of a softer dynamic marking. Though this section contains an Overlapping texture, which tends to be audibly denser, the cascade process results in a thinner texture that becomes denser with each iteration. Each voice has its own gesture comprised of six to nine 32nd notes, and each voice also belongs to a super-gesture that includes all four voices in each cascade.

Section 10 (mm. 63-65) is characterized by soprano + alto and tenor + baritone pairings that shift to become a soprano + alto + tenor group against the baritone, 2- or 3-note gestures, and ***ppp*** dynamics accented by ***f*** slap tongue articulations (comparable to *pizzicato* articulations for stringed instruments).



Example 24. Donatoni, *Rasch*, mm. 62-63

This section contains characteristics of both the unison rhythm and Overlapping textures, which is possible as a result of the instrument pairings. Incorporation of the slap tongue articulation might be given prominence as a timbral change; however, works written for Sigurd

and Carina Raschèr, the father-daughter pair responsible for commissioning many of the standard works for saxophone solo and quartet, often incorporated the slap tongue articulation.[103]

The final section, section 11 (mm. 66b-69), is defined by the tempo marking *il più veloce posibile* or "the fastest possible" and the only stylistic indicator in the work *mormorando* or "muttering." This section places the soprano with 32nd-note gestures at odds with longer durations by the alto + tenor + baritone group, again retaining qualities of both the unison rhythm and Overlapping textures. The ***ppp*** dynamic at the beginning of the section diminishes to *niente* at the work's conclusion.

[103] Other works commissioned by Sigurd Raschèr that incorporate slap tongue include Concerto for Alto Saxophone (1941) by Henry Brant, Concertino da Camera (1935) by Jacques Ibert, and Konsert för Saxophon (1934) by Lars Erik Larsson, among others.

CHAPTER 5

ANALYSIS OF *ARPÈGE* FOR SIX INSTRUMENTS (1986)

This chapter will address Donatoni's *Arpège* for flute, clarinet, violin, cello, vibraphone, and piano. As with the analyses of *Luci II* and *Rasch*, this analysis will begin by sorting musical segments into associative sets and exploring the occurrences of these sets over the course of the piece. Following an associative analysis, this chapter will address dialogical gestural relationships, the challenges posed by *Arpège*, and potential analytical paths that incorporate the methodology while taking these challenges into consideration.

Associative Analysis

Arpège can be sorted into three associative sets based primarily on duration or interonset interval (IOI). Associative set *A* accounts for longer durations. Specifically, the S_1 criteria (or sonic criteria in subtype 1) for associative set *A* is comprised of $S_{1\text{-duration or IOI} > \text{𝅘𝅥𝅯}}$. Examples of set *A* can be found in measures 1, 60-61 (violin and cello), and 76-78, among other locations throughout the work. As can be seen in the association graph for set *A* (Figure 24), members also share such musical elements as articulation, ornamentation, and exact duration.

Associative set *B* in turn accounts for short notes often seen as running passages within the work. Therefore, the most consistent and prominent S_1 criteria for associative set *B* is $S_{1\text{-duration}}$, more specifically $S_{1\text{-duration}}$ 𝅘𝅥𝅯. Examples of associative set *B* can be found in mm. 14 and 48 (violin and cello). In Figure 25, one can see that aside from being associated via sixteenth-note durations, members of this set are often associated by articulations as well. Members of set *B*

also include many of the same pitches or pitch classes and identical or inverted contours, though these features are not accounted for in this particular graph.

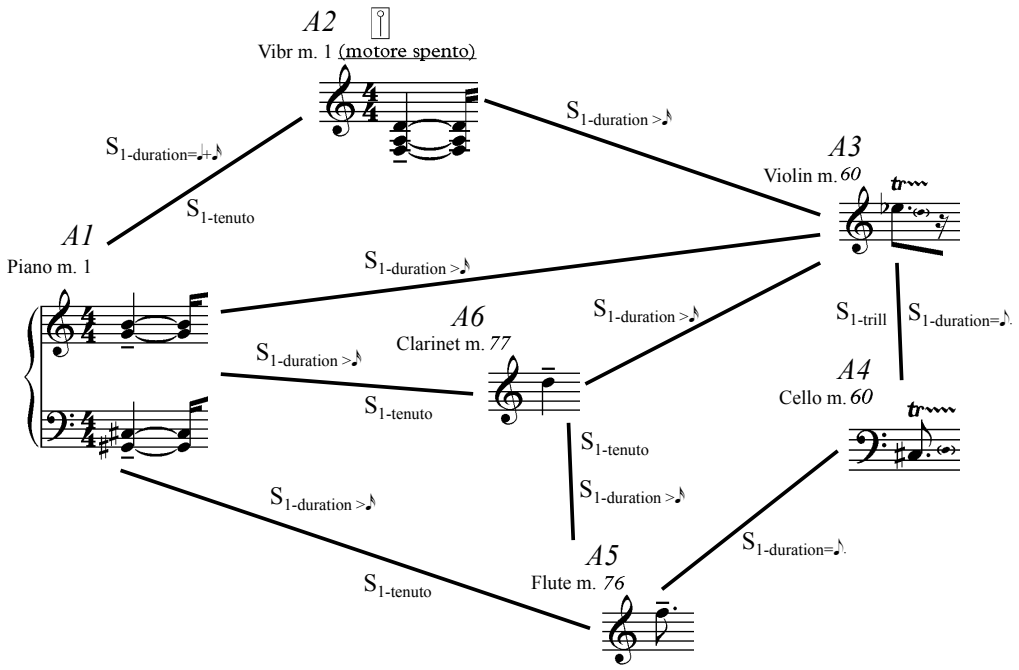


Figure 24. Association graph for set *A*, *Arpège*

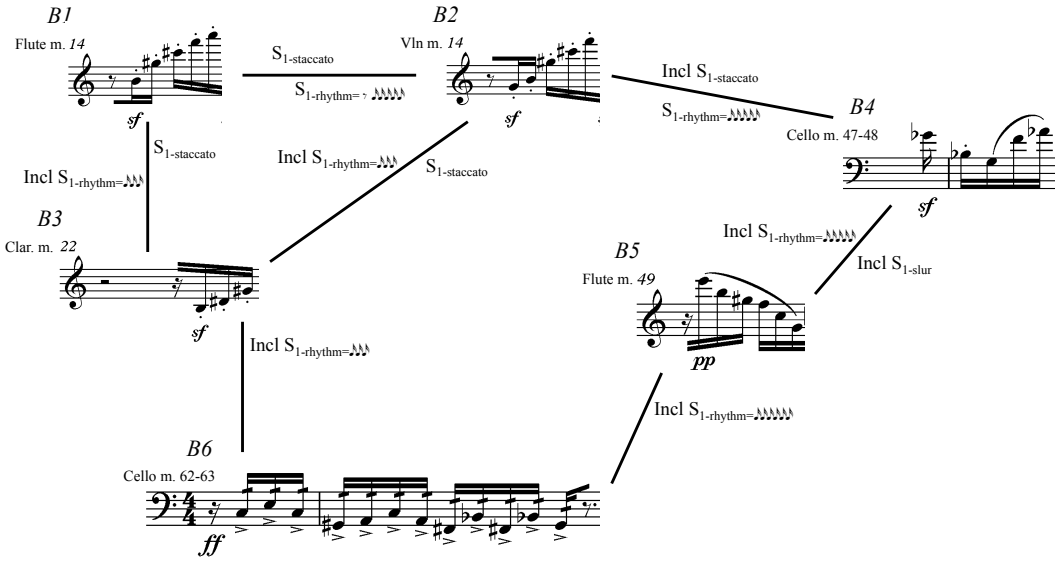


Figure 25. Association graph for set *B, Arpège*

Associative set *C* membership is less deterministic and is a set based on adjacent notes with characteristics from both sets *A* and B. S_1 criteria for associative set *C* includes $S_{1\text{-mixed durations or IOI}}$, more specifically $S_{1\text{-mixed durations including } \grace{} \text{ and } >\grace{}}$. Examples of set *C* can be found in mm. 1-2 and m. 48 (flute and clarinet). Components of set *C* could be accounted for as members of set *A* and *B* (and still may be), but this may be a less musically satisfying reading in and of itself. The creation of set *C* is intended to allow for musically intuitive segments that include short and long durations. Figure 26 shows associative set *C,* and Figure 27 shows an associative network that connects associative sets *A, B,* and *C*.

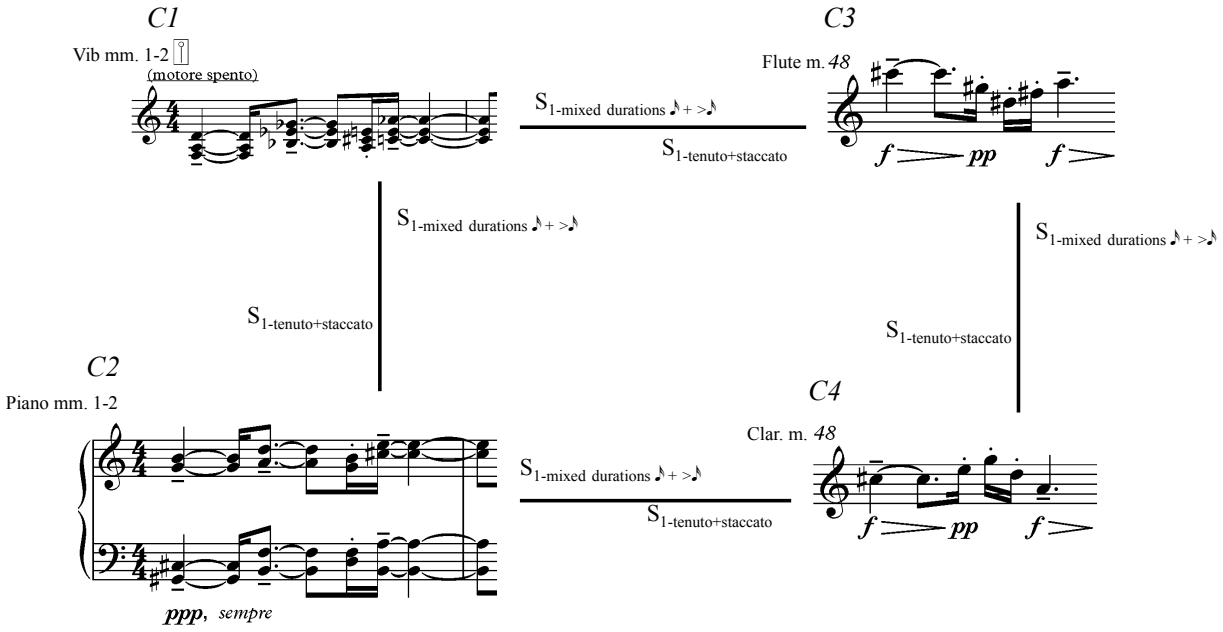


Figure 26. Association graph for set *C, Arpège*

Dialogical Gestural Relationships

Due to the number of musicians and Donatoni's proclivity for a wide variety of ensemble textures, *Arpège* includes multiple examples of each type of dialogical gestural relationships. Additionally, there are multiple categories of relationship occurring simultaneously over much of the work. The plurality of interpretation characteristic of this methodology in combination with the volume of instrumentalists and density of texture leads to more potential readings of the material from a dialogical gestural perspective. Table 5 provides a sampling of relationships, their locations, instruments involved, and alternative readings or clarifying commentary.

Listeners can learn to attend to dialogical gestural relationships in order to hear a piece in new and different ways, and performers will find acknowledgement of dialogical gestural relationships beneficial in learning chamber music and communicating with the audience. Mirroring is an example of a dialogical gestural relationship that could be easily heard by listeners who are considering the music from a gestural relationship standpoint, even if they are not actively calling it such. The audibility of other relationships, such as Connecting, Overlapping, and Punctuation, may be dependent upon the specific performance. It seems feasible that audience members could develop the ability to hear music dialogically if prompted. In many cases, I believe that chamber music performers learn music and make interpretive decisions regarding dialogical gestural relationships and what they are musically attempting to convey. It is unlikely that performers use my terminology, though it may facilitate communication between ensemble members in rehearsal.

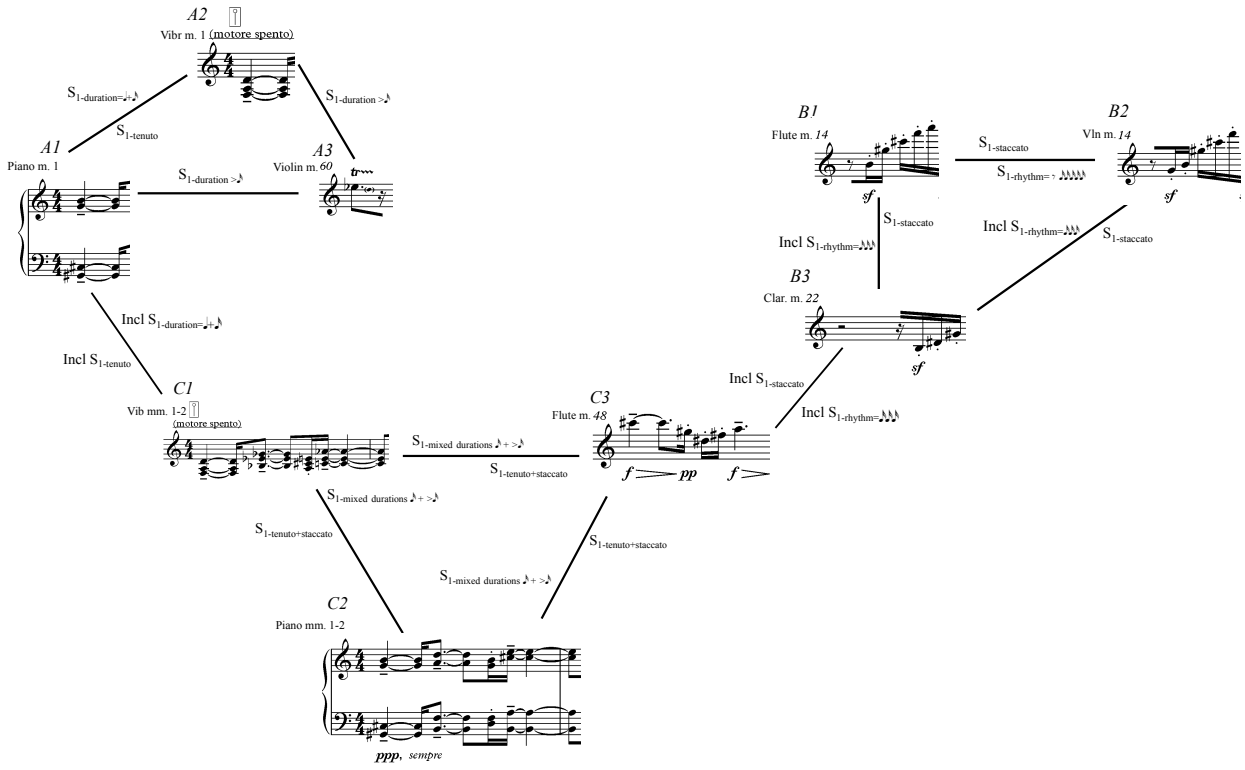


Figure 27. Associative network that connects associative sets *A, B,* and *C, Arpège*

Challenges Posed by *Arpège*

Arpège is the largest scale chamber work addressed here with six musicians and 234 measures.[104] As such, applying the type of detailed analysis that is inherent to gesture proves overwhelming, particularly given the constantly mutating dialogical gestural relationships. The relationships listed in Table 5 just scratch the surface of those that exist within the entirety of *Arpège*. In short, the scope of the work is the greatest challenge in applying the methodology to this piece. Furthermore, a complete measure-by-measure analysis of a work of such depth and complexity may not result in a satisfying interpretation for the time invested. In other words, the analyst may not get out what she puts into the analysis. It therefore proves fruitful to explore

[104] *Luci II* has two musicians and 103 measures, and *Rasch* has four musicians and only 69 measures.

potential ways to deal with the scope of *Arpège* and still apply an adapted version of the methodology that will result in a satisfying analysis.

Table 5. Sampling of dialogical gestural relationships in *Arpège*

Measures	**Dialogical Gestural Relationship**	**Instruments Involved**	**Notes, Additional Relationships**
1-6	Mirroring	vibraphone piano	
7-13		vibraphone piano	Interjections/Connections/Generative/ Accentuation
14-		flute clarinet violin cello vibraphone piano	
34-		violin cello vibraphone	Reactive/Punctuation
43-		flute clarinet	
43-		violin cello	
43-	Imitative	flute/clarinet violin/cello	It is unclear which group leads or follows Generative/Reactive
48-50	Connective	flute/clarinet violin/cello	
55-57		flute/clarinet violin/cello	
60	Overlapping		Shared attacks noted to assist performers
62	Punctuation/ Accentuation	violin/cello vibraphone	Vibraphone Punctuates violin/cello line
65		flute/clarinet vibraphone	Vibraphone Punctuates flute/clarinet line
71-	Mirroring	flute clarinet	

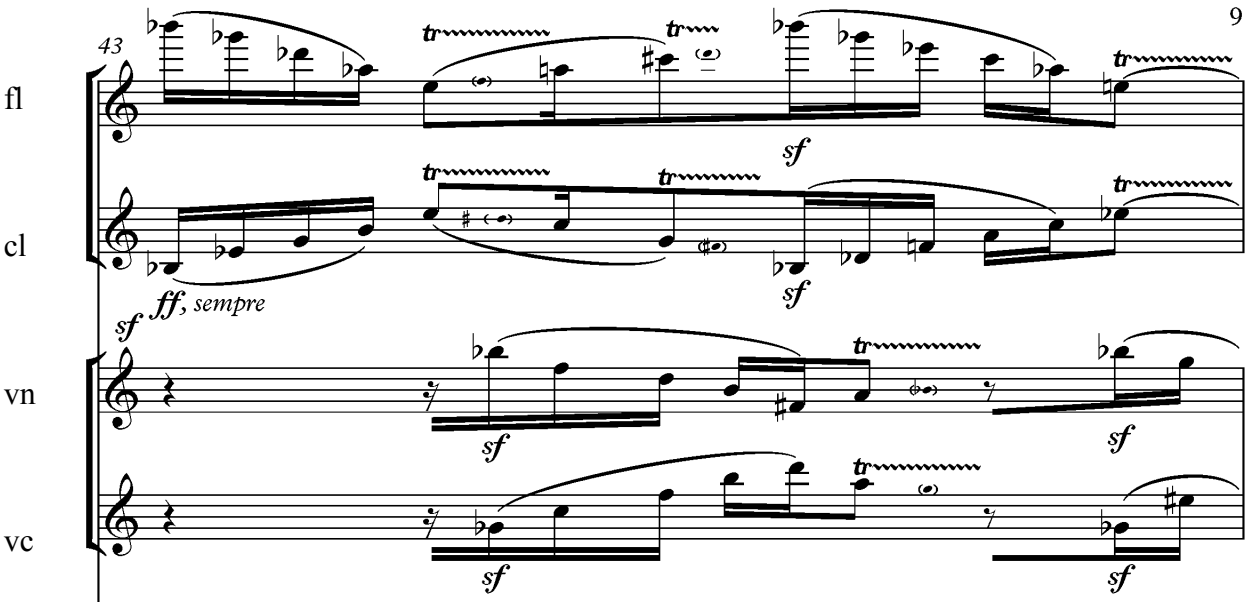
I will suggest three possible solutions to the challenge of applying this methodology to a work of larger scope (be that number of performers, length of piece, or both) and demonstrate using excerpts from *Arpège*. One option for incorporating dialogical gestural relationships is to follow a single instrument (or potentially a pair of instruments) through part or all of the piece. This task may resonate with performers, as it will more accurately depict the experience of playing a chamber work in real time while considering one's own ever-changing relationships to other members of the ensemble.

Analytical Excursion 1: The Cellist's Vantage Point in Excerpts from *Arpège*

Analytical Excursion 1

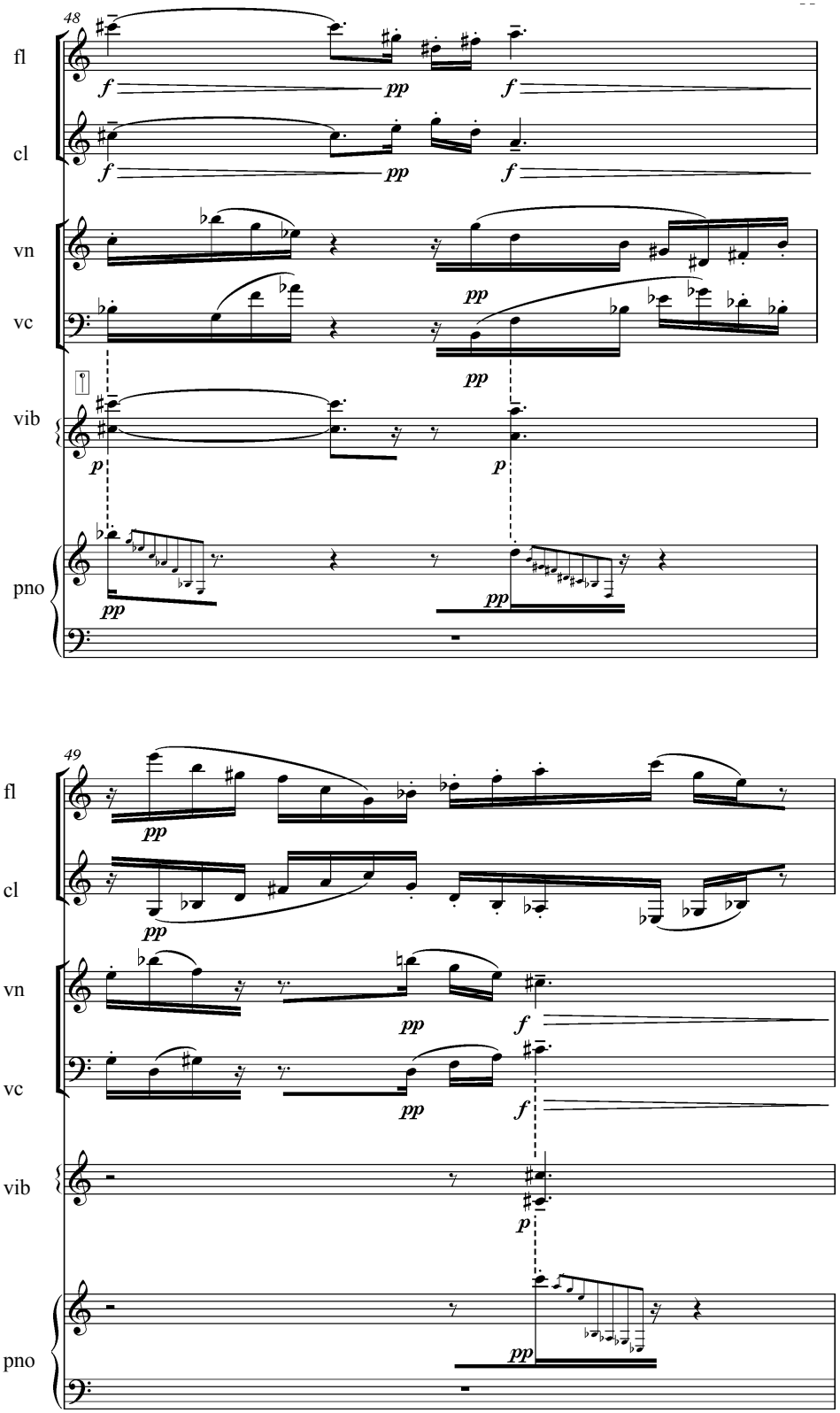
The cello engages in multiple dialogical gestural relationships consecutively and simultaneously between mm. 43-60 providing an example of Donatoni's textural treatments in *Arpège.* The beginning of this section, marked by a tempo change from ♩ = 108 to ♩ = 92 and the reentrance of the flute and clarinet voices, finds the cello Mirroring the violin. The string duo is in turn Overlapping/Imitating the flute and clarinet duo, who are also Mirroring one another (see Example 25). In mm. 48-49 the cello continues Mirroring the violin but the duo's relationship with the wind duo shifts to become Overlapping or potentially Connective, as can be seen in Example 26 annotated to show the passing sixteenth notes that Connect the two duos in m. 48 and the Overlapping or perhaps Connective sixteenth notes in m. 49. Measure 50 again sees the string duo handing off Connective sixteenth notes to the wind duo but also shows those same sixteenth notes to be potentially Generative to the piano's Reactive grace notes, a texture that continues until the return to ♩ = 108 in m. 60. The cello finally breaks from the violin at this

point now Overlapping with both the left and right piano hands (considered separately) (Example 27).

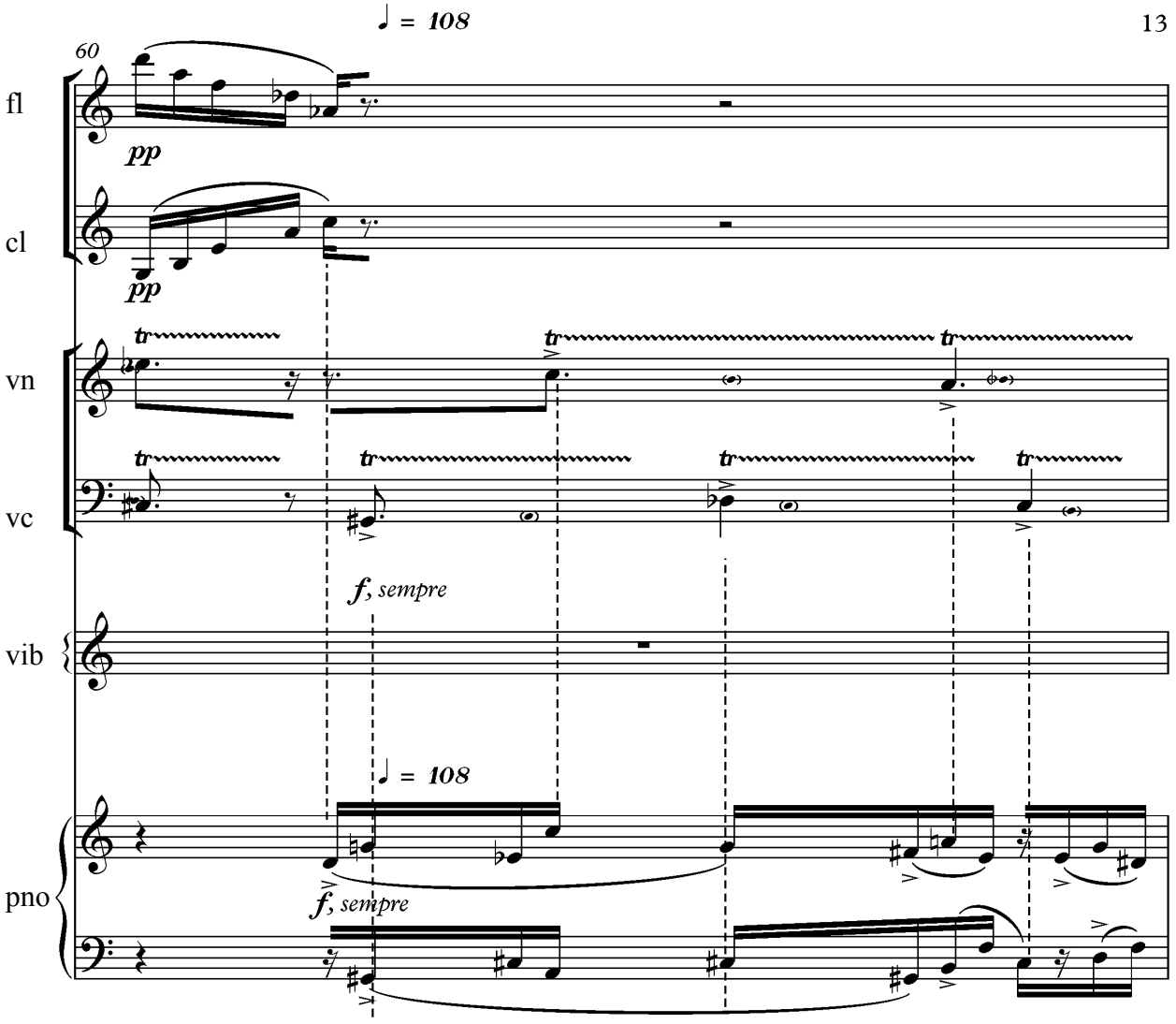


Example 25. Donatoni, *Arpège,* m. 43, cello Mirrors violin, string duo Overlaps/Imitates wind duo

This brief glimpse at the cello line allows the analyst to present an experiential interpretation of a texturally challenging section from the cellist's perspective. Beyond that, the opportunity for plurality of interpretation is abundant and can lead to different but equally valid hearings and performances of the same music, a desirable quality for analysts, performers, and listeners of new music alike.



Example 26. Donatoni, *Arpège,* mm. 48-49



Example 27. Donatoni, *Arpège*, m. 60

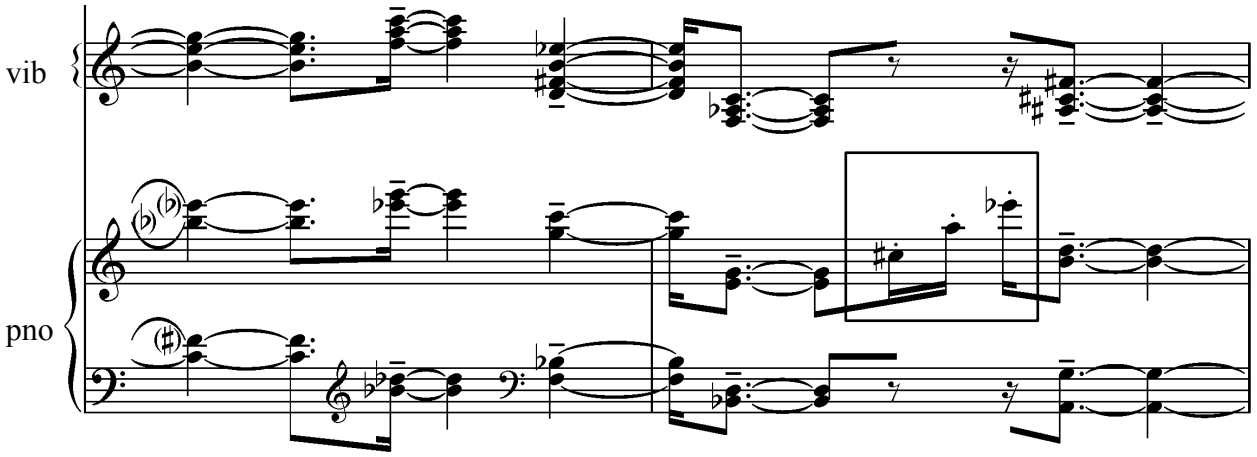
Analytical Excursion 2: The Opening Section of Donatoni's *Arpège*

A second option for discussing dialogical gestural relationships within a larger scope chamber work is to address only a section of music. This could be the texturally densest section, a section that represents the most common texture in the work, or simply the section to which the analyst is most drawn.

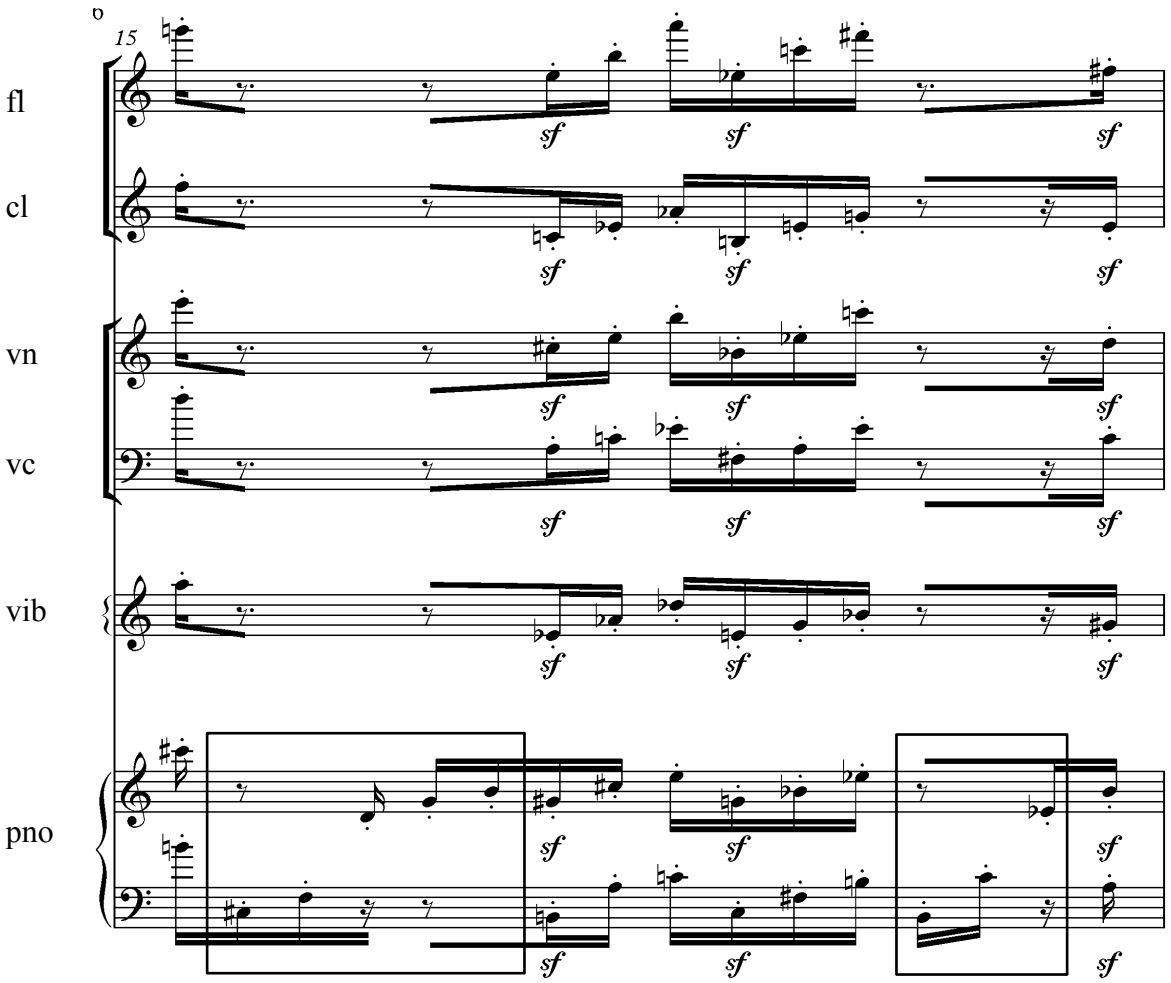
Analytical Excursion 2

The opening section of *Arpège* demonstrates shifting relationships between ensemble members and the opportunity for multiple interpretations. In mm. 1-14, the vibraphone and piano Mirror one another rhythmically and in terms of general (though not precise) melodic contour. In addition to the Mirrored relationship between the two voices, the piano begins to incorporate Connective sixteenth notes in m. 6 (see Example 28). The sixteenth note gestures, which begin as brief Interjections, eventually overtake the longer, Mirrored durations in m. 14 where the entire ensemble joins in a completely Mirrored texture. The piano, however, continues to add Connective sixteenth notes between the full ensemble gestures, as in mm. 15 and 16 (see Example 29). The length of the full ensemble gestures in mm. 14-19 in comparison to the shorter piano gestures, leads one to see the piano line as Connecting the full ensemble figures to one another. However, in m. 20, the piano gestures begin to lengthen while the ensemble figures grow shorter. The ensemble roles have shifted. The full ensemble still engages in a Mirrored relationship, but the ensembles gestures could now be seen as Connecting the solo piano figures rather than the other way around. Beyond that, the full ensemble now engages occasionally in single sixteenth note Hits that could be said to be Punctuating or Accentuating instead of Connective (see Example 30). This general texture with a solo pianist and full ensemble Hits/Punctuations/Connections occurs until the tempo change at m. 33 where the strings and vibraphone take over.

An in-depth exploration of the opening section of *Arpège* shows Donatoni's apparent preference for variety in ensemble textures. One can see the relationship play between the keyboard instruments (the piano, in particular) and the full ensemble.

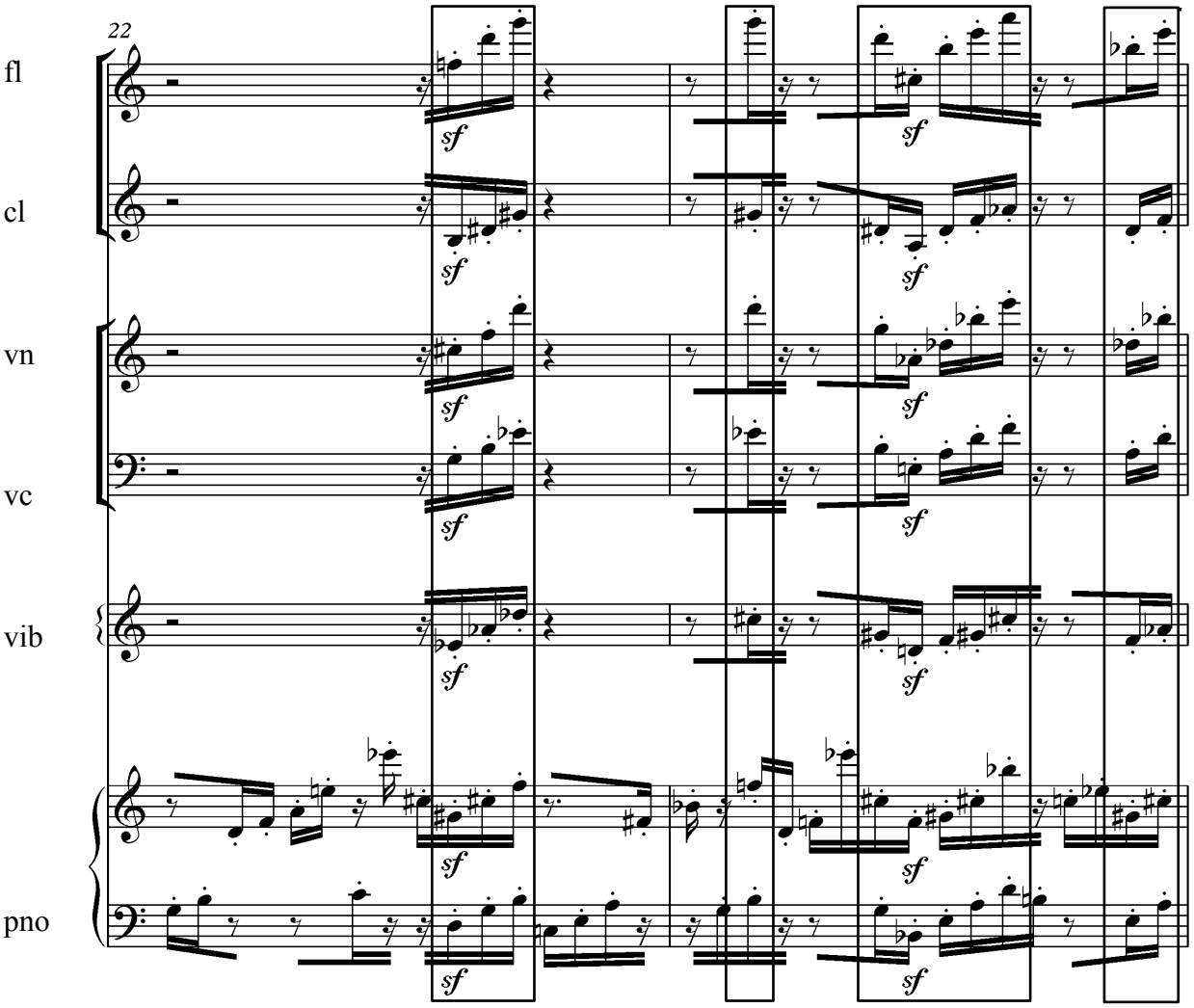


Example 28. Donatoni, *Arpège*, vibraphone and piano, mm. 5-6, Mirrored relationship with boxed Connective piano gesture



Example 29. Donatoni, *Arpège*, m. 15, Mirrored full ensemble with boxed Connective piano gestures

Incorporation of dialogical gestural relationships to this setting enables an experiential reading that lends itself to multiple interpretations, each of which would likely lead to subtle differences in hearing or performance. Choosing a dialogical gestural viewpoint may assist ensembles in learning music more quickly or in more effectively conveying their interpretation. Depending upon how convincing a performance comes across, an audience member may or may not be able to hear the interpretation as chosen by the performers. Regardless, a listener may have a more satisfying musical experience by simply attempting to hear chamber music dialogically.



Example 30. Donatoni, *Arpège*, mm. 22-23, role shift: solo pianist and boxed full ensemble Hits/Punctuations/Connections

Analytical Excursion 3: Textural Focus in Donatoni's *Arpège*

Dialogical gestural relationships could also be included in an analysis using a highlight reel of sorts. Instead of addressing each section of a piece, the analyst may choose to address those that are most striking or that share some connection with one another. An analyst may choose to address a single component of dialogical relationships over part or all of the work. In the following mini analysis, I will address only Mirroring relationships.

Analytical Excursion 3

In *Arpège*, Donatoni's textural relationships shift in and out of focus like the clarity of a scene viewed through binoculars. A section of music is "in focus" when all sounding voices are Mirroring one another rhythmically (and potentially but not necessarily melodically), and a section is "out of focus" if there is no Mirroring at all. Naturally, there are gradations between the two extremes where perhaps two voices are Mirroring one another but others are not, or when there are multiple foci. Situations like these may be said to be "shifting into or out of focus."

Figure 28 is a graph that plots the "focus" of the ensemble over the course of *Arpège*. The peaks in the graph show "in focus" relationships, and the nadirs show relationships that are "out of focus." The dips and halts between show various states of "shifting into or out of focus." Observe the symmetry of focus over the course of the work. There is a miniature "W" in the graph from mm. 1-33, an elongated "W" from mm. 33-158, and a "W" with additional wings from m. 158 through the conclusion of the piece. The final "W" with its additional wings depicts a microcosm of the overall shape of the graph.

Considering only Mirroring relationships in *Arpège* allows the analyst a satisfying way into this piece using dialogical gestural relationships. Concentration on a singular component of this work leads to an experiential reading that ultimately shows a greater structure.

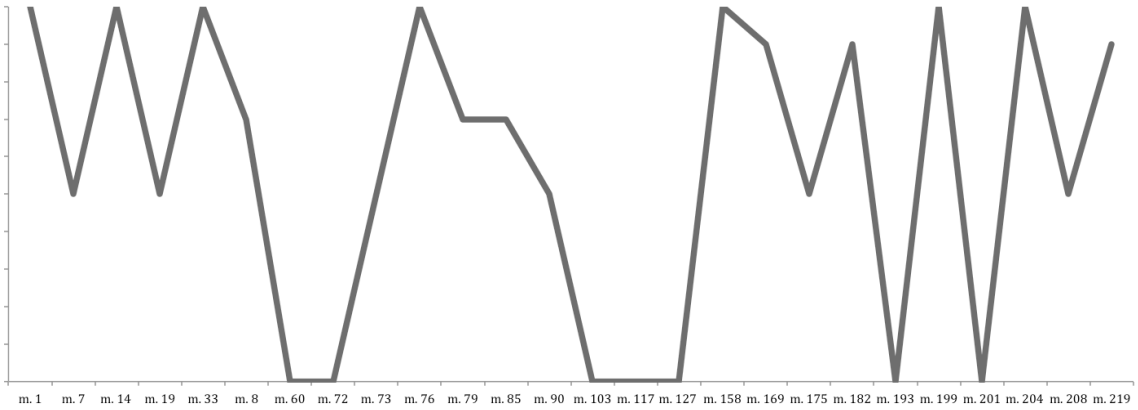


Figure 28. Graph plotting "focus" of Mirroring relationship in *Arpège*

The analysis of Donatoni's *Arpège* is unlike the other analyses addressed in this study due to the number of musicians and the length of the work. Hanninen's theory of association was successfully applied over the entire work by simplifying the demands of membership into associative sets, and therefore limiting the total number of sets to only three. Dialogical gestural relationships proved pertinent, but exploring dialogical gestural relationships in *Arpège* with the same breadth and depth as the previous works in this study led to an ultimately unsatisfying analysis. Rather, the scope of *Arpège* demanded alternative solutions that produced insights not found elsewhere. The challenges of applying this methodology to a larger work resulted in three dynamic, miniature analyses each exploring a different potential solution, including detailed

analysis of a single section, analysis focusing on a single dialogical gestural relationship over the full work, and detailed analysis of a single voice.

CHAPTER 6

CONCLUSION

This dissertation explored the interpersonal, communicative dynamic created by the presence of multiple interpreters contributing to a single musical performance in three works by Franco Donatoni. Communication between ensemble members, whether verbal in rehearsal or non-verbal during performance, is a key component to successful chamber music performance. Indeed, this significant element is one of the most intriguing and enjoyable facets of performing, studying, or listening to chamber music, and it merits scholarly discussion. Interaction between ensemble members performing new music proves even more important in communicating a unified musical idea to audiences given the variety of textures and often the lack of traditional melodic lines. Studies on recent chamber music in particular will benefit from the incorporation of dialogical analyses, as shown here with the music of Donatoni.

The analytical chapters of this dissertation employed Hanninen's associative analysis as the first tier, which allowed for the formation of theoretical connections between sonically salient segments. A Hanninenian approach is bottom-up and focuses on segments and associative organization. Segmentation, in Hanninen's associative orientation, relies on repetition, equivalence, or similarity and proves to be highly intuitive with room for plurality of interpretation. Segments, which were in these analyses gestures, combined to form associative sets based on sonic criteria subtype 1 (or S_1 criteria). S_1 criteria are temporally adjacent, and examples of S_1 criteria include pitch, dynamics, and types of articulation ($S_{1\text{-pitch}}$, $S_{1\text{-dynamics}}$, $S_{1\text{-articulation}}$). A work's associative sets were then shown laid out over time in associative landscapes and maps. Associative organization in general and associative landscapes and maps in particular

enable one to explore form as the intermingling of diverse musical materials and change over time.

Building upon the work of Hanninen and others, my dialogical gestural analysis provided a second tier. This section of each analysis shed light upon the relationships between different voices. Employing the terminology from Table 4, I proposed one or more relationships taking place in the music at any one point in time. Some sections of music held the possibility of multiple interpretations depending upon the voice to which one attended, and other sections had numerous relationships taking place simultaneously. The dialogical gestural perspective developed for this project allowed for the flexibility to discuss plurality of interpretation and enabled creative, experiential listening opportunities.

I chose to focus on Franco Donatoni's works in this project in part because his output includes numerous, varied, and unusual mixed chamber ensembles. In addition to the works addressed here, Donatoni composed at least 67 other works for two to ten players from 1950 to 1997 (see Appendix A).[105] These chamber works included such traditional instrumentation as a string quartet (*Quartetto I, Quartetto II, Quartetto IV, The Heart's Eye, Le souris sans sourire*, and *Luci III*) and such uncommon groupings as a nonet comprised of two oboes, two bassoons, two trumpets, two trombones, and a piano (*Terzo estratto*). Perhaps inherently then, Donatoni's chamber writing employs a wide variety of textures, and these facilitate dialogical gestural analysis. In particular, Donatoni's chamber pieces each incorporate many, if not all, of the six dialogical gestural relationships established in Table 4.

Case studies on *Luci II* for Bassoon and Horn (1996), *Rasch* for Saxophone Quartet (1990), and *Arpège* for Six Instruments (1986) each illuminated different possibilities and

[105] Osmond-Smith, "Donatoni."

challenges in the employment of associative and dialogical gestural analyses. In *Luci II,* a gestural analysis highlighted the ensemble interplay between the horn and bassoon that peaked at the dynamic climax of the work with the "twisted" melody line. This analysis was prototypical for the methodology with a maximum number of dialogical gestural relationships. Alternatively, in *Rasch* for Saxophone Quartet, the composer primarily employs either Mirrored rhythms mimicking a single line or Overlapping gestures that create a dense texture with no apparent individual line standing out. The analysis of *Rasch*, in contrast to that of *Luci II,* showed two layers of complementary associative organization, one focusing primarily on the sonic domain and one dedicated to the structural domain with dialogical gestural analysis as the orienting theory.

Finally, the analysis of *Arpège* proved strikingly dissimilar to the other analyses in this study due to the number of musicians and the length of the work. It remained feasible and fruitful to apply Hanninen's theory of association over the entire piece but became necessary to simplify the demands of membership into associative sets limiting the total number of sets to three (where *Luci II* had six sets and *Rasch* had four sets in the first level plus two sets in the second level of association). Examination of dialogical gestural relationships in *Arpège* resulted in satisfying analyses but required creativity in my approach leading to analytical paths not otherwise explored in this document. Those paths were demonstrated via three analytical excursions that investigated in turn a detailed analysis of a single section, an analysis that focused on a single dialogical gestural relationship over the entire piece, and a detailed analysis of a single voice.

While one could come to a meaningful analysis without considering dialogical gestural relationships, accounting for such interactions adds a new layer of depth. Analyses of chamber works often overlook the dimension of dialogue between multiple interpreters contributing to a

single musical idea. Taking gestural relationships into account adds richness to an analysis and enables new kinds of small- and large-scale associations, which contribute to a greater understanding of form. Furthermore, the thought processes necessary to produce such analyses could additionally lead all involved in the chamber music dialogue (i.e. scholars, critics, and ensemble members) to approach chamber music in a more gestural, flexible, and experiential light.

Future Employment of Dialogical Gestural Relationships

Future analytical projects incorporating dialogical gestural relationships could find success in examining chamber works from different styles and time periods. It is plausible that studies of large bodies of music would find that dialogical gestural relationships contribute to style. In other words, certain time periods or styles may give preference to or be more saturated with certain dialogical gestural relationships. Investigating this hypothesis could give insight into a different facet of stylistic consideration.

The plurality of style, texture, and ensemble composition in recent music portends that further analysis in this time period may result in very different outcomes. Repertoire of the increasing number of modular new music ensembles (i.e. Alarm Will Sound, Bang on a Can, International Contemporary Ensemble, etc.), which is continually expanding, could be a fruitful source. Additionally, because of the importance of the interpersonal dynamic to the development of dialogical gestural analysis, it could be musically meaningful to examine music written for performers or by composers with whom the analyst has personal contact, which would inherently be new music.

Dialogical gestural analysis could be applied to music performed by a single individual

but containing multiple voices, such as piano or percussion repertoire. Such analyses could support the level of complexity necessary to understand or perform such works. Additionally, unaccompanied, single line instrument or voice repertoire could be analyzed to further investigate metaphorical multiple voices.

Future projects could bring analysts and performers into collaboration. An analyst could incorporate video or live performance seeking to compare and contrast ancillary gestures with metaphorical musical gestures. While the area of musical gesture, both ancillary and metaphorical, is growing, little scholarship ties the two related components together. One could also translate this approach into a live setting enabling performing musicians to employ it in their own context. This could be accomplished through a series of coachings potentially leading to a recording project.[106]

The possibilities for incorporation are vast because dialogical gestural analysis could easily be integrated into numerous existing analytical practices. Narrative analysis, in particular, may lend itself to easy assimilation of dialogical analysis. Ultimately, however, one can be sure that analysts, performers, and pedagogues will be prompted to find ever-more-vivid and compelling ways of assessing and exploring the dialogical element in musical works with which they are engaged.

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[106] Mine Doğantan-Dack of University of Oxford engaged in a study entitled "The Alchemy Project," which emphasized live performance "in the chain of musical knowledge production." This study led to her chapter in *Artistic Practice as Research in Music: Theory, Criticism, Practice* (Surrey, England: Ashgate, 2015), which Doğantan-Dack also edited. Additionally, I had the opportunity to coach two students performing *Luci II* in spring 2015. While the work was challenging for them, the application of dialogical gestural relationships resulted in moderate success, particularly the discussion of Connective gestures.

APPENDIX A

SELECTIVE LIST OF CHAMBER WORKS BY FRANCO DONATONI

Title	**Instrumentation**	**Year**
Quartetteto I	string quartet	1950
Recitativo e allegro	violin, piano	1951
5 pezzi	two pianos	1954
Quartetto II	string quartet	1958
For Grilly	flute, clarinet, bass clarinet, violin, viola, cello, percussion	1960
Quartetto IV	string quartet	1963
Asar	four violins, three violas, two cellos, double bass	1964
Etwas ruhiger im Ausdruck	flute, clarinet, violin, cello, piano	1967
Black and White no. 2	keyboard instruments	1968
Solo	five violins, two violas, two cellos, double bass	1969
Secondo estratto	harp, harpsichord, piano	1970
Jeux pour deux	harpsichord, box organ	1973
Quarto estratto	piccolo, flute, mandolin, celesta, harpsichord, harp, piano, violin	1974
Lumen	piccolo, clarinet, celesta, vibraphone, viola, cello	1975
Terzo estratto	piano, two oboes, two bassoons, two trumpets, two trombones	1975
Ash	flute, oboe, clarinet, piano, harpsichord, violin, viola, cello	1976
Diario '76	four trumpets, four trombones	1977
Spiri	two violins, viola, cello, flute, oboe, clarinet, bass clarinet, celesta, vibraphone	1977
Toy	two violins, viola, harpsichord	1977
De près	soprano, two piccolos, three violins	1978
... ed insieme bussarono	soprano, piano	1978
About…	violin, viola, guitar	1979
The Heart's Eye	string quartet	1979-80
L'ultima sera	soprano, flute, clarinet, violin, cello, piano	1980
Small	piccolo, clarinet, harp	1981
She	three sopranos, violin, viola, guitar, piccolo, clarinet, harp	1982
Ala	cello, double bass	1983
Alamari	cello, double bass, piano	1983
Ombra	clarinet, bass clarinet	1983

Title	Instrumentation	Year
Ronda	violin, viola, cello, piano	1983
Darkness	six percussion	1984
Sestetto	two violins, two violas, two cellos	1985
Still	soprano, two flutes, two violins, celesta, piano	1985
Arpège	flute, clarinet, violin, cello, vibraphone, piano	1986
Refrain	piccolo, bass clarinet, mandolin, guitar, harp, marimba, viola, double bass	1986
Ave	piccolo, glockenspiel, celesta	1987
Cinis	soprano, bass clarinet	1988
Le souris sans sourire	string quartet	1988
Blow	flute, oboe, clarinet, horn, bassoon	1989
Frain	piccolo, bass clarinet, mandolin, guitar, harp, marimba, viola, double bass	1989
Hot	soprano saxophone, clarinet, trumpet, trombone, percussion, double bass, piano	1989
Chantal	harp, flute, clarinet, two violins, viola, cello	1990
Cloches II	two pianos	1990
Het	flute, bass clarinet, piano	1990
Rasch	saxophone quartet	1990
Spice (Ronda no. 2)	violin/viola, clarinet/E♭ clarinet, cello, piano	1990
Cloches III	two pianos, two percussion	1991
Aahiel	mezzo-soprano, clarinet, vibraphone/marimba, piano	1992
An Angel within my Heart	soprano, two clarinets, violin, viola, cello	1992
Late in the Day	soprano, flute, clarinet, piano	1992
Mari II	four marimbas	1992
Sincronie	piano, cello	1992
Algo II	two guitars	1993
Ciglio II	violin, flute	1993
Concertino II	five Yamaha keyboards	1993
Jay	piano, two trumpets, three horns, two trombones	1993
Small II	flute, viola, harp	1993
Ciglio III	violin, piano	1994
Flans	soprano, flute/piccolo/alto flute, oboe/English horn, clarinet/bass clarinet, piano/celesta, percussion, violin, viola, cello, double bass	1994

Title	Instrumentation	Year
Serenata II	flute, violin, double bass, harpsichord, percussion	1994
Sincronie II	cello, piano, flute, clarinet, bassoon, horn, violin, viola, cello	1994
Cinis II	bass clarinet, marimba, percussion	1995
Duetto II	two violins	1995
Luci II	bassoon, horn	1995
Rasch II	saxophone quartet, vibraphone, marimba, percussion, piano	1995
Triplum	flute, oboe, clarinet	1995
Lame II	eight cellos	1996
Refrain IV	mandolin, guitar, harp, harpsichord, celesta, piano, vibraphone, marimba	1996
Al	mandolin, mandola, guitar	1997
Luci III	string quartet	1997

APPENDIX B

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BIOGRAPHICAL SKETCH

Kimberly Goddard Loeffert currently serves as Lecturer of Music Theory at Oklahoma State University. She has taught music theory, saxophone, and chamber music at Michigan State University and music theory and aural skills at Florida State University. Loeffert earned a D.M.A. and M.M. in Saxophone Performance, as well as an M.M. in Music Theory Pedagogy from Michigan State University. She holds a B.M. in Saxophone Performance and Jazz Studies from Northwestern University. Her primary saxophone teachers have included Joe Lulloff, Frederick Hemke, and Joseph Wytko.

An active chamber musician, Loeffert has won numerous chamber music prizes as a member of the h2 quartet, including First Place at the Fischoff National Chamber Music Competition and First Place at the North American Saxophone Alliance Quartet Competition, among others. She can also be heard on five commercially available discs and a nationally-syndicated PBS television episode of Backstage Pass.

Loeffert has performed at prestigious venues around the world, including the Cankar Dom (Slovenia), the Guarnerius Center for the Performing Arts (Serbia), Merkin Hall (New York City), the National Concert Hall (Ireland), the Sarajevo Music Academy (Bosnia), the Siam Paragon (Thailand), the University of St. Andrews (Scotland), and the Walt Disney Concert Hall (Los Angeles), in addition to university recital halls across the country. An advocate for new music, Loeffert has commissioned and/or premiered works by Drew Baker, Karl Blench, Jongyun Choi, Takuma Itoh, Igor Karača, David MacDonald, John Mackey, Marc Mellits, Victor Marquez-Barrios, Roger W. Petersen, Forrest Pierce, David Rakowski, Jesse Ronneau, Bill Ryan, Matthew Schoendorff, Amy Williams, Kevin Wilt, and Daniel Wohl, among others.