COMBINING ANALYTICAL PERSPECTIVES IN TŌRU TAKEMITSU'S *RAIN TREE SKETCH II*

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By

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The undersigned, appointed by the dean of the Graduate School, have examined the thesis entitled

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Table of Contents

List of Figures

List of Tables

Abstract

Utilizing multiple methodologies for analyzing music contributes to an informed performance. I have termed this approach *collaborative music theory* and believe it can be used for analysis in a wide variety of music. To illustrate the effectiveness of *collaborative music theory*, I have chosen a work composed by Tōru Takemitsu, one of his later pieces for solo piano titled *Rain Tree Sketch II*, which was informed by multiple theories of composition. Takemitsu claimed that two books about music theory influenced his life and were among the best books of the twentieth century: *The Lydian Chromatic Concept of Tonal Organization* by jazz artist George Russell, and *The Technique of My Musical Language* by composer Olivier Messiaen. Additionally, Takemitsu wrote many essays on music, the majority of which are in the book *Confronting Silence* and focus on philosophical aspects of art, music, and theatre. In this thesis, I take these works by Russell, Messiaen, and Takemitsu, as well as other scholarship into consideration while analyzing *Rain Tree Sketch II.* By drawing on Russell's, Messiaen's, and Takemitsu's perspectives, I provide a nuanced analysis of the piece and demonstrate how it can influence performance.

Chapter 1: Introduction

Utilizing multiple methodologies for analyzing music contributes to an informed performance. In many cases, however, a performer may choose to look at a piece from only one analytic method; this creates missed opportunities for the musician's learning and understanding. Philip Ewell argues that while theories such as Heinrich Schenker's method of analysis may have had a tremendous impact on music theory in general, to only use one theory would be to the theorist's detriment.[1] Ewell further suggests that different perspectives from around the world will enhance a student's understanding of music.[2] For example, much discussion has taken place over the first movement of Ludwig von Beethoven's "Tempest" sonata, and how to interpret the beginning. Janet Schmalfeldt compares two views from William Caplin and James Hepokoski on this movement along with her own analysis.[3] Schmalfeldt does not draw conclusions about which one might be correct, but instead presents them as options that can be considered equal in validity and both following traditions.[4] Such rigorous discussion of Beethoven's music affords performers more perspectives from which to approach the piece and create original and inspired performances.

In this thesis I will focus on *Rain Tree Sketch II*, a piece which has multiple, clearly relevant perspectives from which to view it, perform analysis from said

[1] Philip Ewell, "Music Theory and the White Racial Frame," *Music Theory Online* 26, no.2 (2019), 10.30535/mto.26.2.4.

[2] Adam Neely, "Music Theory and White Supremacy," YouTube Video, September 7, 2020, 44:01, https://youtu.be/Kr3quGh7pJA.

[3] Janet Schmalfeldt, "One More Time on Beethoven's 'Tempest,' From Analytic and Performance Perspectives: A Response to William E. Caplin and James Hepokoski," *Music Theory Online* 16, no.2 (2010), https://mtosmt.org/issues/mto.10.16.2/mto.10.16.2.schmalfeldt3.php.

[4] Schmalfeldt, "One More Time on Beethoven's 'Tempest'."

perspectives, and draw conclusions based on the analysis that can be applied to the performance, including reflections on my own performance. I have termed this approach "collaborative music theory" and believe it can be applied to a wide variety of music. Each methodology, whether contemporary to the piece and its composer, older or newer, provides distinct values in music analysis; therefore, consulting these varied methodologies can offer a nuanced perspective and create new applicable ideas both for analysis and performance that one viewpoint would be unlikely to uncover.

An analysis of Tōru Takemitsu's late work for solo piano titled *Rain Tree Sketch II* illustrates the effectiveness of collaborative music theory. Takemitsu was informed by multiple theories of composition, which makes studying his work an ideal scenario to apply collaborative music theory.[5] During a 1994 interview, Takemitsu claimed that two books about music theory influenced his life and were "palpably the finest books dealing with music written this century": *The Lydian Chromatic Concept of Tonal Organization* by jazz artist George Russell, and *The Technique of My Musical Language* by composer Olivier Messiaen.[6] Additionally, Takemitsu wrote many essays on music, the majority of which are in the book *Confronting Silence* and focus on philosophical aspects of art, music, and theatre.[7] In this thesis, I take *The Lydian Chromatic Concept of Tonal*

[5] While Takemitsu's many writings about music and outspoken nature of who his influences were make him an ideal candidate for my thesis, I do not think this is necessarily a requirement. Many perspectives can bring new ideas to light about a piece, even if the theory came about after the composer wrote the piece; however, careful scrutiny must be applied in such a case to determine the validity of such a choice.

[6] Takashi Tachibana, "Takemitsu Tōru: ongaku sōzō e no tabi" [Tōru Takemitsu: the journey towards musical creation], *Bungakukai*, July 1994. Referenced in Peter Burt, "Takemitsu and the Lydian Chromatic Concept of George Russell," *Contemporary Music Review* 21, no.4 (2015): 73–109, doi: 10.1080/07494460216666.

[7] Tōru Takemitsu, *Confronting Silence*, trans. and ed. Yoshiko Kakudo and Glenn Glasow, (Lanham, MD: Scarecrow Press, 1995).

Organization, *The Technique of My Musical Language*, *Confronting Silence*, and other scholarship into consideration while analyzing *Rain Tree Sketch II* (hereafter *RTS II*). By drawing on Russell's, Messiaen's, and Takemitsu's perspectives, I provide a nuanced analysis of the piece and demonstrate how it can influence performance. After the introduction, which briefly overviews each perspective, Chapter 2 focuses on the *Lydian Chromatic Concept* and harmonic analysis following George Russell's book. Chapter 3 covers rhythmic and formal techniques from Messiaen. Chapter 4 discusses Takemitsu's philosophical ideas and compares multiple recordings with those ideas in mind, offering reflections on my own performance of the piece and concluding thoughts.

George Russell and The Lydian Chromatic Concept

Russell's *Lydian Chromatic Concept* (hereafter referred to as the concept) is an organizational system of music using the Lydian scale, instead of the major scale, as a basis for choosing melodies over chords.[8] Russell developed his theory of music in 1945–1946 while hospitalized for tuberculosis; prior to this he had been working as a professional jazz drummer. [9] The concept is the progenitor of what is known today as chord-scale theory, though he is rarely given credit for it.[10] Ben Ratliff described Russell

[8] George Russell, *The Lydian Chromatic Concept of Tonal Organization for Improvisation* (New York: Concept Publishing, 1959).

[9] Much mythology has been made about Russell's biological father, who was a professor at Oberlin University, and that he influenced Russell's life choices. However, Russell never formed a relationship with his biological father and there is no evidence that Russell had any influence from his father.

[10]Researcher Dmitri Tymoczko's only mention of George Russell in a survey on the pedagogical use of chord-scales in jazz is in a footnote entirely unrelated to the Concept. Michael McClimon, "A Transformational Approach to Jazz Harmony," (PhD diss., Indiana University, 2016), https://www.proquest.com/dissertations-theses/transformational-approach-jazz-harmony/docview/1760176262/se-2?accountid=14576.

as "trying to develop a system in which there are no 'wrong' notes."[11] Russell would most likely agree with the claim, given his conception that pitches are related by distance rather than traditional concepts of consonance or dissonance:

> The one phenomenon that can be categorized as a higher law of the *Lydian Chromatic Concept of Tonal Organization* is tonal gravity. Tonal gravity transcends the subjective rules of 'good' and 'bad' propelled by traditional Western theory. Gravity, as a function of physics, manifests itself in music as in all else of nature. The relationship of the twelve tones of the chromatic scale to a fundamental tone (center of tonal gravity or *Lydian Tonic*) ranges from close to distant (also referred to as ingoing and outgoing respectively) not from good to bad. As an objective-oriented principle, tonal gravity, in this manner, frees music from the subjective notions of right and wrong tones—clearing the path for the reunification of music with physics.[12]

Russell argues that because tonal gravity is a law, not a construct, the concept can be applied to any music. Composers and soloists no longer must worry about whether a note is technically right or wrong, but instead focus on the unique characteristics of the choices they make.

Little scholarship exists regarding Russell's work, despite its influence on jazz. Some are quick to dismiss the work as needlessly complex, confusingly presented, and

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[11]Ben Ratliff, "George Russell, Composer Whose Theories Sent Jazz in a New Direction, Dies at 86," *The New York Times,* July 29, 2009.

[12] Russell, *The Lydian Chromatic Concept,* 52. Russell always capitalizes his own terms, but the italicization is added throughout this proposal.

imprecise.[13] Even its proponents will grant inconsistencies while still promoting its usefulness for organization.[14] More unfortunate is that Russell only thoroughly covered the concept of "vertical tonal gravity" in his book; expansions on the concept, namely "horizontal" and "supravertical tonal gravity," were promised to be covered in a new edition, but Russell passed away before a new edition could be completed.[15]

Thankfully, however, Russell was not shy about sharing his theory. In his entry for the compilation of *The Black Composer Speaks*, he says that his theory and compositions have never had a style and emphasizes his devotion to "musical laws."[16] A conversation Russell had with Olive Jones reveals some striking parallels with Takemitsu's own outlook, such as how both composers strove to link music to the natural world—Russell to physics and Takemitsu to nature.[17] Several secondary sources such as the magazine *The Wire* explore Russell's influences, such as Miles Davis, and life events, such as his battle with tuberculosis, the time period when the initial ideas of the concept emerged.[18] Duncan Heiding's biography covers many of the same topics, and includes a chapter focused on Russell's conceptual thinking related to the concept.[19] These accounts

[13] Peter Burt, "Takemitsu and the Lydian Chromatic Concept of George Russell," *Contemporary Music Review* 21, no.4 (2015): 73–109, doi: 10.1080/07494460216666.

[14] McClimon, "A Transformational Approach to Jazz Harmony."

[15] Duncan Heiding, *George Russell: The Story of an American Composer* (Plymouth: Scarecrow Press, 2010), 314. Heiding reveals interesting notes about the book itself. The book is sold today for $125, and was sold for the same amount in 1953, the original publishing date, though Russell only sold one copy. Additionally, all future editions of the book are blocked from publishing by Russell's estate, so knowing even Russell's incomplete thoughts is extremely difficult if not impossible.

[16] David N. Baker, Lida M. Belt, and Herman Hudson, eds., *The Black Composer Speaks* (Metuchen, NJ.: Scarecrow Press, 1978), 279–81.

[17] Olive Jones and George Russell, "A New Theory for Jazz," *The Black Perspective in Music* 2, no. 1 (1974): 63–74. doi: 10.2307/1214151.

[18] Max Harrison, "George Russell – Rational Anthems: Phase One," *The Wire*, April 2011, https://www.thewire.co.uk/in-writing/essays/george-russell_rational-anthems_phase-one.

[19] Heiding, *George Russell*.

are useful not only for explaining the concept but also for understanding how Russell wanted his ideas to be applied.

The main framework through which Russell presents the concept is tonal gravity, of which Russell outlines three types. In vertical tonal gravity, a different scale is used for every chord. In horizontal tonal gravity, scales are used for small sections of chords, and in supravertical tonal gravity scales are used for large sections. This hierarchy could be viewed as analogous to beat, meter, and hypermeter. These three levels of tonal gravity have been used by jazz improvisers choosing scales to play over chords, but Russell expands to include examples not only of jazz musicians, but also music by composers such as Johann Sebastian Bach and Claude Debussy to explain his ideas.

Russell's concept is a practical theory in which he describes how variations of Lydian scales can be used with chords in many ways. The most noteworthy shift Russell advocates for is the adoption of Lydian as the center of tonality rather than the traditional Ionian used by Western tonal music for centuries. All scales and chords relate back to Lydian in some way. Analysis of *RTS II* through the concept using vertical tonal gravity and parent scales are discussed in detail in Chapter 2. Additionally, I demonstrate how certain parent scales function formally in syntactical predominant, dominant, and tonic relationships as described by Drew Nobile.[20] This analysis is meant to open conversations about the music and to help others view the music from a new perspective, not to fit Takemitsu into a Russell- or Nobile-shaped box. Therefore, the analysis may not

[20] Drew Nobile, "Harmonic Function in Rock Music: A Syntactical Approach," *Journal of Music Theory* 60, no.2, October 2016, 149–80, doi: https://doi.org/10.1215/00222909-3651838.

fit perfectly, and other researchers may come to different conclusions than me, but I believe this is a good thing, and not a problem.

Olivier Messiaen and The Technique of My Musical Language

Messiaen compiled a book of his musical tools, which he titled *Technique de mon langage musical*, the "Technique of My Musical Language" (hereafter referred to as the *Musical Language*) a few years after his imprisonment and release as a French soldier during World War II.[21] The book reads similarly to a recipe book or a list of formulas, detailing Messiaen's techniques with rhythm, melody, harmony, and form, including a breakdown of his modes of limited transposition. Messiaen offers numerous notated examples of each technique he includes "from my own works (past or future!)."[22] Musical examples occupy much of the space in this book, encouraging the reader to adopt the techniques into their own writing. Topics covered include rhythm, melody, harmony, form, modes of limited transposition, and bimodality or polymodality.

Multiple scholars have shared insight into Messiaen's outlook and methodologies. *Messiaen,* a biography by Robert Sherlaw Johnson, contains chapters on the *Musical Language's* development, Messiaen's concept of rhythm and how it moves away from a sense of meter, and analysis of many of Messiaen's works, with commentary and information provided by the composer himself.[23] *The Messiaen Companion* offers similar materials written by a wide range of authors but chooses to focus more narrowly on

[21] Olivier Messiaen, *The Technique of My Musical Language*, trans. John Satterfield (Paris: Alphonse Leduc, 1956).

[22] Messiaen, *The Technique of My Musical Language*, 7.

[23] Robert Sherlaw Johnson, *Messiaen* (Los Angeles: University of California Press, 1975).

specific topics concerning Messiaen, such as his piano and organ music.[24] Finally, much work has been done by Timothy Koozin comparing the work of Messiaen and Takemitsu. In one article, Koozin points out both philosophical and technical similarities between the two composers and their use of musical time.[25] In another, he studies the use of octatonicism in Takemitsu's piano works, though he does not focus on *RTS II.*[26]

My analysis of *RTS II* from Messiaen's perspective includes both rhythmic and formal concepts. While many scholars focus on the harmonic influences of Messiaen on Takemitsu, the rhythmic and formal aspects are just as noteworthy. Concepts from *The Technique of My Musical Language* such as notes with added value, augmented and diminished rhythms, and rhythmic preparations are all present in *RTS II.* Additionally, Messiaen's rhythmic preparations, accents, and descents have similar syntactical relationships to the syntactical predominant, dominant, and tonic mentioned earlier with Russell and the parent scales. In terms of form, the song-sentence and binary sentence can be found in *RTS II*. These all are addressed in Chapter 3.

Tōru Takemitsu's Philosophies and Performance

Tōru Takemitsu wrote extensively about his musical influences in both the East and West. Due to trauma caused by military conscription during World War II and a long period of illness after the war, he avoided traditional Japanese music for a long time,

[24] Peter Hill, ed., *The Messiaen Companion* (Portland, OR: Amadeus Press, 1995).

[25] Timothy Koozin, "Spiritual-Temporal Imagery in Music of Olivier Messiaen and Tōru Takemitsu," *Contemporary Music Review* 7, no. 2: 185–202, doi: 10.1080/07494469300640111.

[26] Timothy Koozin, "Octatonicism in Recent Solo Piano Works of Tōru Takemitsu," *Perspectives of New Music* 29, no. 1 (1991): 124–40, doi: 10.2307/833071.

instead finding interest in Western music.[27] Aside from Russell and Messiaen, his major Western influences include John Cage, Pierre Schaeffer, and Claude Debussy. He spent most of his career composing art and film music, and during the 1960s began to incorporate traditional Japanese music and instruments into his style. He gained popularity in the United States when Leonard Bernstein commissioned a work from him for orchestra, *biwa*, and *shakuhachi* in 1967. *Rain Tree Sketch II* was written in 1992, in memory of Olivier Messiaen.

Tōru Takemitsu has written essays on subjects ranging from art to theatre to music. Many of these essays are compiled into a book titled *Confronting Silence*.[28] In this book, Takemitsu makes many claims about the freedom of music:

> I wish to free sounds from the trite rules of music, rules that are in turn stifled by formulas and calculations. I want to give sounds the freedom to breathe. Rather than on the ideology of self-expression, music should be based on a profound relationship to nature—sometimes gentle, sometimes harsh. When sounds are possessed by ideas instead of having their own identity, music suffers.[29]

Takemitsu uses these essays to explain his desire to be as close to nature as possible and to be productive with his life. Arbitrary rules created by man only serve as stifling obstructions; instead, Takemitsu wishes to follow only the rules of nature, letting the music have its own identity.

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[27] Peter Burt, *The Music of Tōru Takemitsu.* (Cambridge: Cambridge University Press, 2001), 21.

[28] Tōru Takemitsu, *Confronting Silence*, trans. and ed. Yoshiko Kakudo and Glenn Glasow (Lanham, MD: Scarecrow Press, 1995).

[29] Takemitsu, *Confronting Silence,* 4.

Beyond these essays, Takemitsu's thoughts and philosophies have been documented in many other ways. In his article "Contemporary Music in Japan," Takemitsu writes about his own personal history in developing music.[30] Specifically, he covers his experiences with World War II and his journey as a composer, the influences from both the West and the East. Another article focuses in on the differences between traditional Japanese music and Western-European fine art music, and how Western music is "transportable."[31] An interview between Takemitsu, Tania Cronin, and Hilary Tann discusses the development of his well-known works such as *A Flock Descends into the Pentagonal Garden* and *November Steps*, as well as his Western influences and history of hearing Western music.[32] Additionally, scholarship by Ji Hye Lee, Akiko Tanaguchi, and Ikuko Inoguchi have done much work analyzing Takemitsu's music including *RTS II* which has proven useful as well.[33]

The influence of Takemitsu's philosophical ideas on music can be found in performances of *RTS II*. I have compared three recordings of the work by pianists Stephanie McCallum, Kotaro Fukuma, and Hélène Grimaud and considered their

[30] Tōru Takemitsu, "Contemporary Music in Japan," *Perspectives of New Music* 27, no. 2 (1989): 198–204, doi: 10.2307/833410.

[31] Takemitsu, *Confronting Silence*, 61–62. Takemitsu describes Western music as transportable because of concepts such as equal temperament and the pursuit of functionalism in instruments. These things make the music easier to disseminate and share with others, thus "transportable," as opposed to nuanced and specialized Eastern music which is "nontransportable."

[32] Takemitsu, Cronin, and Tann, "Afterword."

[33] Ji Hye Lee, "A Combination of Japanese Traditional Aesthetics and Western Music: Tōru Takemitsu's *Rain Tree Sketch* and *Rain Tree Sketch II*," (DMA diss., University of Kansas, 2018). Akiko Tanaguchi, "Performance Issues of Tōru Takemitsu's Solo Piano Works: *Litany* and *Rain Tree Sketch II*," (MM thesis, California State University, 2008). Ikuko Inoguchi, "Concepts of Time in the Works of John Cage, George Crumb, and Tōru Takemitsu and Implications for Performance," (PhD diss., University of London, 2016). Inoguchi was kind enough to send me the chapter of her dissertation regarding Takemitsu before its publication, for which I am grateful.

interpretations alongside the philosophical ideas about music outlined by Takemitsu.[34] This has been done through a comprehensive analysis of tempo and rubato, considering the use of silence and different interpretive marks in the performance. I have also learned the piece and reflected on my thoughts and influences on the piece from all three views—Takemitsu's, Russell, and Messiaen's—and how their perspectives intertwined both with each other and my own.

An informed and nuanced performance is served by the combination of multiple perspectives. When the performer chooses to approach a piece from only one angle, they neglect many possibilities from other viewpoints that could contribute to their interpretation. In this approach, which I have termed collaborative music theory, the performer and/or analyst approaches the piece from multiple perspectives. By comparing the different viewpoints, both performers and analysts can draw new and unique conclusions about the piece and how it should be played, creating new and interesting performances as a result. I believe collaborative music theory can be used for analysis in a wide variety of music. My hope is that musicians will use collaborative music theory to enrich their learning and to create fresh and beautiful performances and compositions, positively impacting the people around them and helping make the world a better place.

[34] Stephanie McCallum, *Illegal Harmonies*, recorded 1997, ABC Classics 456 00700, compact disc. Kotaro Fukuma, *Takemitsu: Piano Music*, recorded 2007 Naxos NX 0261, compact disc. Hélène Grimaud, *Water*, recorded 2016, Deutsche Grammophon DG 00028947954330, compact disc.

Chapter 2: *The Lydian Chromatic Concept*

Takemitsu's connection with George Russell and the *Lydian Chromatic Concept* is not as widely known as his connection with Messiaen. As mentioned in Chapter 1, Takemitsu stated in an interview that Russell's *Lydian Chromatic Concept* along with Messiaen's *Technique of My Musical Language* are "palpably the finest books dealing with music written this century."[35] According to Takemitsu, he met the bass player of the Kingston trio in 1961 who let him have one of the copies of Russell's book. Despite his limited ability to read and use English, Takemitsu spent a month with the book, "overwhelmed by its excellence."[36] Takemitsu has made clear the influence of the concept on him: "Russell's way of thinking about music, in particular [*the* concept], has had a strong influence on me… whenever or wherever I'm asked, I assert that my music has received influences from George Russell."[37] Therefore, it stands to reason that the influence of George Russell can be found in his music.

This influence is found in *Rain Tree Sketch II* through the harmonic choices Takemitsu makes and how those choices support of the overall formal structure. By using the *concept* to analyze the harmony of the piece, I show how the *concept* indicates consistent patterns that support the formal sections. Furthermore, I argue that viewing the

[35] Takashi Tachibana, "Takemitsu Tōru: ongaku sōzō e no tabi," *Bungakukai*, July 1994, 230. Referenced in Burt, "Takemitsu and the Lydian Chromatic Concept of George Russell."

[36] Tōru Takemitsu, *Toki no entei*. Tokyo: Shinchōsha, 1996, 158. Reference in Burt, "Takemitsu and the Lydian Chromatic Concept of George Russell." Peter Burt questions the authenticity of the timeline of these events because the bassist (most likely Bob Shane or Dave Guard) mentioned that Russell's book was looking for a publisher in 1961 while the first edition came out in 1959. However, it is likely that he was referring to a publishing house, as Russell self-published the first two editions of *The Lydian Chromatic Concept*.

[37] Takashi Tachibana, "Takemitsu Tōru: ongaku sōzō e no tabi," *Bungakukai*, July 1994, 231. Referenced in Burt, "Takemitsu and the Lydian Chromatic Concept of George Russell," 74.

piece's harmony from this perspective yields valuable insight for understanding the character of each phrase, especially the characters and moods the listener experiences with this piece. This leads to application for the analyst and performer while studying the piece, which will be discussed later in Chapter 4.

The Lydian Chromatic Concept

The most important tenet of the concept is that the Lydian scale should be used as the fundamental scale for many types of music, not the major or Ionian scale. Despite admitting the historical significance of and modern bias for the major scale, especially in Western music for hundreds of years, Russell advocates that this shift in perspective is necessary. Russell's reasoning for this comes from the concept of overtones, and his term tonal gravity. Because, according to Russell, the fifth is the strongest interval after the octave and the first new pitch class in the overtone series, it is the basic unit of tonal gravity.[38] A series of ascending perfect fifths produces the first seven notes of the Lydian Scale, creating a unified "tonal gravity field" based on the Lydian tonic (the lowest note) as the center of tonal gravity for the entire scale. Russell explains this concept with an audible example (refer to Figure 2-1 for chords):

> Sound both of the following chords separately. Try to detect the one which sounds a greater degree of unity and finality with its tonical C major triad. . . In tests performed over the years in various parts of the world, the majority of people

[38] Frustratingly, Russell never gives a clear definition of *tonal gravity*, instead explaining that "Tonal Gravity within a stack of intervals of fifths flows in a downward direction." Russell, *The Lydian Chromatic Concept,* 3.

have repeatedly chosen the second chord—the C Lydian Scale in its tertian order. The first chord is the C major scale in its tertian order.[39]

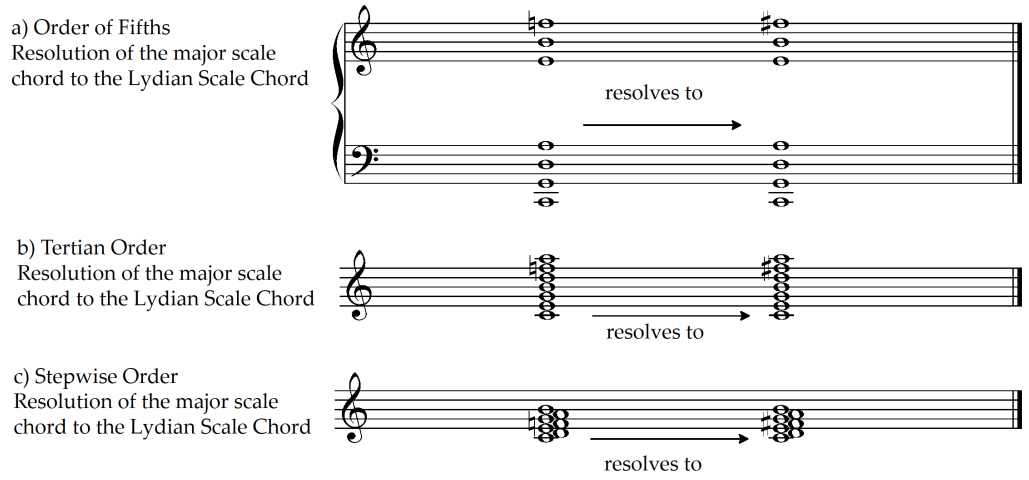

Figure 2-1. The "tonical authority" of the Lydian scale (Russell's Example I:6)

While Russell admits that the major scale has been used as a default historically, Russell claims that because the major scale has to alter the F♯ to F♮, the scale is in a state of tension, wanting to constantly fluctuate from tonic to dominant. The Lydian scale does not have this problem, as it is an unaltered stack of fifths, and therefore is resolved and at rest.

Russell's linking of tonal gravity to the Lydian scale is the fundamental principle of the concept. In a stack of fifths, the tonal gravity flows downwards. Therefore, a Lydian scale has the most tonal gravity, as it is a stack of perfect fifths, unlike other

[39] Russell, *The Lydian Chromatic Concept*, 1. Russell never cites any sources for the claim about the tests, which can be seen as harmful to the overall argument.

scales. The topmost fifth yields or resolves to the fifth below, which does the same for the fifth below, and so on, "conferring ultimate tonical authority on its lowermost tone."[40] This reasoning, however, is arbitrary. Why should a stack of fifths stop at six? Would a stack of twelve fifths not have more tonal gravity than six? Additionally, the logic is circular: tonal gravity is defined by and gives special meaning to a stack of perfect fifths, and D-Lydian is the scale that results from a stack of perfect fifths. Despite these issues, the concept is still useful for as an analytical tool and can help foster a new perspective on music.

The part of Russell's theory that survives and is still widely used today is chord-scale theory, or what Russell refers to as parent scales. This idea deals primarily with harmony, not melody. Chord-scale theory suggests that every chord implies a scale, even if the chord has only three or four notes, and the root of the parent scale, not the lowest note in the chord, is the modal tonic. Russell explains it this way:

> …every traditionally definable chord of Western music theory has its origin in a Parent Scale. In this vertical sense, the term refers to that scale which is ordained— by nature of tonal gravity—to be a chord's source of arising, and ultimate vertical completeness; the chord and its parent scale existing in a state of complete and indestructible chord/scale unity—a Chordmode.[41]

[40] Russell, *The Lydian Chromatic Concept,* 3.
[41] Russell, *The Lydian Chromatic Concept*, 10.

To use an example, an A-Lydian scale is the parent scale of an F♯$^{-7}$ chord (see Figure 2-2).[42] According to Russell, a minor-seventh chord is always the sixth mode of its parent scale. Since F♯ is the sixth scale degree in A Lydian, and the full extension of F♯$^{-7}$ and A-Lydian scales have identical pitches, A Lydian is the parent scale of F♯$^{-7}$. According to Russell, "The chord and its parent scale are an inseparable entity—the reciprocal sound

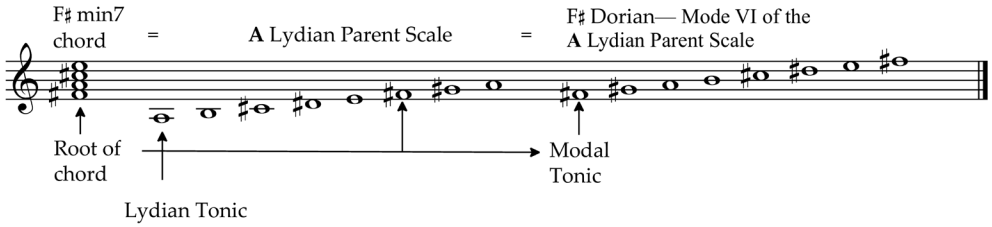

Figure 2-2. Relationship between chord, parent scale, and mode

of one another. The root of a chord is its 'Modal Tonic' within the parent scale. The actual sound of the chord is *that mode of the parent scale which begins on the chord's modal tonic*" (emphasis in original).[43] Composers have more than just the Lydian scale at their disposal. Russell provides seven principal scales from which harmony is derived. These scales will be described in greater detail later.

Table 2-1 is a list of all seven scales as well as Messiaen's modes, which will be discussed briefly in this chapter and more in Chapter 3.[44] Russell created a chart to help

[42] The shorthand for seventh chord notation will follow the typical jazz format. Major seven chords will be notated with Δ, dominant seven chords with 7, minor chords with -7, half diminished chords with ∅, and fully diminished with ○7, all in superscript.

[43] Russell, *The Lydian Chromatic Concept*, 20. Italics used by Russell.

[44] This thesis does not cover the modes of limited transposition in much detail. The purpose of this is to find a wide variety of perspectives. Future research could include comparing the concept with the modes, and seeing how the two interact.

Table 2-1. Russell's Lydian scales and Messian's modes of limited transposition

Scale	**Pitches**											
Lydian	C		D		E		F♯	G		A		B
Lydian Augmented	C		D		E		F♯		G♯	A		B
Lydian Diminished	C		D	E♭			F♯	G		A		B
Lydian Flat Seven	C		D		E		F♯	G		A	B♭	
Lydian Auxiliary Augmented	C		D		E		F♯		G♯		A♯	
Lydian Auxiliary Diminished	C		D	E♭		F	F♯		G♯	A		B
Lydian Auxiliary Diminished Blues	C	D♭		E♭	E		F♯	G		A	B♭	
Mode 1	C		D		E		F♯		G♯		A♯	
Mode 2	C		D	E♭		F	F♯		G♯	A		B
Mode 3	C		D	E♭	E		F♯	G	A♭		B♭	B
Mode 4	C	D♭	D			F	F♯	G	A♭			B
Mode 5	C	D♭				F	F♯	G				B
Mode 6	C		D		E	F	F♯		G♯		A♯	B
Mode 7	C	D♭	D	E♭	E		F♯	G	A♭	A		B

musicians find parent scales, but it is both confusing and difficult to navigate, largely due to the lack of notation and overabundance of terms and words on the page. I have recreated this chart using music notation (Figure 2-3). A chord is built off every

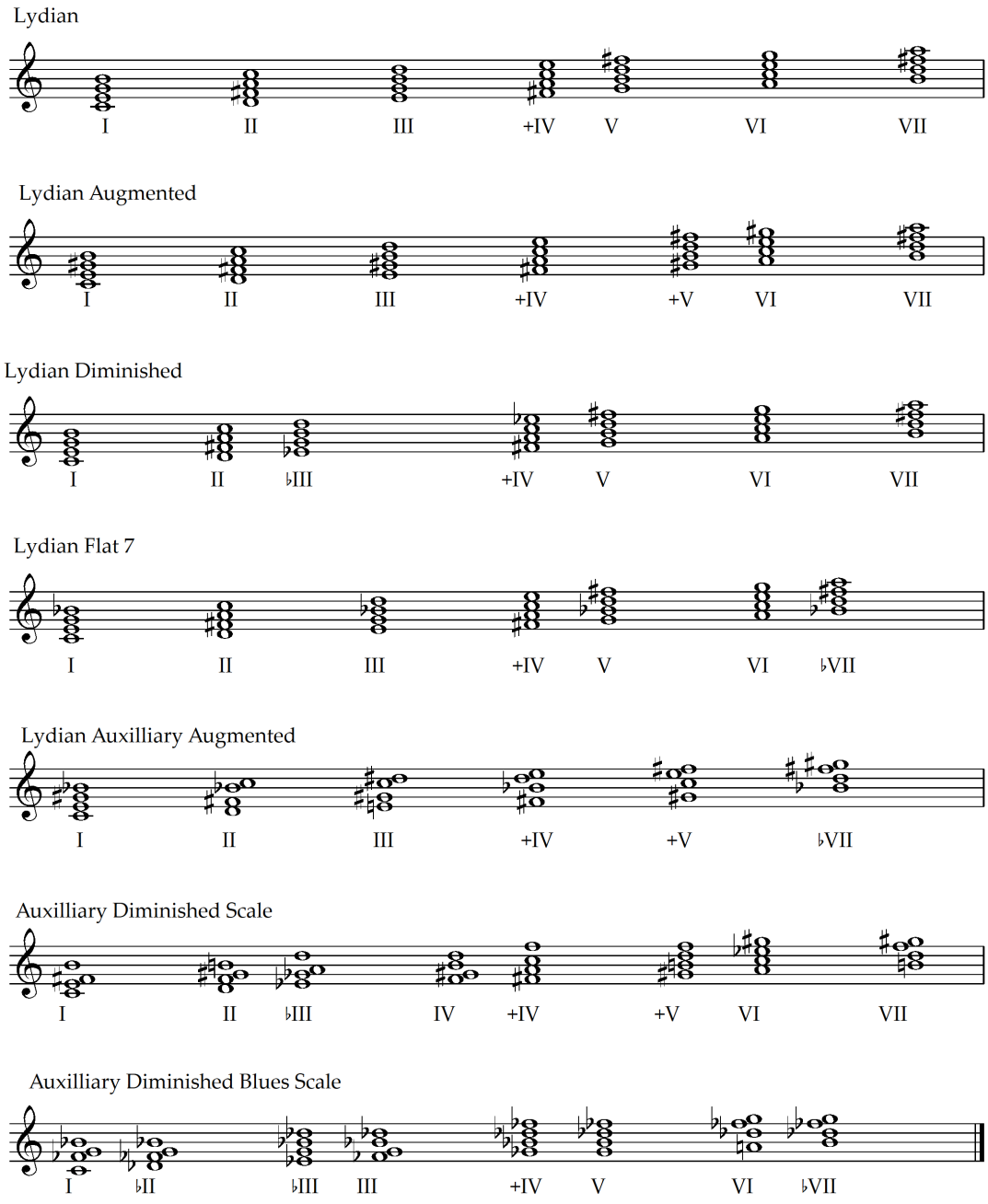

Figure 2-3. All principal scales with tetrachords built on scale steps.

note in each principal scale, including the symmetrical scales, using alternating scale degrees except for the Auxiliary Diminished (whole tone) scale. For *RTS II*, Takemitsu rarely uses chords definable by Western harmony. Additionally, the harmony

and melody are not always separable. Therefore, I will look at the pitch content of the music to determine parent scales.

While this idea of chords implying scales exists today, those who use it tend to exclude the concept itself because of Russell's focus on Lydian. For instance, jazz musicians have made an obvious simplification. Instead of using A-Lydian to improvise over F♯$^{-7}$, the improvisor would use F♯ Dorian, a simpler mental leap but achieving nearly identical results. Similarly, almost no scholarship takes the concept seriously. Not least among these reasons are the logical inconsistencies mentioned earlier, but also Russell's prose, which can be difficult to understand and has an almost religious fascination with Lydian (all formatting choices in the following quote are Russell's, including ellipses not in parentheses):

> The LYDIAN TONIC, as the musical "Star-Sun," is the seminal source of tonal gravity and organization of a Lydian Chromatic Scale. UNITY is the state in which the Lydian Scale exists in relation to its I major and VI minor tonic station chords, as well as those on its other scale degrees. Unity *is* . . . instantaneous completeness and oneness in the *Absolute Here and Now* . . . above linear time. The Lydian Scale is the musical *passive* force. Its unified tonal gravity field, ordained by the ladder of fifths, serves as a theoretical basis for tonal organization within the Lydian Chromatic Scale and, ultimately, for the entire Lydian Chromatic Concept. There is no "goal pressure" within the tonal gravity field of a

> Lydian Scale (. . .) The Lydian Scale implies an evolution to higher levels of tonal organization.[45]

One final concept used by Russell is ingoing and outgoing notes. Russell created a twelve-tone order, which corresponds mostly with a stack of perfect fifths. Figure 2-4 displays how Russell viewed each note in the order—the further out the note is, the more outgoing the chord is. He skips the seventh fifth, C♯, putting that note at the end of the order. This creates a major second and augmented fifth between the seventh and eighth tone and an augmented fifth between the eleventh and twelfth. While this moves against Russell's tonal gravity, which works exclusively in perfect fifths, Russell appears to have a musical reason for this. If the tonal order were exclusively perfect fifths, the 8-tone order would include the Auxiliary Diminished Blues scale, an especially dissonant scale, while excluding more consonant ones like Lydian Diminished and Lydian Augmented. Moving the eighth tone to the end creates a more musical arrangement of the order. Each order has a principal scale associated with it, but they are not necessarily linked—the Auxiliary Diminished Scale is in the *11-tone order*, but it is not the only scale that expresses the 11-tone order. Russell refers to the first nine tones as the "consonant nucleus" but does not give a specific definition for the term—it appears to be the dividing line between ingoing and outgoing tone orders. Furthermore, in *RTS II* I will be marking notes which are absent from or extra to the parent scale of a measure. Since the melody and harmony are heavily interconnected in this piece, outgoing notes refer to pitches within the harmony that conflict with the best-fitting parent scale. This is not to say that

[45] Russell, *The Lydian Chromatic Concept*, 20. Italics used by Russell.

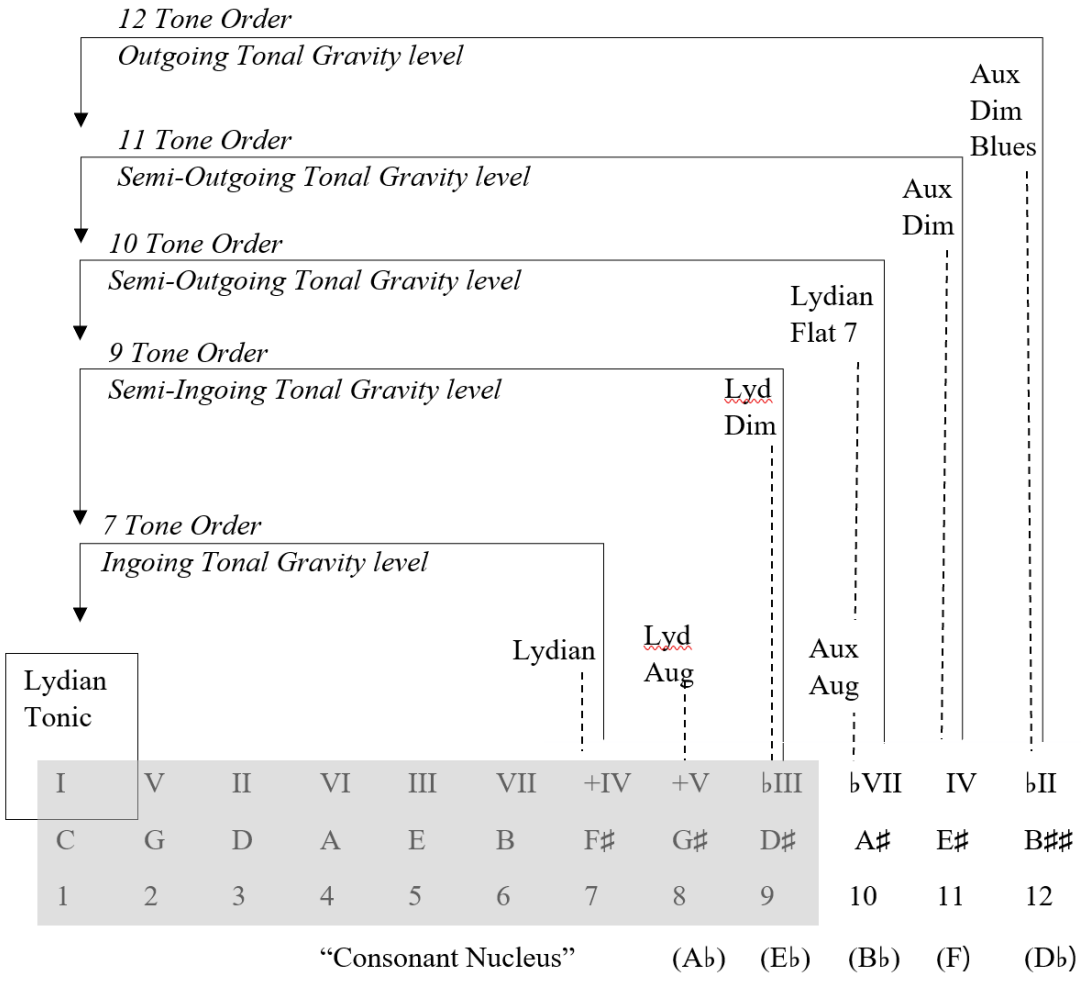

Figure 2-4. Lydian chromatic order of tonal gravity (Russell's example II:3)

the notes are "wrong;" rather, the scales do not necessarily have to fit perfectly to be considered a parent scale. As Takemitsu said, if sounds are possessed by ideas, the music suffers.[46] Instead, I aim to have Russell's ideas guide analysis of the piece rather than fit Takemitsu's piece perfectly into a Russell-shaped box.

[46] Takemitsu, *Confronting Silence,* 4.

Despite its inconsistencies, there is something to be gained from using Russell's perspective. For the improviser utilizing this theory, they are free to substitute a different principal scale to make new, colorful sounds, not unlike modal mixture, but in a way that is only possible through Russell's viewpoint. Likewise, in this analysis of *RTS II*, one might argue that everything here could have been accomplished without the concept. But, as I will show in this chapter, Russell's perspective yields new insight not available elsewhere, specifically when it comes to the formal structure, the idea of tonic in this piece, and the floating feeling present throughout the piece.

Analysis of Rain Tree Sketch II

While Russell used the *concept* to analyze classical works from composers such as Bach and Debussy, he did not use it for a modern work such as *RTS II*. However, this does not preclude the *concept* from having an influence on the piece. Specifically, Takemitsu's use of harmony supports the formal structure of this work. *RTS II* is cast in ternary form: A, mm. 1–34, B mm. 35–55, A', mm. 56–71, mm. 72–76, coda. The dividing line between sections is mostly substantiated by mm. 1–16 and mm. 56–71 being identical. This partial restatement of the first material signals a ternary form.

I have created a system for determining parent scales in the piece where more than one scale contains all the notes of a passage. If as the collection could be either a symmetrical scale or a non-symmetrical scale with the same amount of missing or outgoing notes, I defer to the non-symmetrical scale, as they have a much less ambiguous sound than maximally-even sonorities. There are no parts in *RTS II* where multiple non-symmetrical scales could be interpreted. For symmetrical scales, several factors including

melody, context, syntactical function (as will be explained shortly), and the lowest note are considered when choosing which pitch is the Lydian tonic. Figure 2-5 serves as a representative example of my methodology. Measure 4 is best described as using the E-Lydian Diminished scale, as it mirrors the first measure, which is G-Lydian Diminished but a major sixth higher. The plus sign indicates extra notes, in this case caused by an alteration of the melody from m. 2 in m. 5. Then in mm. 6–7, the scale B-Lydian Augmented fits this passage perfectly, with no missing or outgoing notes.

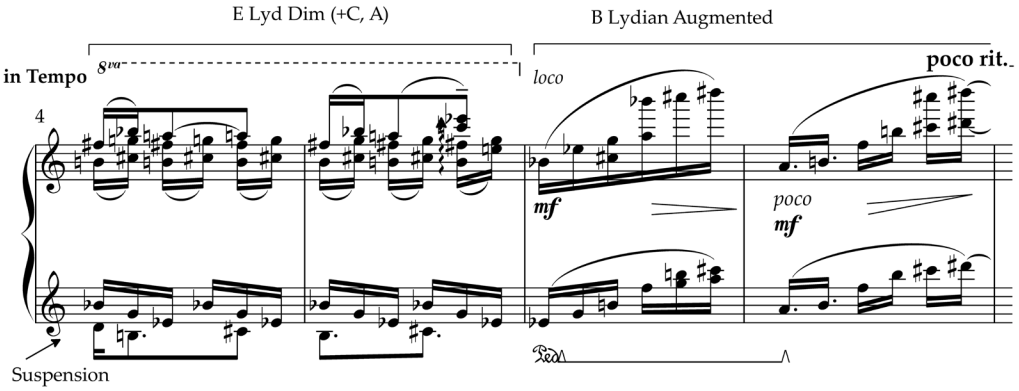

Figure 2-5. Parent scale analysis of *RTS II,* mm. 4–8

Table 2-2 is a summary of my analysis of *RTS II* using parent scales. The most notable aspect that comes from this analysis is that approximately sixty percent of the piece is spent on three scales: G-Lydian Diminished, C-Auxiliary Diminished, and D-Lydian Diminished.[47] The rows of the table are, in order, measure number, parent scale,

[47] Hereafter these parent scales will be referred to as their abbreviations, G-Lyd Dim, C-Aux Dim, and D-Lyd Dim, respectively.

missing notes (-), outgoing notes (+), and "function." As I will argue, I believe that certain parent scales have syntactical roles in *RTS II* reminiscent of tonal Western harmony, so I included the related function underneath.[48] All modes refer to Messiaen's modes of limited transposition.[49] Measure numbers in parentheses refer to measures in which no notes are sounded—rather, they are used as space for the previous notes to ring. The bold lines indicate larger phrase beginnings. Finally, I have provided a key for the abbreviations of the principal scales. Refer to Table 2-2 for the principal scales and modes of limited transposition.

There are some chords which I have referred to as pivot chords.[50] These are chords that contain a combination of pitch material from the subsequent and preceding passages but including them with either material would create outgoing notes. Figure 2-6 is the first example of this in *RTS II*. The first chord of m. 10 fits melodically with the preceding material, as it is the main motive of the piece, associated with syntactical tonic. However, the C in the left hand creates an outgoing note, and there would be no parent scale which fit better as a result of its presence than G-Lyd Dim without it. A similar situation occurs with the following material, regarding the F♯ in the left hand. For all the pivot chords in the piece, I have made thicker borders between the scales in Table 2-2.

[48] The syntactical role of parent scales is drawn from Drew Nobile's concept of tonic, predominant, and dominant function in pop and rock music. Nobile, "Harmonic Function in Rock Music: A Syntactical Approach."

[49] So as not to distract from the *Concept*, I avoid talking about Messiaen as much as possible in this chapter, saving it for Chapter 3.

[50] My gratitude goes to Neil Minturn for originating this idea.

Table 2-2. Parent scale analysis of *RTS II*

*C-Aux Dim begins partway through m. 22.

Legend

Lyd: Lydian Lyd	Aug: Lydian Augmented
Lyd Dim: Lydian Diminished	Lyd ♭7: Lydian Flat Seven
Aux Aug: Auxiliary Augmented	Aux Dim: Auxiliary Diminished

a) A section

M	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**(8)**	**9**	**10**	**(11)**	**12**	**13**	**(14)**	**15**	**(16)**	**17**
S	G-Lyd Dim			E-Lyd Dim		B-Lyd Aug			G-Lyd Dim	D-Lyd Dim		G-Lyd Dim	F#-Lyd Dim		D-Lyd Dim		
-									G, E	B		G, E	D♯		E, B		
+				C, A						C			D				
F	T			PD		D			T			PD			D		T

M	**18**	**19**	**20**	**(21)**	**22**	**23**	**24**	**25**	**(26)**	**27**	**28**	**(29)**	**30**	**31**	**32**	**33**	**(34)**
S			D-Lyd Dim		G-Lyd Dim*	C-Aux Dim	D-Lyd Dim	C-Aux Dim		G-Lyd Dim	C-Aux Dim					D-Lyd Dim	
-			E, B		G, E		E, B	E♭, F		E	E♭					E, B	
+					C	C♯											
F			D		T	PD	D	T			D		T			D	

b) B section

M	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**(52)**	**53**	**54**	**(55)**
S	G♯-Aux dim		F♯-Aux Dim		C-Aux Dim		G♯-Aux Dim		F♯-Aux Dim		C-Aux Dim			Cluster	C-Aux Dim		D-Lyd Dim		C-Aux Dim	D-Lyd Dim	
-	D		C				D		C						C, G♯		E, B		C, G♯	E, B	
+	G		F		C#		G		F						E						
F	T				D		T				D			T		PD			D		

c) A' section

M	**56**	**57**	**58**	**59**	**60**	**61**	**62**	**(63)**	**64**	**65**	**(66)**	**67**	**68**	**(69)**	**70**	**(71)**	**72**	**73**	**74**	**75**
S	G-Lyd Dim			E-LydDim		B-Lyd Aug			G-Lyd Dim	D-Lyd Dim		G-Lyd Dim	F♯-Lyd Dim		D-Lyd Dim		C-Aux Dim	D-Lyd Dim		
-									G, E	B		G, E	E, B♭		E, B		C, G♯	E, B		
+				C, A																
F	T			PD		D			T			PD			D		T	D		

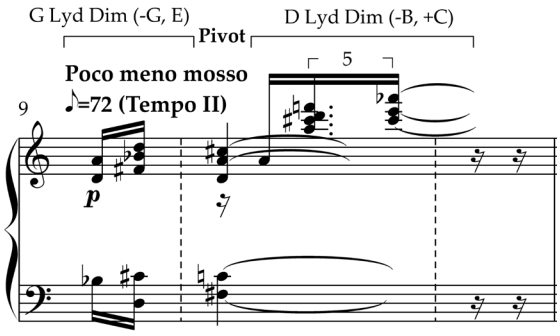

Figure 2-6. Pivot chord in *RTS II*, mm. 9–11

Of the seventy-five measures, forty-five of them contain either G-Lyd Dim, C-Aux Dim, or D-Lyd Dim, with nine of these measures used as space for ringing. These three scales consistently fill the syntactical roles expressed by Drew Nobile. Nobile describes a functional circuit of Tonic–Predominant–Dominant–Tonic for pop and rock music in which the functions are defined by syntax instead of category or progression.[51] Instead of chords determining the function, the function is independent of the chord, though some chords may appear in the same syntactical place often. In this case, G-Lyd Dim appears most in the role of tonic, C-Aux Dim the role of predominant, and D-Lyd Dim the role of dominant. While these chords do not necessarily have the qualities of those chords as would be expected in tonal Western harmony, they fulfill the syntactical role of the functions as outlined by Nobile, similarly to how chords fulfill syntactical functions in pop and rock music.[52] In *RTS II,* the functional circuit is primarily tonic–predominant–dominant (Hereafter T–PD–D respectively), omitting the return to tonic,

[51] Nobile, "Harmonic Function in Rock Music: A Syntactical Approach."

[52] While I recognize that Nobile's perspective functions on context regardless of the pitch collection, my intent is to show how certain pitch collections usually serve the same syntactic function throughout *RTS II.* They are not necessarily tied together, but happen to be in many cases.

and the circuit does not always follow this pattern cleanly, retrogressing from D to PD multiple times or omitting PD. However, viewing these chords with a function-as-syntax viewpoint will be useful. I will describe each of these three scales—G-Lyd Dim, C-Aux Dim, and D-Lyd Dim—and how they function within *RTS II* to substantiate my claims about them.

G-Lydian Diminished

This parent scale often appears as the syntactical tonic of *RTS II* and is a significant point of departure for melodic and harmonic ideas in this piece. It shows up at the beginning of both the A and A' sections. Figure 2-7 shows the first appearance of this scale in the piece, the first two measures. Interestingly, as laid out in Table 2-2-2, this, and its counterpart in A', are the only instances in which the full scale is present. In all other instances, G and oftentimes E are missing. Each appearance of this parent scale uses the same motive as the melody. In all but one instances of G-Lyd Dim, the melody follows the sequence A–D–C♯. The one exception is m. 22, which will be noted later.

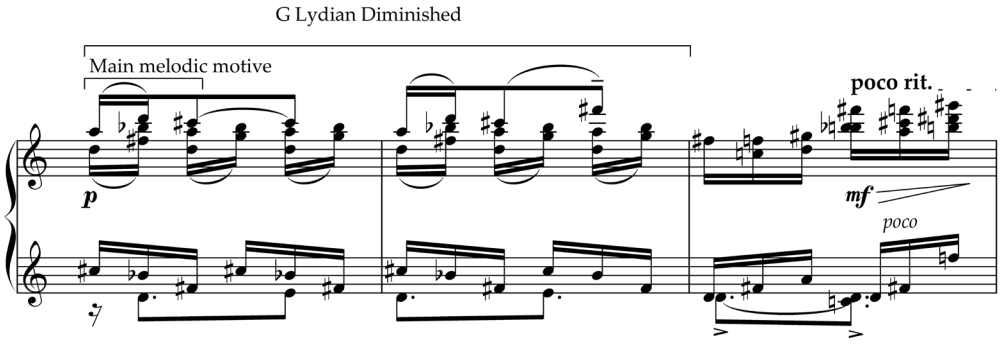

Figure 2-7. Parent scale analysis of *RTS II,* mm. 1–3

Several factors contribute towards this scale feeling like a "home" or place to depart from. Because of the consistency of the melodic motive over this parent scale, the listener is anchored in that sound, and Takemitsu juxtaposes the different ways he moves from this scale. For instance, in mm. 4–5, the melody is altered slightly while the parent scale is moved down a minor third from mm. 1–2, giving a slightly off-kilter feeling. Measures 9 and 12 change the harmony at the C♯, introducing floating phrases which fade away immediately. Measure 22 repeats the rhythm and alters the melody from C♯ to C, giving the phrase an unhinged characteristic, emphasized by accelerando and crescendo. This is a distinctive point in the piece and one of the only two points where Takemitsu marks a dynamic of *forte* or louder. G-Lyd Dim is always used at the start of phrases—Takemitsu almost never uses this parent scale in the middle or the end of a phrase. Finally, G-Lyd Dim never shows up in the B section. This emphasizes the delineation of sections, effectuating a shift in the harmonic space. The beginning of the B section is E-Lydian instead of G-Lyd Dim, a significantly brighter sound. The melodic motive is also entirely missing, instead replaced with a melody which is marked as "joyful." This makes the A' section even more distinct and familiar when it returns.

C-Auxiliary Diminished

C-Aux Dim is used in many ways, as its identity as a symmetrical scale allows increased flexibility in its use cases. Most often in *RTS II* C-Aux Dim used as a connecting tonality between ideas. In mm. 22–29, C-Aux Dim is used in tandem with G-Lyd Dim and D-Lyd Dim, giving a stable but fluid soundscape for the listener. This section also serves as a connector for the repetition of material—mm. 17–21 and 30–34 are identical to each other. Additionally, C-Aux Dim is used to connect the two

statements of the B section's opening motive, and again after the second statement to transition into the next idea (Figure 2-8 asterisk marks indicate other possibilities I did not choose). The scale is also used in m. 48 to create the most distinctly tonal chords in the whole piece, and then rings into a measure of symmetrical scales which serves as the second forte marking in the piece. It acts both as a climax to the B section and a beginning of the retransition to A'. C-Aux Dim also further supports the retransition in mm. 51–55, along with D-Lyd Dim. C-Aux Dim appears directly before D-Lyd Dim four out of its eight appearances, and indirectly an additional time.

While C-Aux Dim is used in both sections, the scale is more prominent in the B section, taking up eight of the twenty-one measures. In some cases, the whole scale is used. However, there is an even split of absent notes. Either C and G♯ are missing or E♭ and F are missing. The lowest note is almost always D, the one exception being in mm. 45–46. The reason, then, for not labelling the scale as D Aux Dim Blues is two-fold. First, for many of these instances, the D_1 on the keyboard is separate from the main motion of the passage, used similarly to a pedal point. If one were to discard those low D's, then the lowest note would be a more split mix between D_3, C_3 and $E♭_3$, but with more C's. I want to keep these scales together as they serve the same purpose in the piece and are the same pitch collection. Second, to further emphasize the point of syntactical function, it is beneficial to label this scale as C, since it fills the predominant role, with G-Lyd Dim as the tonic role and D-Lyd Dim as the dominant role. D Aux Dim Blues could end up being confusing to the overall argument. In my estimation, though another

consistent label would accomplish a similar effect, C-Aux Dim works best for denoting the role this pitch collection plays in this piece and describing the scale itself.[53]

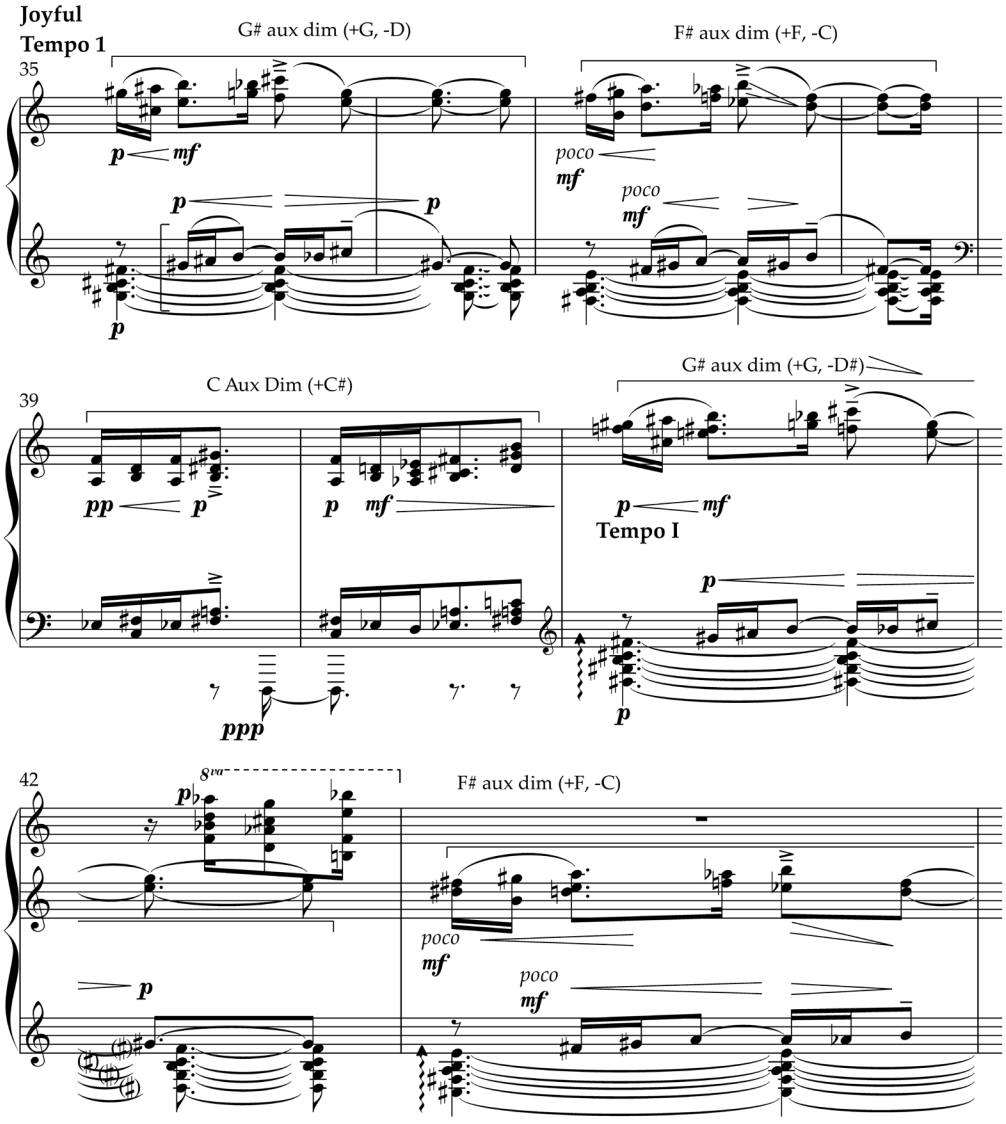

Figure 2-8. Parent scale analysis of *RTS II,* mm. 35-43

[53] A notable exclusion I have made is the parent scale I have marked F♯-Lyd Dim in mm. 37–38 and mm. 43–44. This parent scale contains the same pitch collection as C-Aux Dim, but I have marked them as separate. This is because of the clearly different function they serve when compared to the rest of this scale. In mm. 37–38 and mm. 43–44, these scales are used to repeat material in the measures directly prior and are not used as connecting material. Because of this I have separated them from the rest of the C-Aux Dim appearances.

D-Lydian Diminished

Usually functioning as a dominant, D-Lyd Dim is present in twenty measures of *RTS II*, by far the most of any scale. However, nine of these measures are used to let this scale ring, and do not have any sounded notes. Without those eight the number is more comparable with C-Aux Dim and G-Lyd Dim, which have fifteen and ten, respectively. D-Lyd Dim is also the most consistent of all the scales in its form. With one exception mirrored in A and A', Takemitsu uses a D-minor triad in second inversion in the left hand, and C♯–A–G♯ in an open voicing in the right hand. Figure 2-9 is the first example of this motive. While Takemitsu alters the octaves of each hand and the rhythms within the motive, the gesture is always the same.

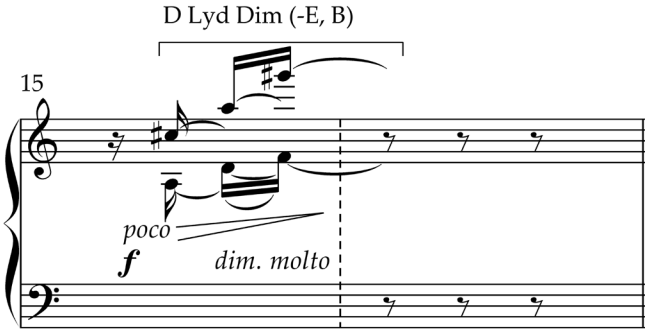

Figure 2-9. Parent scale analysis of *RTS II*, mm. 15–16

There are two main ways in which this motive is written. The first is as shown in Figure 2-9. The dynamic is poco forte or poco mezzo forte and quickly diminishes in dynamic level, leaving a space longer than the motive for the notes to ring out. The second is only a change in dynamics, remaining quiet the entire motive. D-Lyd Dim is always at the end of a phrase, and always has a period of silence directly following,

letting the listener settle and think upon the music just played before the piece moves on. The scale is never used at the beginning of a phrase. Also of note are measures 13 and 68, which feature a similar motive and fit in the D-Lyd Dim scale. I hesitate to include them because of the chord sounded prior, which does not fit in a D-Lyd Dim scale (C in the bass). The motive is also changed in the right hand, instead being G♯–F–A in the same general shape, and both also happen directly before another D-Lyd Dim motive, as well. Nevertheless, they do feature a similar motive and fit in the D-Lyd Dim scale.

Harmony and Form in RTS II

Takemitsu uses harmony to support the form of *RTS II* to great effect. This is done primarily through the three scales, analyzed through the concept as G-Lyd Dim, C-Aux Dim, and D-Lyd Dim. Each scale plays an important role in the piece emphasized by the syntactical function it fills. For this piece, G-Lyd Dim functions syntactically as tonic, C-Aux Dim as predominant, and D-Lyd Dim as dominant. Beyond their prominence through time spent on each parent scale, Takemitsu's use of each parent scale to delineate formal boundaries further emphasizes their roles.

Motives and sonorities with the parent scale G-Lyd Dim are almost always used as a starting point in the phrase. As mentioned before, the melodic line for each statement is the same. This brings a sense of home and return each time the scale is used. This scale is only present in the A and A' sections and is completely absent from the B section. The start of the B section has either an E Lydian or B Lydian scale, both of which are several sharps brighter than G-Lyd Dim. This along with the tempo change creates a noticeable contrast with what came before. Because of the prevalence of G-Lyd Dim in the A

section, its absence in the B section is felt—the effect is that of a key change. G-Lyd Dim's return in the A' section is especially effective in giving the listener a sense of familiarity after going for so long without this scale. Hearing this familiar scale brings a sense of relief, despite the relatively unstable chord and voicing.

Additionally, an interesting parallel exists between the beginning of the A and B sections. Both have repeated ideas separated by a connecting idea. Both are transposed down: the A section, a minor third, and the B section, a major second. Furthermore, both have a slight alteration between the two, A in the top melody and B in the underlying melody. This repetition of structure supports the listener hearing the form on top of all the other effects.

The idea of G as the Lydian tonic of the parent scale may come as a surprise to some. From the perspective of Western harmony, the tonic would almost certainly be D, and the first scale would be labelled as D-harmonic major instead of G-Lyd Dim, as the lowest note is always D. However, I propose that viewing G as the Lydian tonic can inform the feeling of the piece. Even though the beginning chord functions as the syntactical tonic, the scale used, the voicing, and the character Takemitsu implies is always uneasy and shifting, never feeling at rest. Having the Lydian tonic never be the lowest note in the chord plays into this idea—the listener is never truly rested in one chord, either floating away or moving in a new idea. This perspective is uniquely highlighted when viewing the harmony through the concept.

C-Aux Dim is perhaps the most versatile chord in this piece, being used in a variety of ways, but mainly to connect ideas and phrases. This is most true in the second half of the A section and the B section, where C-Aux Dim is used either to build off a

motive or to connect two similar ideas. For example, C-Aux Dim comes in between two statements of the new melody in the B section (see Figure 2-8). Perhaps its most distinctive use comes at the end of the B section and the coda, directly before D-Lyd Dim. This forms a predominant-dominant relationship, and at the end of the B section, this sets up the return to the melody of the A' section.

This retransition most clearly emphasizes the relationship between the three scales (Figure 2-10). These are the only two appearances of D-Lyd Dim in the B section. Its use foreshadows the return of G-Lyd Dim. Unlike most other appearances of D-Lyd Dim, which start loud and quickly fade away, these are soft throughout. The second time is softer, "as echo," both bidding farewell to the previous section and leading into the next. The return of the G-Lyd Dim, as mentioned before, brings a sense of relief. One could also make the case that the accented sixteenth note in mm. 50 and 53 could be pivot chords, as the listener hears the sound altogether instead of segmented.

The most notable diversion from these roles is mm. 25–29, where two C-Aux Dim motives in the style of D-Lyd Dim sections surround a statement of the G-Lyd Dim (Figure 2-11). There are a couple of ways of viewing this passage. First, there is a measure of ringing after the first C-Aux Dim, so it could be argued that mm. 25–26 are their own separate entity. The G-Lyd Dim comes after silence, so it starts a new phrase. Alternatively, one could also consider the passage which comes before. Measures 22–24 are unhinged and violent relative to the rest of *RTS II* and create a very distinctive moment. This passage mixes up the order of what normally would happen, perhaps in a confused state, before righting itself and moving on to the next section.

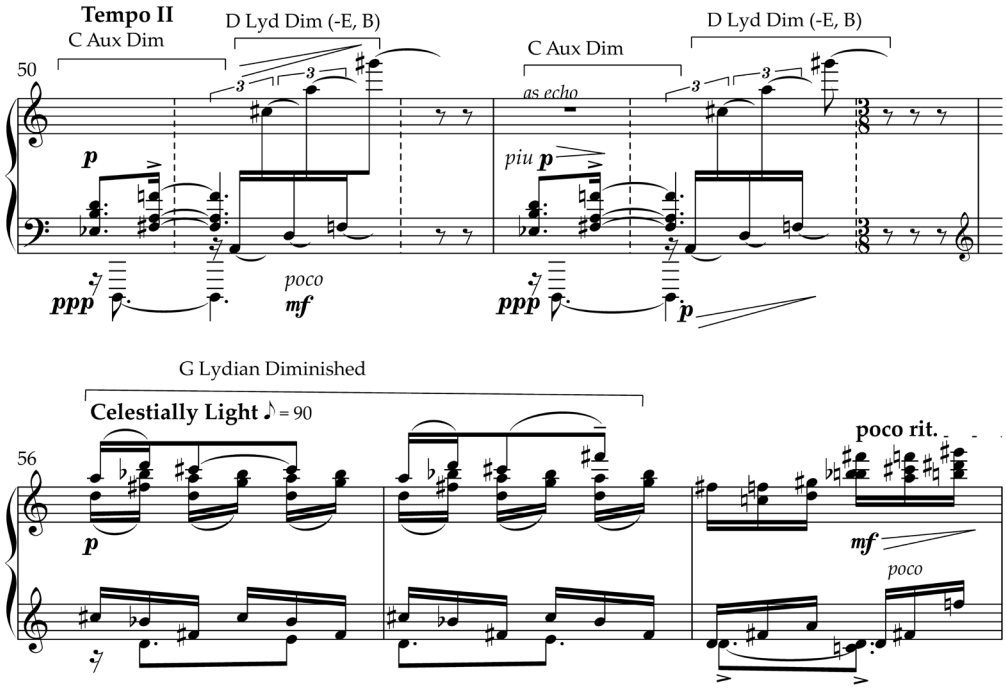

Figure 2-10. Parent scale analysis of *RTS II*, mm. 50–58

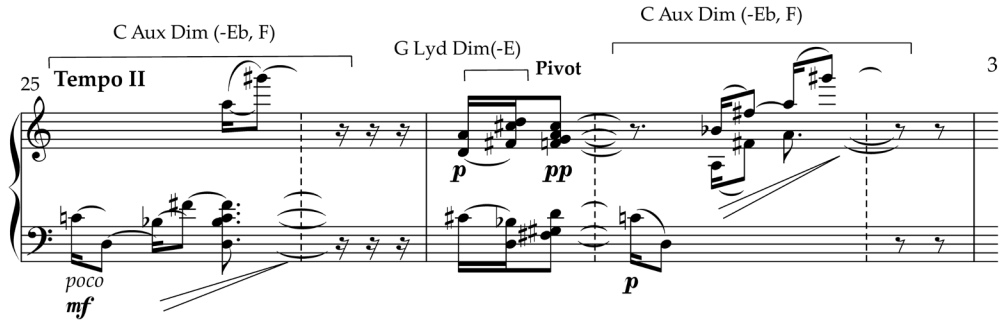

Figure 2-11. Parent scale analysis of *RTS II*, mm. 25–29

Conclusion

George Russell's *Lydian Chromatic Concept* was influential to Takemitsu, and its influence is clear in *Rain Tree Sketch II*. The harmony takes many ideas from Russell's modes and uses them to create haunting characters, support the formal structure, and

create patterns visible most clearly through the lens of the concept. The implications of this analysis for performance are impactful. Thinking of the tonic as G instead of D at the beginning can guide the performer toward a more haunting and uneasy character. Understanding the relationships between commonly used scales and their syntactical roles enables the performer to either emphasize or hide them, depending on the type of performance they would like to give. Many scales in the piece are based on Messiaen's modes, which will be covered in the next chapter, along with rhythmic, melodic, and formal ideas that influenced Takemitsu's writing. Combining these two perspectives with Takemitsu's own ideas about music will help the performer some sense of Takemitsu's vision for the piece and encourage an engaging and nuanced performance for the listener.

Chapter 3: Messiaen's *Technique of My Musical Language*

Messiaen is often cited as one of Takemitsu's most prominent influences by theorists, historians, and Takemitsu himself. As mentioned in Chapter 1, both Messiaen and Takemitsu were seeking to find deeper meaning in music. Messiaen always sought to illustrate the divine in his music, stemming directly from his Catholic faith, while Takemitsu sought to find the true essence of music, in order to make his music be at one with nature. This search extended to more concrete aspects of music as well. In a 1989 interview, Takemitsu stated that the impact of Messiaen's *Quartet for the End of Time* was so deep that he asked for permission to use the same instrumentation as the quartet for his own work.[54] This piece, which Takemitsu completed in 1977, would be called *Quatrain II*. In this piece and many others, the influence of Messiaen's harmonic and rhythmic techniques are evident.

Rain Tree Sketch II is no exception to this influence. While the melody does not typically follow Messiaen's prescriptions in *The Technique of My Musical Language*, (hereafter referred to as the *Technique*) and Takemitsu's harmony borrows heavily from other sources, the rhythmic and formal techniques used are pulled directly from Messiaen's book. The *Technique* reads similarly to a recipe book or a list of formulas, detailing Messiaen's techniques with rhythm, melody, harmony, and form, including a breakdown of his modes of limited transposition.[55] Messiaen offers numerous notated examples of each technique he includes "from my own works (past or future!)."[56]

[54] Koozin, "Spiritual-temporal Imagery in Music of Olivier Messiaen and Tōru Takemitsu," 185.
[55] Messiaen, *The Technique of My Musical Language*.
[56] Messiaen, *The Technique of My Musical Language*, 7.

Musical examples take up much of the book, encouraging the reader to adopt the techniques into their own writing. Topics covered include rhythm, melody, harmony, form, modes of limited transposition, and bimodality or polymodality.

This chapter will focus on the rhythmic and formal concepts outlined by Messiaen present in *RTS II*. The rhythmic concepts of rhythmic canon, added value, augmented and diminished rhythm, and rhythmic preparations and descents are discussed in this chapter. Takemitsu also uses the formal concepts of song-sentence and binary sentence, on both smaller and larger scales. Noting the presence of these ideas and how they are implemented is useful both for analysis and performance.

Added Value

Added values are alterations to a repeated rhythmic pattern by the lengthening of a note. This can be addition by a note, by a rest, or by a dot. Messiaen explains the syntax of an added value: "In practice one will rarely hear the simple rhythm before addition of the added value; the rhythmic pattern will almost always be immediately provided with the added value."[57] For example, in a pattern of three eighth notes, one could add an extra sixteenth note of length to any of the notes, a rest between two of the notes, or a dot to one of the notes. This would result in a longer overall rhythm, thus added value. This concept is entirely rhythmic; the pitches can be different between rhythmic patterns, and the pattern still be valid, according to his own examples.

The following are two examples of added value in *RTS II.* The first, in mm. 6–7, shows an addition by dot, Figure 3-1. In this example, Takemitsu uses the stream of

[57] Messiaen, *The Technique of My Musical Language*, 11.

sixteenth notes from m. 6 in m. 7, but the first two notes have the addition of the dot. This results in the feeling of ritardando before the written poco rit., a heaviness that draws the performer and the listener back.

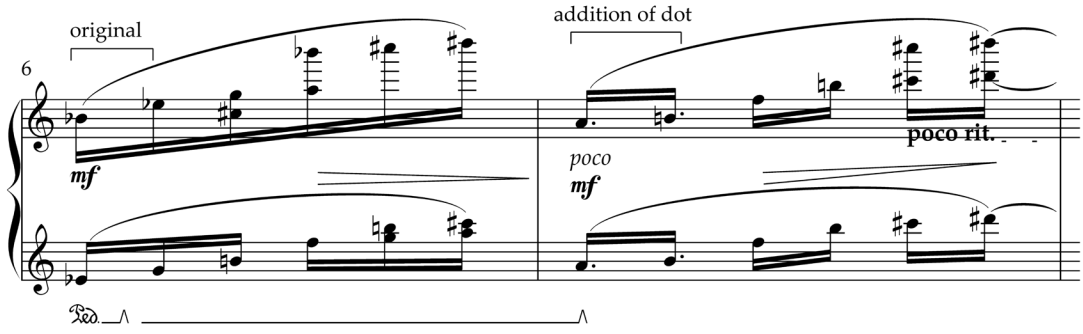

Figure 3-1. Added value by addition of dot, *RTS II*, mm.6–7.

The second example comes directly after the first, in mm. 9–14. Here there are two statements of the main motive (A–D–C♯), with floating gestures afterward (Figure 3-2). The chords at the beginning of mm. 10 and 13 are the rhythms in question, first a quarter note and then a half note. According to the *Technique* this doubling would be addition by note. This meshes with the marking "as echo" for the second statement of the melody and allows more time for the floating gesture to slow down. It again gives the feeling of pulling back, but instead of heaviness, this time the added value feels lighter and calmer. In both examples, the lack of meter in Takemitsu's music works with the addition of value to create phrases and gestures instead of having a regular pulse, as he does not have to worry about changing meter every measure. Instead, Takemitsu is able to manipulate these rhythms freely, creating these effects.

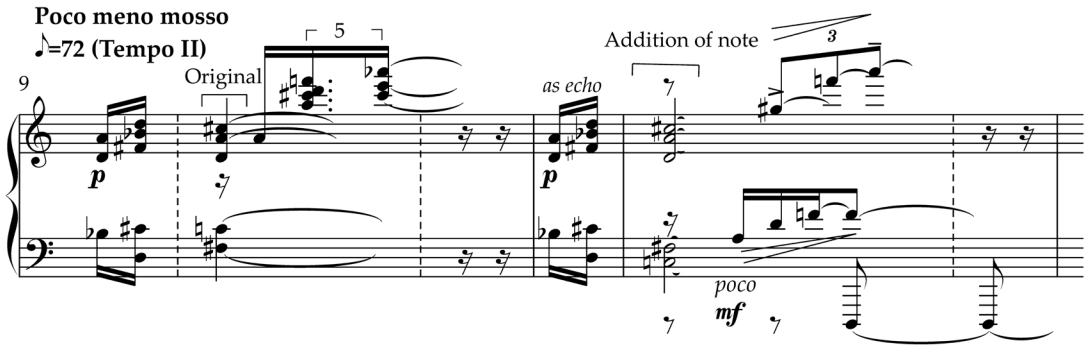

Figure 3-2. Added value by addition of note, *RTS II*, mm. 9–14

Augmented and Diminished Rhythms

While added value is for a single note, augmented and diminished rhythms apply to small phrases of rhythms. Messiaen writes, "J. S. Bach practiced the canon by augmentation or diminution; in it the values of the proposed theme are generally doubled or diminished by half. We ourselves shall have the statement of the rhythm followed by its immediate augmentation or diminution, and according to more or less complex forms."[58] A sixteenth note followed by an eighth note could therefore become an eighth note followed by a quarter note, a thirty-second note followed by a sixteenth note, or a dotted sixteenth note followed by a dotted eighth note. Messiaen offers a table in the *Technique* which demonstrates adding or withdrawing as little as a quarter of the original value or as much as four times; there is theoretically no limit to the possibilities. Messiaen also allows for the possibility of inexact augmentation, where the addition or

[58] Messiaen, *The Technique of My Musical Language*, 15.

withdrawal is not equally spread out among all the notes. The example he gives shows an eighth note and dotted eighth note become a quarter note and a half note.[59]

Figure 3-3 shows an example of a diminished rhythm in the A section of *RTS II*. Here, the eighth and dotted eighth note are diminished by a sixteenth note each, resulting in a sixteenth note and an eighth note. The values are then restored in m. 18. The effect here is one of unease and growing tension in m. 17, as these dissonant clusters are repeated more quickly. When they return to the original rhythm, the tension is released for the moment.

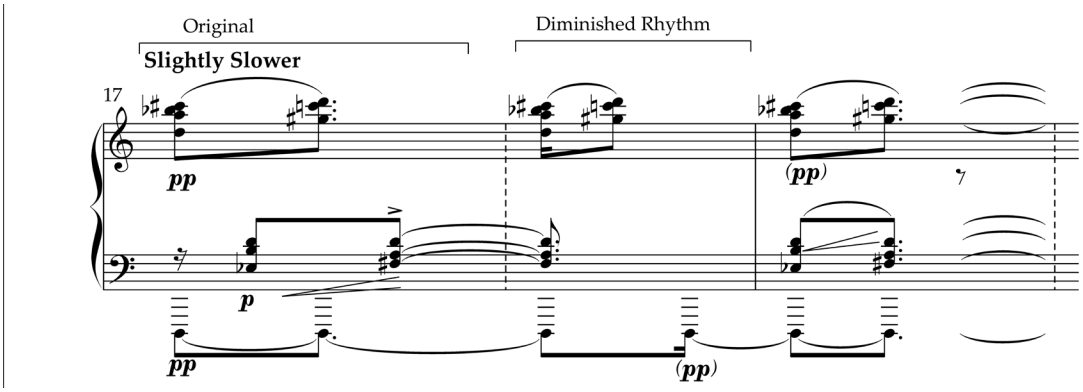

Figure 3-3. Diminished rhythm, *RTS II*, mm. 17–19.

The second example of augmented rhythm is not repeated directly after the first statement, but because of its frequency in the piece, it merits discussion. Figure 3-4a shows a sixteenth-note motive used frequently at the end of phrases in the piece. However, the statement in Figure 3-4b that occurs at the end of the B section, the rhythm

[59] Messiaen, *The Technique of My Musical Language*, 17.

of each hand is now an eighth note triplet instead of sixteenth note. This change in rhythm, combined with the difference in dynamic markings (m. 15 starts loud and quickly fades where m. 54 stays quiet throughout) gives the second excerpt a feeling of stretching out and fading, compared to the first which is sharper and more defined.

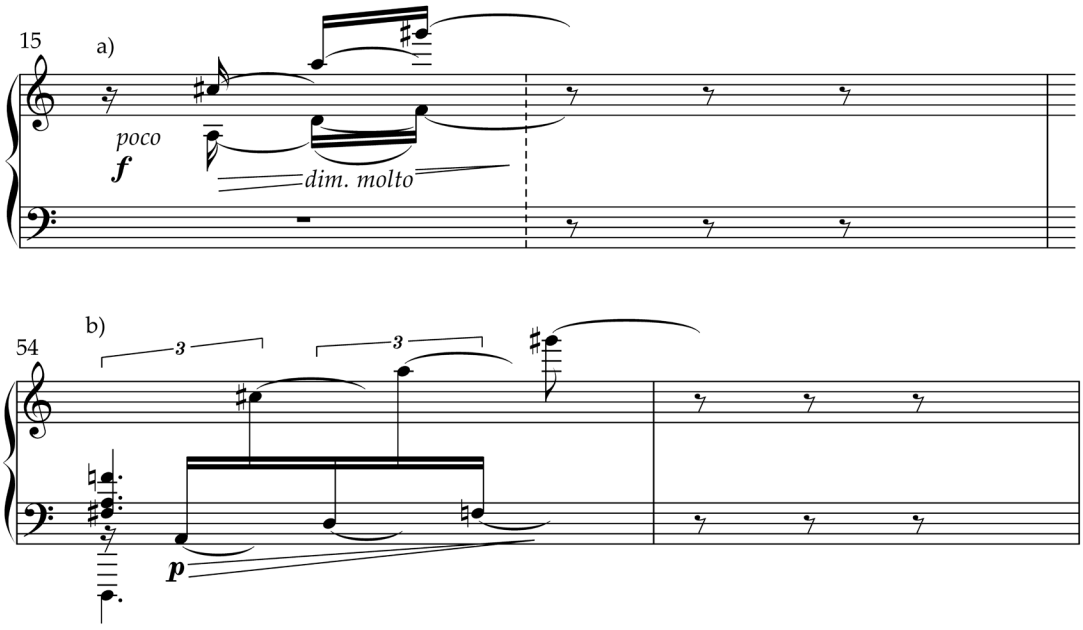

Figure 3-4. Original (mm. 15–16) and augmented rhythm (mm. 54–55)

Rhythmic Canon

A rhythmic canon follows the same idea as a traditional canon, which copies pitch and rhythmic durations, but is tied only to the rhythm.[60] One voice simply needs to follow the other in the same rhythmic pattern to satisfy Messiaen's requirements. While

[60] Messiaen, *The Technique of My Musical Language*, 23.

there is only one section in *RTS II* which uses the rhythmic canon, it is emphasized by repeating the same two-part idea twice and taking up the majority of the B section of the piece.

Figure 3-5 is the first statement of this two-part idea. The two voices of the rhythmic canon are bracketed in both the right and left hand. In this case, the left hand is sounded an eighth note after the right hand and is one octave lower. The pitches are almost identical, with the exception of mm. 36 and 38, where the one note sounded in these measures is a half-step lower in the left hand. The effect of this technique is that of an echo, something common in this piece. Takemitsu usually uses dynamics and repeated phrases to create an echo effect, but the phrases are usually disconnected. In this section, there are no marked rests between the phrases, creating a distinctly different sounding echo than in the surrounding sections.

Rhythmic Preparations and Descents

While the first three concepts are self-contained, rhythmic preparations and descents relate more to functions within a phrase than just a particular rhythm by itself. Rhythmic preparations and descents are a way of finding the peak of a phrase and dividing what comes before and after it: the preparation and descent. Messiaen also compares this to melody, where the order of a phrase is what he refers to as upbeat-accent-termination: "The rhythmic preparation precedes the accent, the rhythmic descent follows it . . . There is an evident analogy between melodic upbeats and terminations on the one hand, and rhythmic preparations and descents on the other."[61]

[61] Messiaen, *The Technique of My Musical Language*, 13.

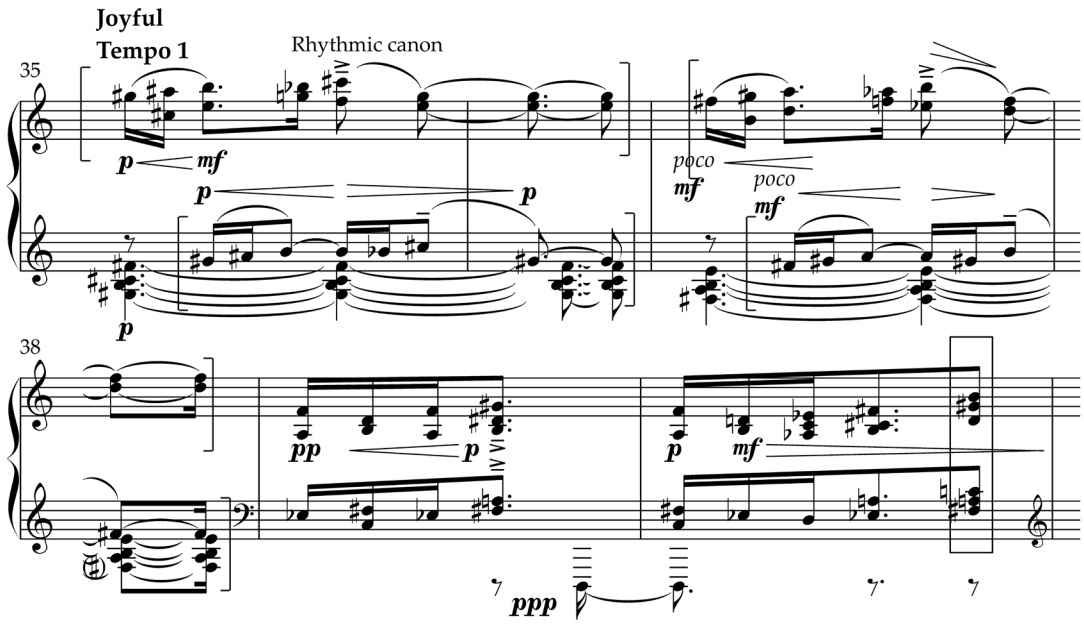

Figure 3-5. Rhythmic canon in *RTS II,* mm. 35–40

Generally, the melody ascends to the accent and descends from it, but this is not a rule. Messiaen provides examples of preparations and descents that do not respectively rise and fall in pitch space. The syntax of preparation–accent–descent can be compared to the syntactical functions discussed in Chapter 2, applying to phrases and rhythm rather than harmony, and on a smaller scale. The syntactical predominant, dominant, and tonic have places within larger phrases in which they appear, regardless of the harmony sounding at the time. Similarly, the preparation, accent, and descent refer to places within a phrase without necessarily referring to specific pitches to fulfill the conditions.

Two examples in *RTS II* constitute distinct and memorable moments within *RTS II*, thanks largely to phrasing. In mm. 35–36, the melody ascends to C♯6 with a marked accent, then descends and rests (see Figure 3-5). The preparation moves to the end of the measure, the two parts of the rhythmic canon creating a stream of sixteenth notes until the

left-hand C♯5. While the separation of the two lines on the staves obscures the regular rhythm, the listener instinctively hears the stream of sixteenth notes which slows and comes to a rest at the end of the phrase. This creates a well-defined and distinct statement. Figure 3-6 shows another example of this in the A section. Here, the preparation builds dramatically with again a regular rhythm of sixteenth and eighth note, up to the accent in m. 23, on G♯6, where there are three sixteenth notes in a row, and descends into m. 24. While the descent does not have descending notes, the poco rit. and diminuendo supplement the feeling of descending in the phrase.[62] The sixteenth notes also are missing after the accent, replaced with eighth notes, adding to the effect of the ritenuto. Both of these passages use phrasing to create interest. Measures 35–38 combine the distinct phrasing with a new tonal area and a rhythmic canon to create interest, and mm. 22–24 with an alteration of the main motive and exaggerated dynamics, making the phrase unhinged and tense.

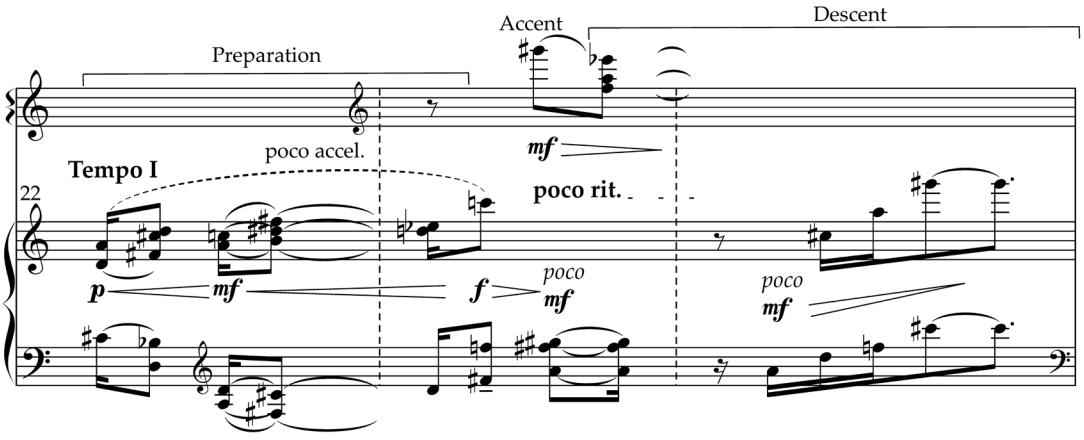

Figure 3-6. Rhythmic preparation, accent, and descent in *RTS II*, mm. 22–24.

[62] The envelope of the piano sound also lends itself to this kind of phrase. The higher notes of the piano naturally decay and assist the performer in an automatic diminuendo, as opposed to wind or string instruments.

Form

In *Technique*, Messiaen lists many different types of forms, passing briefly over well-known forms like fugue and sonata and focusing more on "characteristic" sentences (song-, binary, and ternary), plainchant, and different approaches to theme and variations. *RTS II* shows clear examples of both song-sentences and binary sentences. Throughout Messiaen uses terms such as "period," "commentary," and "antecedent and consequent." However, only commentary is given a definition: "a melodic development of the theme, one in which some fragments of the theme are repeated in the initial key upon different degrees, or in other keys, and are varied rhythmically, melodically, and harmonically."[63] However, the other terms are left undefined, assuming the reader already knows what they mean. For the purposes of this chapter, these terms will be applied to *RTS II* with broader strokes, aiming for the spirit of the concept instead of focusing on minutia.

Song-Sentence

The song-sentence is divided into three parts: a theme with an antecedent and consequent, a middle period inclined toward a dominant, and finally a restatement of the theme. Messiaen cites French composer Vincent d'Indy's *Cours de composition* for the construction of the song sentence.[64] Messiaen does not distinguish whether the final part needs both the antecedent and consequent for the form to be valid, the example he provides shows only part of the antecedent before showing "etc.," making it unclear

[63] Messiaen, *The Technique of My Musical Language*, 45.
[64] Messiaen, *The Technique of My Musical Language*, 44.

whether the consequent is needed. In both examples of song-sentence I will highlight in this section, the final iteration of the theme contains only the antecedent.

Figure 3-7 shows the second part of the A section, and its adherence to the song-sentence form. The antecedent and consequent form the first period in mm. 17–24, with the antecedent being 17–21 and consequent 22–24. Each phrase ends in the characteristic way for this piece, floating upwards with time given to let the notes ring. In all but the consequent phrase, this is marked by a measure with two eighth rests—the consequent phrase instead holds the notes out instead of giving rest. The middle period starts at m. 25, marked Tempo II. Its texture is sparser than the material surrounding it and contains multiple measures of rest. The antecedent of the first period then returns, ending the A section with a well-established motive, a feeling of familiarity and ease.

Both this section of the piece and the entirety of *RTS II* also follows the song-sentence form. Table 3-1 is an alteration of the parent scale analysis included in Table 2-2, with labels and bolded lines to note the sections of *RTS II*. In Chapter 2 I referred to mm. 1–34 as the A section, 35–55 as the B section, and 56–75 as the A' section. Following the song-sentence form, the A section is split into antecedent and consequent sections: mm. 1–16 and 18–34, respectively. The B section fulfills the middle period. While not specifically inclined toward a particular dominant, there is a sense of tonal shift in the B section which creates the same effect, particularly at the retransition period and its focus on syntactical dominant. Finally, as measures 56–71 are identical to 1–16, this constitutes the return of the antecedent, with the last four measures serving as the coda. The presence of this form in *RTS II* further highlights the influence of the composer to whom this piece was dedicated.

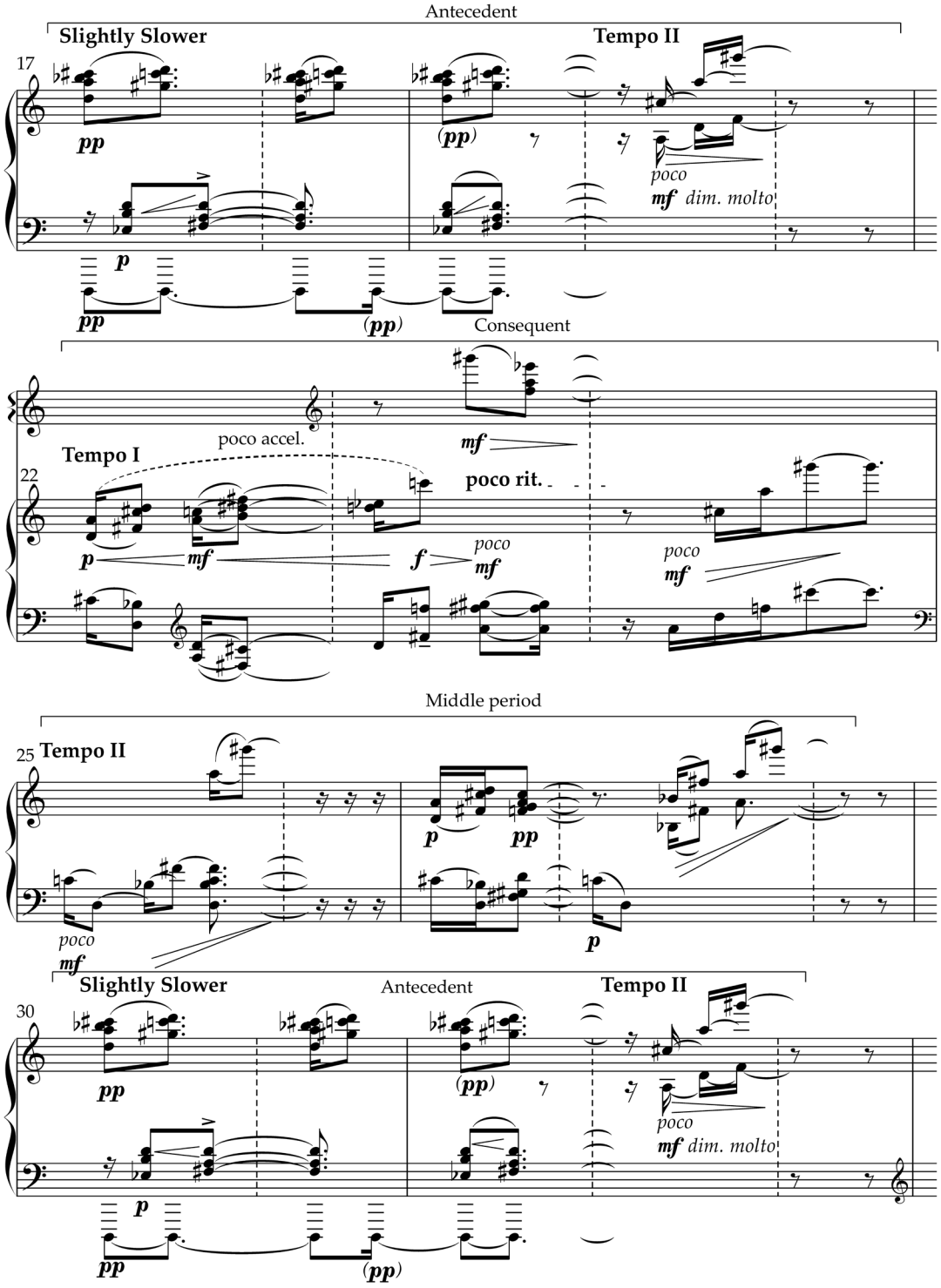

Figure 3-7. Song-sentence in RTS II, mm. 17–34

Table 3-1. Formal analysis of *RTS II*

Legend

Lyd: Lydian Lyd	Aug: Lydian Augmented
Lyd Dim: Lydian Diminished	Lyd ♭7: Lydian Flat Seven
Aux Aug: Auxiliary Augmented	Aux Dim: Auxiliary Diminished

a) Antecedent

b) Consequent

M	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**(8)**	**9**	**10**	**(11)**	**12**	**13**	**(14)**	**15**	**(16)**	**17**
S	G-Lyd Dim			E-Lyd Dim		B-Lyd Aug			G-Lyd Dim	D-Lyd Dim		G-Lyd Dim	F#-Lyd Dim		D-Lyd Dim		
F	T			PD		D			T			PD			D		T

M	**18**	**19**	**20**	**(21)**	**22**	**23**	**24**	**25**	**(26)**	**27**	**28**	**(29)**	**30**	**31**	**32**	**33**	**(34)**
S			D-Lyd Dim		G-Lyd Dim*	C-Aux Dim	D-Lyd Dim	C-Aux Dim		G-Lyd Dim	C-Aux Dim					D-Lyd Dim	
F			D		T	PD	D	T			D		T			D	

c) Middle Period

M	**35**	**36**	**37**		**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**(52)**	**53**	**54**	**(55)**
S	G♯-Aux dim			F♯-Aux Dim		C-Aux Dim		G♯-Aux Dim		D-Lydian		C-Aux Dim			Cluster	C-Aux Dim		D-Lyd Dim		C-Aux Dim	D-Lyd Dim	
F	T					D		T				D			T		PD			D		

d) A' section

M	**56**	**57**	**58**	**59**	**60**	**61**	**62**	**(63)**	**64**	**65**	**(66)**	**67**	**68**	**(69)**	**70**	**(71)**	**72**	**73**	**74**	**75**
S	G-Lyd Dim			E Lyd Dim		B-Lyd Aug			G-Lyd Dim	D-Lyd Dim		G-Lyd Dim	F♯-Lyd Dim		D-Lyd Dim		C-Aux Dim	D-Lyd Dim		
F	T			PD		D			T			PD			D		T	D		

*C-Aux Dim begins partway through m. 22.

Binary Sentence

The binary sentence follows a similar logic to a song-sentence, but with more parts. Messiaen describes four parts of the binary sentence. The theme, a first commentary, more or less inflected towards the dominant, the theme again, and a second commentary which concludes on the original tonic. Messiaen cites French organist Marcel Dupré's *Traité d'improvisation* regarding the binary sentence.[65] Unlike the song-sentence, there are no concerns about the inclusion of individual segments of the form. The most notable example of the binary sentence in *RTS II* comes in the B section (Figure 3-8). Measures 35–38 are the first statement of the theme, a two-measure idea repeated a whole step lower. Here, tonic and dominant remain a syntactical concept as discussed earlier, rather than a function related to harmony. Even still, the first commentary, mm. 39–40, does give a sense of change, mainly by the registral difference. This is followed by the second theme, mm. 41–44. This statement adds a glissando in the left-hand chords and a gesture between the two ideas.[66] Finally, the second commentary, mm. 45–47, leads directly into the retransition back to A'. The first two measures are similar to the first commentary in pitch content and register, but have less movement, contrasting with the subsequent material. The binary sentence gives a sense of cohesion to the B section, and further distinguishes it from the A section.

[65] Messiaen, *The Technique of My Musical Language*, 45.

[66] The gesture in the top staff of m. 42 is the only example in *RTS II* of a non-retrogradable rhythm, a concept heavily covered by Messiaen in which the rhythm is the same played backwards or forwards.

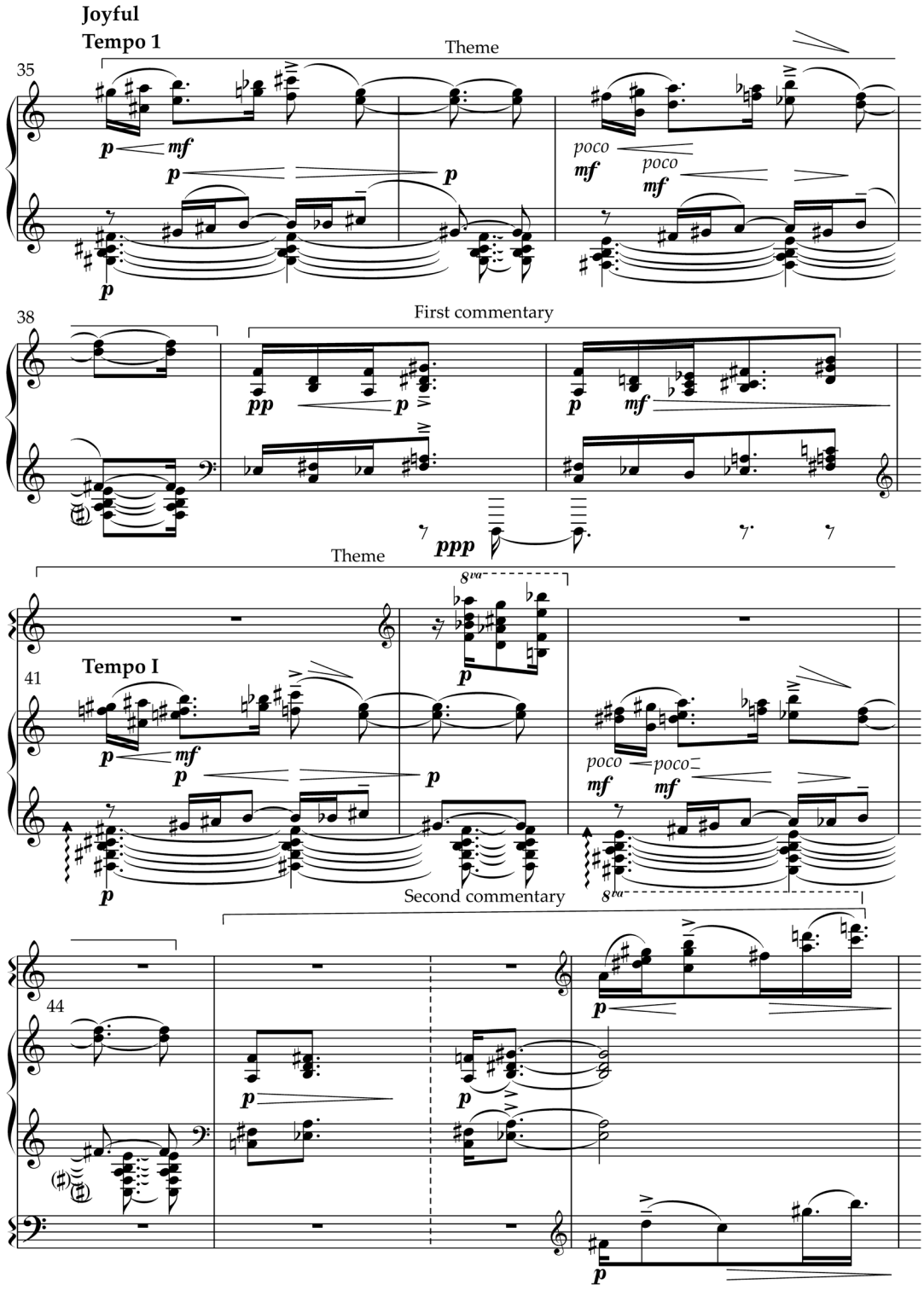

Figure 3-8. Binary sentence in *RTS II,* mm. 35–47

Conclusion

Messiaen's influence in the music of Takemitsu has been widely documented in many pieces. It makes sense, then, that his techniques are present in *RTS II*, a piece written in memoriam to Messiaen. Messiaen's impact can be most felt in the areas of rhythm and form—from the shapes of individual phrases to the structure of the entire piece. Knowledge of these concepts can be used by the performer to highlight certain aspects of the piece, or to obscure them as the performer sees fit. They could choose, for example, to emphasize the peak of a phrase when the harmony changes or create more tension on a syntactical dominant in which the rhythms have added value. Using these techniques in collaboration with Russell's *Lydian Chromatic Concept* can further inform the performer's perspective. Alongside the writings of Takemitsu himself, which will be discussed in Chapter 4, the collaboration of all three perspectives will foster a nuanced performance that encourages increased engagement of the listener.

Chapter 4: Philosophical Ideas of Takemitsu and Their Application in Performance

The philosophical ideas of Takemitsu have direct implications for performance. For example, Takemitsu claims that "Sound is continuous, unbroken movement. If we understand it that way, conventional notation, which divides sound into discrete measures, is fruitless."[67] The lack of time signatures in some pieces, including *Rain Tree Sketch II*, and indeterminate aspects of others, flows naturally from this idea. A performer might also consider the so-called fruitlessness of conventional notation in terms of note values as well: Are the tempos and note values that Takemitsu writes meant to be taken strictly, or can the performer exert their interpretation over the piece more broadly?

In this chapter I examine silence, tempo, and interpretation through Takemitsu's writings and compare them with three recordings of *RTS II* by pianists Stephanie McCallum, Kotaro Fukuma, and Hélène Grimaud.[68] In order to measure differences between these recordings, I have drawn from the methodologies of Daphne Leong and Jennifer Beavers.[69] In addition, learning the piece on my own and documenting the experience has informed my thoughts on the work. As I demonstrate, the impact of Messiaen's and Russell's ideas combined with Takemitsu's brings a new level of nuance and engagement for both the performer and the listener.

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[67] Takemitsu, *Confronting Silence,* 81.

[68] McCallum, *Illegal Harmonies*, recorded 1997: Fukuma, *Takemitsu: Piano Music*, recorded 2007: Hélène Grimaud, *Water*, recorded 2016.

[69] Daphne Leong, *Performing Knowledge: Twentieth-Century Music in Analysis and Performance* (New York: Oxford University Press, 2019), 111, and Jennifer Beavers, "Ravel's Sound: Timbre and Orchestration in His Late Works," *Music Theory Online* 27, no. 1 (2021).

Silence

One of Takemitsu's most written-about topics is the Western style of music notation. In many of his writings, Takemitsu expresses distaste for Western notation and its mathematical method of presenting music on a page: "Within our Western musical notation the silences (rests) tend to be placed with statistical considerations. But that method ignores the basic utterance of music. It really has nothing to do with music."[70] These statistical considerations refer to the fractional system with which rests and notes are classified. This system has been implanted in the name of functionalism, making the written music and instruments able to do varied things more easily, which expands the scope of Western music.[71] Takemitsu claims, however, compromises must be made because of the mathematical nature of rests and notes, and the power of sound is weakened if not lost entirely. This means that "Our task is to revive the basic power of sound."[72] For Takemitsu, the representation of Western music, particularly rests and silences, need to be reimagined by music creators to reunite sound with nature.

Takemitsu's alternative to a more mathematical system involves the concept of *ma.* A Japanese aesthetic term, *ma* translates to "nothingness" or "emptiness," and usually refers to the spatial or temporal space between two objects or events when the term is used without a prefix.[73] Takemitsu describes *ma* in this way: "In music, *ma* is the

[70] Takemitsu, *Confronting Silence*, 5.

[71] This has manifested itself in a few ways; the transition from just temperament to equal temperament to allow the easy use of all keys, as well as the evolution of wind instruments to be able to play chromatically and with wider dynamic range increase the function of the music using these temperaments and instruments. The development of a specific notational system similarly allows for more complex and intricate music to be accurately and easily created and reproduced.

[72] Takemitsu, *Confronting Silence*, 7.

[73] Lee, "Tōru Takemitsu's *Rain Tree Sketch* and *Rain Tree Sketch II*," 10. Ma is frequently used with prefixes; *omote-ma* and *ure-ma* mean first and second beat, respectively.

duration of a pause in which a performer is waiting for the next sound to come without losing his/her concentration."[74] Applied to music, Takemitsu experiments with different soundscapes to achieve different shades of silence.[75] *Ma* is entirely determined by the performer in its length and nature; when they feel like moving on to the next note, it is appropriate. The performer should also have both intense concentration and tranquility for *ma.* In traditional Japanese music, such as *nōgaku*, performers sense each other's breathing and make subtle adjustments using *ma.* As scholar Ikuko Inoguchi points out, the measurement of *ma* is linked more to experienced time, rather than a scientifically measured amount of time.[76]

This understanding of *ma* has direct influence on analyzing and performing *RTS II*. Many of the measures are completely devoid of notes, letting the previous measure ring out while the pedal is held. This encourages *ma*, letting the performers wait and listen to the resonating notes from before. Some measures have a *poco ritenuto* marked before, and some do not; the performer's interpretation varies on how long these *ma* are to be held. The performer's approach to *ma* in *RTS II* has a profound impact on the performance and perception by the audience of the piece.[77]

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[74] Arata Ishozaki, "B-Kyū Eiga no Koto wo Mōichido Hanashiaitai," ("I want to talk about B-rated films one more time") in *Takemitsu Tōru: Botsugo 10-nen, Narihibiku Image*, edited by Shigeo Wakamori (Tokyo: Kawade Shobo Shinsha, 2006), 22. Cited in Inoguchi, "Concepts of Time," 15.

[75] Peter Burt, *The Music of Tōru Takemitsu,* 237.

[76] Inoguchi, "Concepts of Time," 15.

[77] An important distinction between *ma* and what a Western performer or audience member might perceive in its place is that *ma* refers specifically to the space between two events or objects, while a performer or audience member educated in Western-European fine art performance practice would consider it as "holding the note longer." The focus for *ma* is on the space, and is not anticipatory of the following note, while a western performer might be preparing for the next note or section instead.

Nature and Sound

Takemitsu always strove toward a pure, untainted form of music, free from the limitations and corrupting influence of man. It is unclear what exactly Takemitsu means when he claims that "By the time of the Renaissance, art increasingly carried the taint of man," or what music he suggests would be untainted.[78] Perhaps Takemitsu was referring to music as a Cage-inspired aesthetic, where the sounds of nature itself is music. Though Takemitsu's ideas resonate on a philosophical level, the practical problems of writing and recreating music remain. Takemitsu speculates whether "the task of the composer should not be that of presenting the basic unaltered form of music. I would like to cut away the excess to be able to grasp the essential sound."[79] While Takemitsu seldom defines what an essential sound is, usually he refers to the sound having a closer relationship to nature. Frequently, he compares the essential sound to the "nothingness of wind in the bamboo grove."[80] He also calls a lifestyle out of balance with nature "frightening."[81] Music bound by mathematical rules and formulas, unable to move on its own, will never be free, and Takemitsu viewed it as his mission to remove these constraints:

> I wish to free sounds from the trite rules of music, rules that are in turn stifled by formulas and calculations. I want to give sounds the freedom to breathe. Rather than on the ideology of self-expression, music should be based on a profound relationship to nature—sometimes gentle, sometimes harsh. When sounds are possessed by ideas instead of having their own identity, music suffers. This would

[78] Takemitsu, *Confronting Silence*, 17.
[79] Takemitsu, 5.
[80] Takemitsu, 51.
[81] Takemitsu, 3.

be my basic rule but it is only an idea and naturally I must develop a practical method.[82]

While the development of a practical method may initially seem to detract from Takemitsu's argument of freeing music from rules and formulas, he takes a unique approach towards bringing music and nature together that lets music still be free.

One aspect of nature in Takemitsu's music is found in the title. *Rain Tree Sketch II* is one part of three pieces Takemitsu wrote about the rain tree, the other two being *Rain Tree* (1981) and *Rain Tree Sketch* (1982). A rain tree is known for its wide spread of branches and leaves that catch rain and slowly distribute it after the storm is over to keep the ground moist.[83] Takemitsu had a particular affinity for trees, and particularly the rain tree. "Its hundreds of thousands of tiny leaves. . .finger-like. . . store up moisture while other trees dry up at once. What an ingenious tree, isn't it?"[84] Takemitsu similarly enjoys the portrayal of rain in his music. The waterscape series consisting of *Garden Rain* (1974), *Rain Tree*, *Rain Tree Sketch*, and *Rain Dreaming* (1986) all use the same "SEA" motive (E-flat–E–A).[85] While *RTS II* is not a part of this series, and does not use the motive, imagery of nature is present just as it is in the other pieces. Ji Hye Lee describes many ways in which *Rain Tree Sketch* portrays nature, such as heavy chords signaling "the rainstorm is approaching" and an ascending pattern describing "many leaves falling

[82] Takemitsu, 4.

[83] Rain tree refers to many plants; while Takemitsu does not refer specifically to any species of raintree, the Golden rain tree is native to eastern Asia, though perhaps the most distinctive rain tree is Samanea Saman, native to Central America and northern South America.

[84] Kenzaburo Oe, *From the Story "Rain Tree": The World of Tōru Takemitsu* (Tokyo: Shueisha,1997), 59–61. Referenced in Tanaguchi, "Performance Issues of Tōru Takemitsu," 36.

[85] E-flat is pronounced "Es" is German nomenclature

out of the trees."[86] I believe the same is true of *RTS II*, with the constant sixteenth notes representing the patter of rain, and dense chords mimicking thunder.

Comparative Analysis of RTS II Performances

Both *ma* and nature are prevalent throughout the music of Takemitsu. As this chapter shows, this is portrayed not only through the score, but through the interpretation and choices of each performer. As Akiko Tanaguchi writes, "For Takemitsu, a sound was undoubtedly a living thing. . . Takemitsu's interest was in how his music sounded and how he approached musical material. However, he did not want to bring personality, originality, and individuality into his music. He wanted his music to be anonymous and for listeners to feel free to hear his music."[87] As a result, I find it necessary to take time not only to look at the score but to listen to performances and examine what effect they have on myself as a performer and a listener. The performances by Stephanie McCallum, Kotaro Fukuma, and Hélène Grimaud are all distinct from each other and provide opportunities to explore different approaches toward the music. Additionally, I have shared my own reflections and observations about my own journey learning, performing, and listening to this piece, and how knowledge of Russell's *Lydian Chromatic Concept* and Messiaen's *Technique of my Musical Language* affected how I interpret the piece.

Methodology

In order to relate Takemitsu's ideas to performance, I have taken a thorough approach to examining the fluctuation of tempo in each of the three performances. Daphne Leong

[86] Lee, "Tōru Takemitsu's Rain Tree Sketch and Rain Tree Sketch II," 13.
[87] Tanaguchi, "Performance Issues of Tōru Takemitsu,"10.

uses a line chart to portray timings of notes in Bartók's fifth string quartet, both on longer and shorter time frames.[88] Following Leong's methodology, the line charts below display performance tempos for the whole piece by eighth note, for sections, and for individual phrases alongside the written tempos (see Figure 4-1).[89] The x-axis represents measures, and the y-axis is the tempo in bpm per eighth note. The black lines in Figure 4-1 demarcate the sections, consistent with Table 3-1. For all points where there is not an articulation at the beginning or end of an eighth note, or for silences with multiple eighth notes, I have divided time and tempo equally across each unarticulated eighth note. While this is almost certainly not what the performers or Takemitsu had in mind, any other method of measuring the silences or non-eighth note rhythms without their direct input would also be arbitrary. I have also approximated the *poco ritenuto* in the score by decreasing the tempo by 10% each eighth note.[90] Measures with an odd number of sixteenth notes have an extra data point for the single sixteenth note, and an asterisk beside the number on the x-axis. Figure 4-1shows a ten-period moving average on the x-axis for the tempo on the y-axis, but the section and phrase charts provided later shows individual eighth note data points.[91] The line starts on the eleventh eighth note and is the average bpm of the ten previous eighth notes. I did this for ease of reading considering the scope of the chart, and to more reasonably account for fast and slow anomalies in tempo.

[88] Leong, *Performing Knowledge*, 111, 127.

[89] Daphne Leong, *Performing Knowledge*.

[90] For instance, at the beginning of the piece the tempo is 90 bpm. For the *poco ritenuto* in measure three, the tempo would decrease per eighth note, to 81, 73, 64, etc. until the *a tempo*.

[91] A moving average is calculated by taking the specified amount of data points and finding the mean value between them. In these charts, the first ten data points are added up and divided by ten to get the average. Then the first data point is removed, the eleventh data point added, and the mean value calculated. This process continues for the entire piece.

Tempos and Other Observations

Several interesting trends regarding tempo and the relationship of sound and silence emerge when looking at this data. I examine them from the largest level to the smallest. The overall time taken to perform the piece changes considerably from each performer, as do the timings for particular phrases. Each section has its own unique timings as well, particularly the silences, how each performer approaches *ma*. Beyond the tempos, some differences in pedal usage become apparent. First, the length of each recording varies significantly. McCallum's recording lasts 3:32, with fifteen seconds after the last note reserved for decaying resonance, Fukuma's comes in at 4:07, with twenty seconds after the last note, and Grimaud's takes 5:15 with only eight seconds after the last note. The fact that McCallum's tempos are almost fifty percent faster performance than Grimaud's is highlighted further by the fact that all three recordings consistently go slower than the written tempos. If one were to exactly follow the written tempos according to Figure 4-1 , the performance would last approximately 2:40. Furthermore, in the score, Takemitsu notes that the performance should take five minutes. Therefore, while McCallum was generally the most faithful to the written tempos, Grimaud's performance time most accurately lines up with Takemitsu's general duration marking. It is impossible to know which one Takemitsu would have preferred, as the premiere performance under his direction by Aki Takahashi is unavailable. However, given Takemitsu's aforementioned distaste for Western notation, I am inclined to conclude that Takemitsu's estimated performance duration is a more accurate reflection of Takemitsu's vision for the piece.

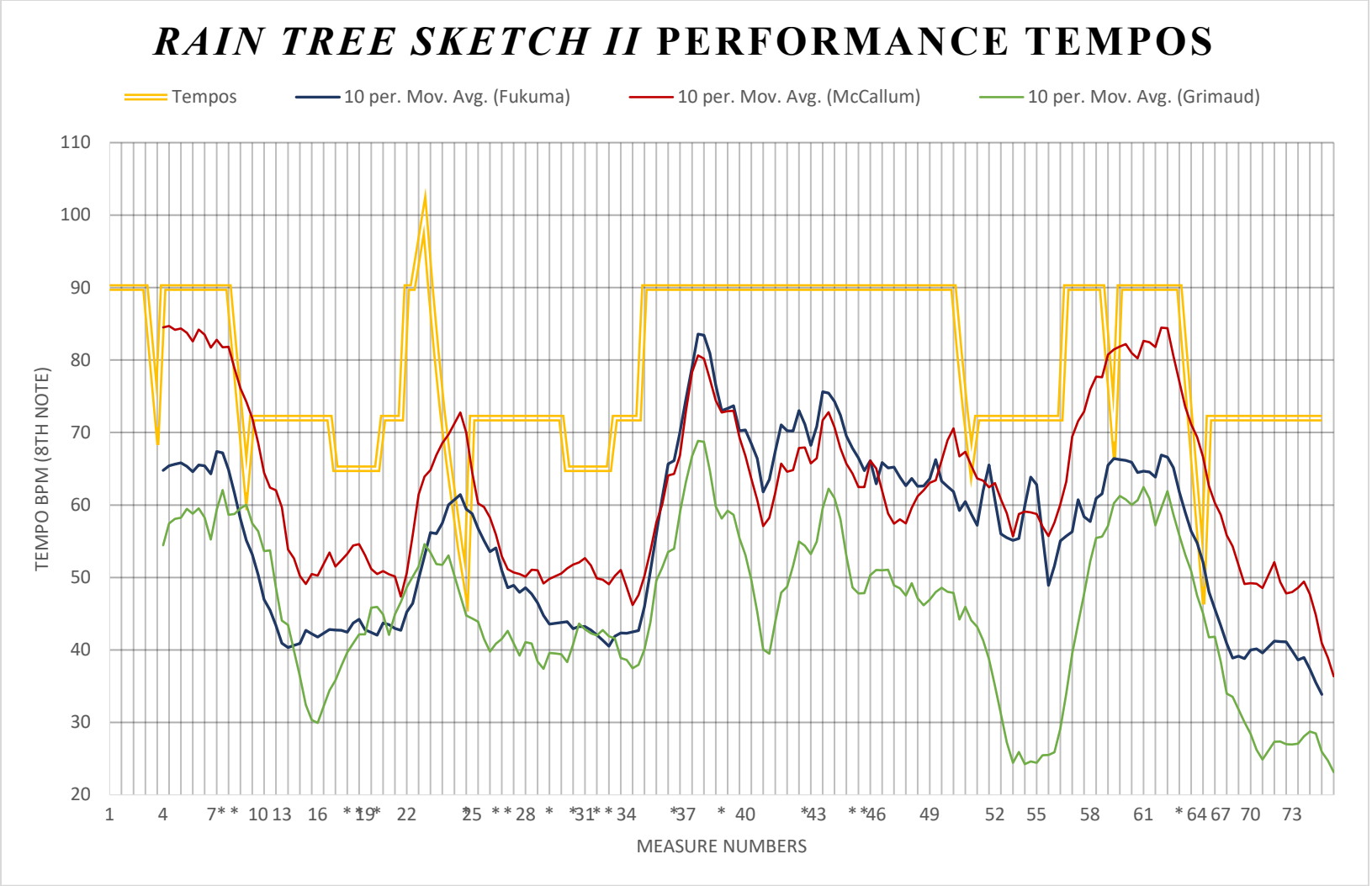

Figure 4-1. Moving averages of *RTS II* performances.

The differences between sections also highlight interesting relationships between the tempo choices of the performances. In the A section there is generally more agreement in the tempos between Fukuma and Grimaud, with McCallum's version being much faster, especially in the first eight measures (see Figure 4-2). McCallum begins with a relatively steady pace, while the first measure starts slow and eases into the tempo, subtly for Fukuma and distinctly for Grimaud. McCallum also increases the tempo most during the *poco accel* in mm. 21–22, while Grimaud holds steady or decelerates, and Fukuma accelerates only a little bit. The peak of the *accel* also comes a beat earlier for McCallum than Fukuma. Throughout this section, Fukuma's tempo has the smallest range, never dropping below thirty or reaching above eighty, while McCallum frequently reaches above ninety, and the last *ma* at the end of the section is slightly below thirty, and Grimaud's tempo falls below twenty many times while reaching the same faster tempos as Fukuma.

Beyond this, there is difference between the performers in use of pedal, particularly in the transition from mm. 3–4. The variance is subtle but noticeable. McCallum lifts the pedal between the measures, suddenly drying out the soundscape of the measure that came before and pushing forward into new territory. It works together with the tempos previously discussed to create a relatively high level of energy in this part. Fukuma and Grimaud both hold the pedal through to the next measure, but the sound is still different. It is unclear whether this is because of a difference in pedaling, the hall in which the piece was recorded, or any reverberation added in post-production. Whatever the case, Fukuma's notes decay far more rapidly, where Grimaud's notes remain present longer, connecting the two phrases.

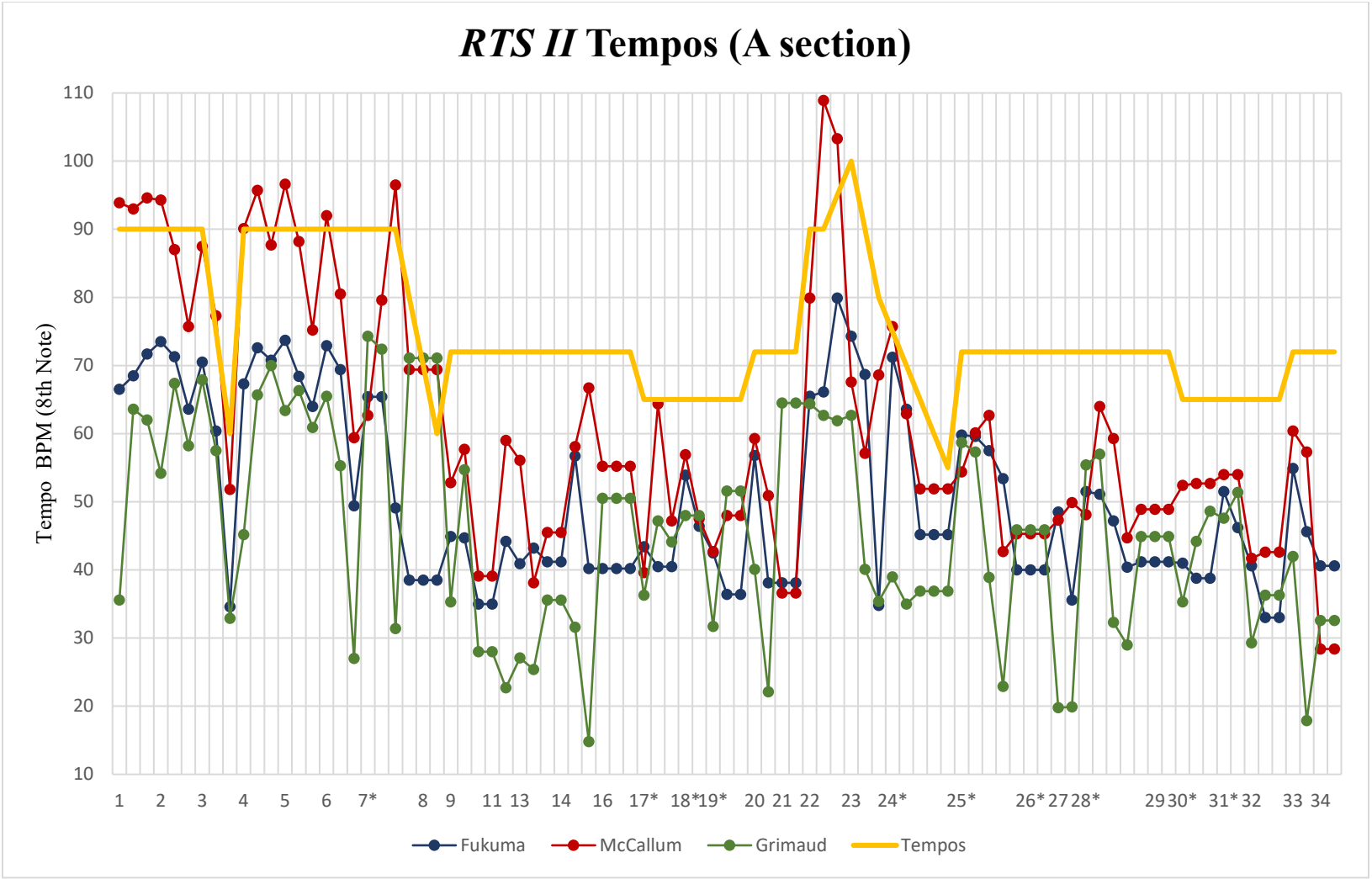

Figure 4-2. Performance tempos for *RTS II*, A section.

All three of these recordings take ample time at the end of phrases despite the absence of any change in tempo indicated on the score, perhaps as a way of implementing *ma*. Overall, Takemitsu's expression markings are sparse—only two small sections with pedal mark and one half-pedal mark are given, the rest is "pedal ad-lib"—so these expressive freedoms are reasonable. For example, at the end of measures three, six and seven, all three performers take substantial ritenuto, though only one is marked at measure three (see Figure 2-7). The effect is natural; none of the performances feel dragged down by excessive slowing down and restarting. Instead, the performance has a more organic flow, accomplishing what Takemitsu set out for to give sounds freedom to breathe.

The interpretation of the marking *as echo* similarly differs between the three recordings. Used once in each section, it is used in the second half of a call-and-response phrase. The call is the same, but the response differs between the first and echoed phrase. While *as echo* is marked in m. 12, the phrase it echoes starts in m. 9. Here, the different interpretations of the marking are clear. McCallum distinctly echoes m. 12, the measure marked *as echo*, but the new material in mm. 13–14 is louder than mm. 10–11, a somewhat surprising effect. Fukuma only echoes the third note—the first two sound nearly identical. Upon listening, it seems accurate to say that the first time, the third note is accented, where it is not in the response. Grimaud takes the most liberal approach to the echo, not only diminishing the dynamic, but also slowing the tempo dramatically. This stretched feeling of time combined with the quieter sound creates the closest feeling of an echo.

Another notable difference in pedal usage appears when comparing approaches to m. 25 that comprises a melodic passage without harmonization while the pedal is held. This passage is in the middle period of a song sentence (refer to Figure 3-7). Fukuma and McCallum have similar clarity with these single notes, and are very similar in dynamics, though McCallum has more resonance in the tenor and bass range of the piano. Grimaud's, on the other hand, is covered much more by the resonance of the hall and piano, so the lines are more obscured, particularly the last two notes. The effect on the recording is that Fukuma and McCallum's performances have a deeper and more present sound, with Fukuma's sounding balanced and graceful McCallum having a weightiness to the phrase. Grimaud's sound is more obscure, dying in the wind, hiding in the resonance of what came before. The clarity of unison lines compared with the dense chords which defied a parent scale analysis in Chapter 2 creates an effective contrast which is clearest in Fukuma's and McCallum's recordings compared to Grimaud's.

In the B section, there is generally more agreement between Fukuma and McCallum, with Grimaud taking this part much slower (see Figure 4-3). Unlike in the previous sections, Fukuma has multiple moments where his tempo is significantly faster than both the surrounding material and the other performances: m. 46 as well as the sixteenth-note triplets in mm. 51 and 54. While the former blends in with the surrounding material surprisingly well, the sixteenth-note triplets are jarringly fast, and stand out amidst the rest of the performance. While there is consistency between mm. 51 and 54, the quickness distracts from the end of the middle period of the piece, but emphasizes the syntactical predominant-dominant pattern found here (refer to Table 3-1 and Table 2-2 respectively). I am unsure what Fukuma's approach here was; it almost feels as if the

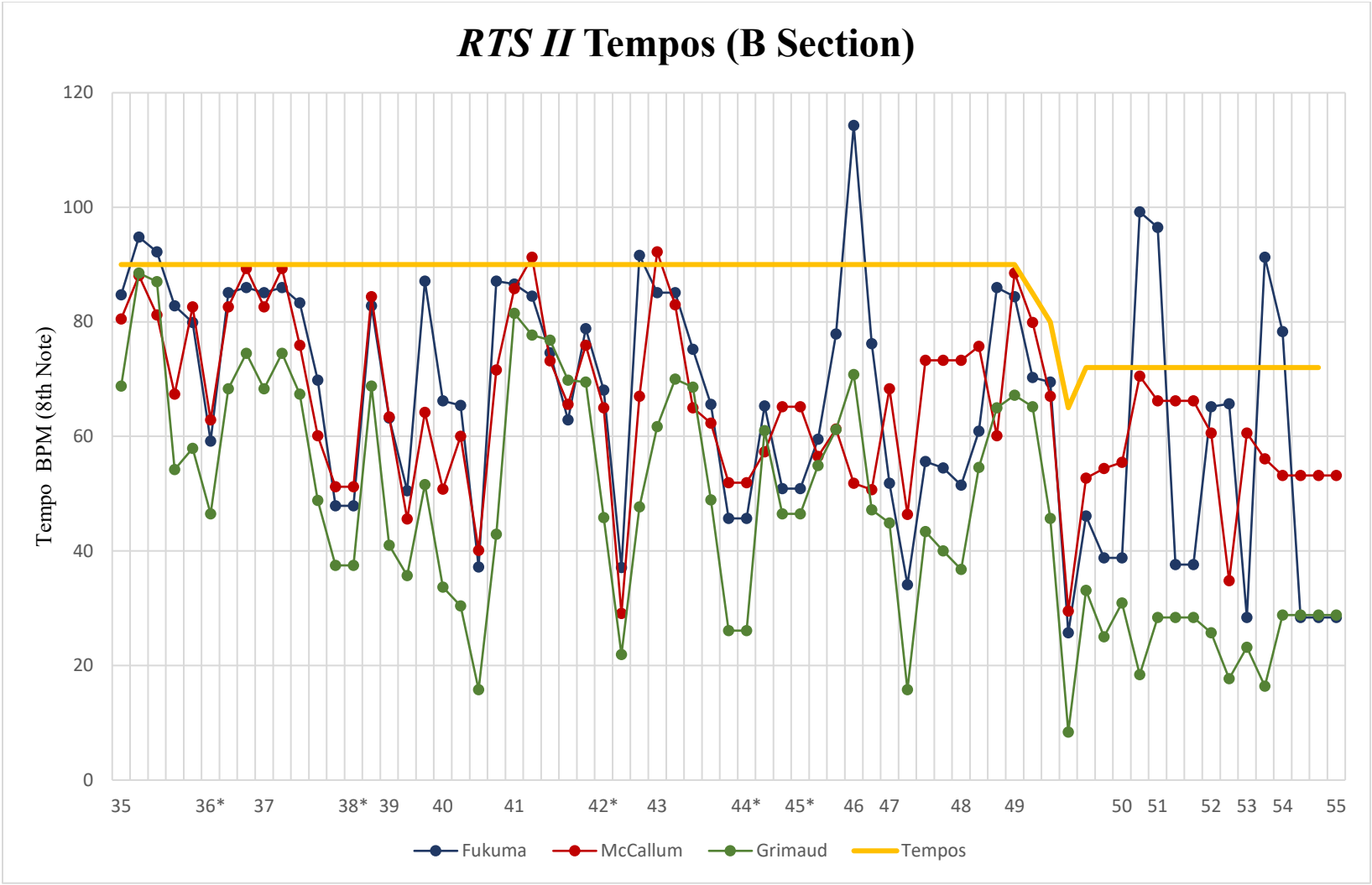

Figure 4-3. Performance tempos for *RTS II*, B section.

notation was different. The *poco ritenuto* in m. 49 brings the most drastic deceleration relative to the written rhythm in the whole piece. All three performances slow down to tempos below twenty-five, with Grimaud dropping to about eight and a half beats per minute.

Finally, the A' section sees general agreement over the shape of the tempos, but the three are more clearly segmented, McCallum being fastest, Grimaud slowest, and Fukuma in between (Figure 4-4). This section shows a more gradual descent into slower tempos compared to the same part of the A section, where a significant drop-off occurs around mm. 9–10 compared with mm. 64–65 in the A' section. However, as already mentioned, each pianist consistently performs below the written tempos, even when considering the ritenuto. There are some moments where a performer plays a passage quickly compared to the notes around it (like Fukuma in mm. 51 and 54), but generally the tempos are slow. I imagine this comes from both listening to previous recordings and the feeling that the written tempos are much too fast, along with other considerations unique to each performance. The overall effect of these different tempos is that McCallum's piece, particularly in the first few measures, has more energy, while Grimaud's is floaty and dreamy, and Fukuma's is in the middle, a decidedly measured approach compared to the other two.

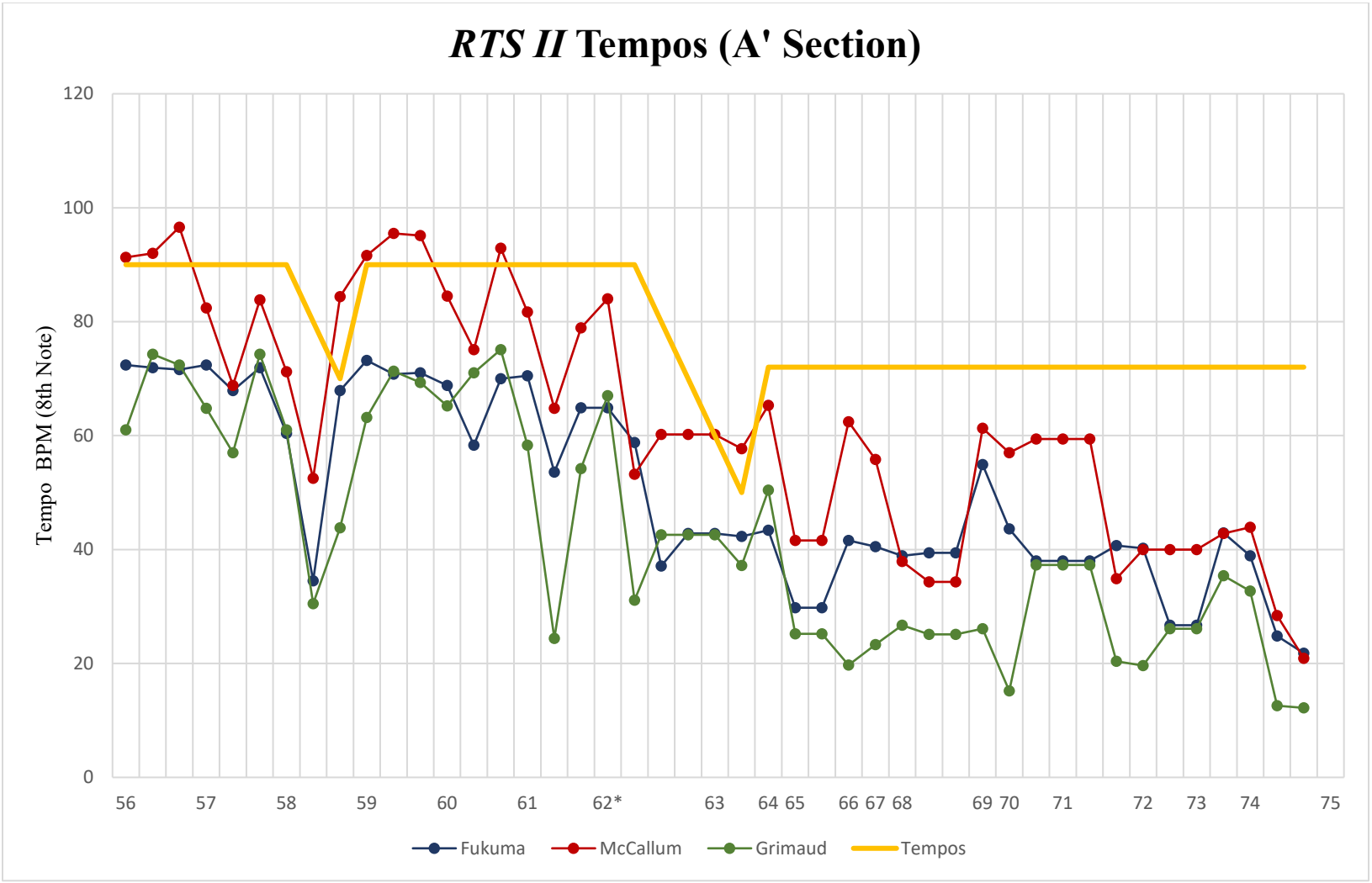

Figure 4-4. Performance tempos for *RTS II*, A' section.

Finally, each performer's *ma*, how all three deal with the silent measures and held out notes, is considerably different. Each performer takes a different approach, and the *ma* varies throughout, despite certain trends. Figure 4-5 highlights four examples of phrases ending in a measure of silence, all on a syntactical dominant. The silences are, as mentioned before, measured as a steady tempo throughout. In each of these, Fukuma slows down considerably or stays relatively even, McCallum slows to varying degrees, and in Figure 4-5d takes less time for the silence than the notes, and Grimaud invariably increases the tempo in the silence compared to the notes. In Grimaud's case specifically, the fading phrases feel more like extended ritenuto rather than time taken for a silent measure. Generally, Fukuma's silences are the longest, and to my ears give the strongest impression of space between two events, compared to McCallum and Grimaud which feel closer to fermatas. In Figure 4-5a, Fukuma and McCallum interpret the added value in m. 7 more literally, without large jumps in tempo. Grimaud, however, plays them much faster than is notated.

Conclusion: Personal Reflections

While writing this thesis, I learned *RTS II* for myself to reflect on the effect of the different methodologies had on my performance. Over the course of this project, I found my playing shifting, focusing on different aspects as they took more space in my mind. Even as I wrote these reflections, the philosophies of Takemitsu and the interpretations of the three performers were still prominent in my mind. I felt more inclined towards considering the fluctuations of tempos, and the meaning of different expression and

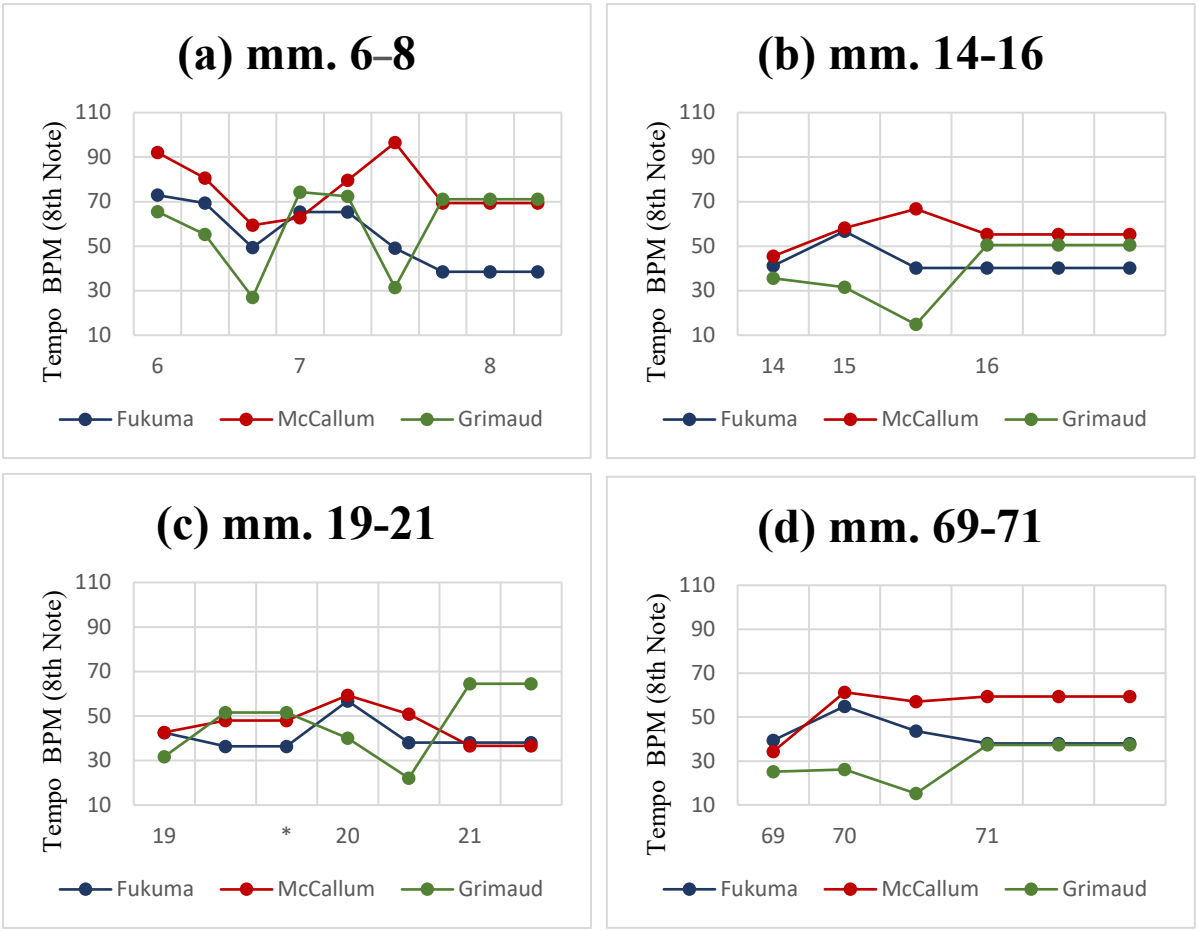

Figure 4-5. Performance of silence in *RTS II*

dynamic markings within the soundscape I was creating. Overall, I believe that each performance I create with this piece is more nuanced and immersive for a listener than it would have been had I only looked at one of these viewpoints or approached it entirely on my own.

When studying Russell's work in the *Lydian Chromatic Concept*, my ear was drawn toward particular harmonies. Understanding the syntax of the different parent scales throughout the piece, I try to call attention to the patterns that emerge from

harmonic analysis, particularly the syntactical tonic, with the motive and harmony that most often accompany it, such as the recurring motive associated with syntactical dominant (see Figure 2-9). I also was influenced by the homogenization of the syntactical dominant motive, which is very similar throughout the piece, as a way of highlighting it. This clashed not only with the dynamic markings, which differ greatly between its different appearances, but also with the rest of the piece, which has a flowing, unstructured feel until the return. This influence was perhaps a negative one—homogenization seems to me to conflict with the philosophy of Takemitsu, keeping sounds from being "possessed by ideas" or preventing them from being as natural as possible. My ear was drawn towards the clusters in mm. 27 and 48 as dissonant features and particularly resonant and distinct chords such as mm. 22–23 and the second half of m. 48 and I wanted to highlight them. Knowing how far apart the parent scales were in the B section from the A section added to my ability to bring out the "Joyful" marking, distinguishing the sections further. Finally, the knowledge of the syntactical function within the piece aided in my shaping of phrases. For example, knowing that mm. 4–6 function as the syntactical predominant influences me towards minimizing any added ritenuto in m. 6, so that the phrase can continue toward its syntactical end.

Messiaen's work influenced my performance on a rhythmic and formal level. The concept of added value helped me to consider how much weight a particular note should get if it was an extra note in a phrase and show the addition clearly, if I thought the moment warranted it. The most prominent example of this is in mm. 39–40, for me. While I can hear the rhythmic canon in mm. 35–39 and 41–45 clearly, having a name for the concept gave me a firmer foundation from which to base my interpretation of the

canon. Rhythmic preparation, accent, and descent offered a new way to look at individual phrases and further context for dynamic and expression markings. The first phrase of the B section, mm. 35–39 comes to mind as a phrase which I aim to grow to the accent, mark the accent clearly, and then fade away for the descent. Measures 1–3 also stand out for this concept. Knowledge of the form beyond ABA' gave me a framework from which to form my big-picture plan for the piece, and how different sections influenced the others. The binary sentence from mm. 17–34 serves as its own excursion, consisting of unrepeated material from the A section (see Figure 3-8). I tried to play both antecedents generally the same, but the second one a little bit softer, more distant and sleepy.

My analysis of the three recordings by Fukuma, McCallum, and Grimaud significantly impacted the way I view the piece and where my mind focuses as I perform. I knew that by listening that the three tempos were slower than what was marked, but I was surprised at just how much slower. I tend to agree that the written tempos are much too fast, and that Takemitsu's duration marking of five minutes makes the most sense. I had to fight the urge in performance to eliminate the large fluctuations in the tempo present in the other performances. Playing the music strictly evenly risked sounding mathematical or unfeeling, which would fly in the face of what Takemitsu wanted music to be. However, seeing and hearing the different approaches to *ma*, expression markings, and indications such as *as echo* were helpful in crafting my own performance.

Takemitsu's ideas regarding music and his own work held arguably the most influence. The concept of *ma* was new to me when I came across it during my research and implementing it into my playing has been difficult. I usually focus on what music is coming next during a rest or hanging silence. *Ma* asks that the performer focus on the

moment and the space between the two events. Making the shift in approach is worth the effort despite the difficulty, as the performance takes on a new, life with more calm and introspection. While the ideas about nature are more abstract, I personally prefer having an abstract ideal to chase after. The "nothingness of a bamboo grove" fits this purpose well.

Music analysis provides a pathway of increasing enjoyment and understanding of a piece. As Takemitsu wrote, "We can analyze a finished piece of music, but there will be something of that music that escapes our analysis. If music is something that moves us, the mystery is even deeper."[92] My hope is that by combining these analytical perspectives, performers and listeners can start to uncover that mystery for themselves. For me, the purpose of analysis is always to inform performance and listening. If collaborative music theory can succeed in this, then I consider this work a success.

[92] Takemitsu, *Confronting Silence*, 91.

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In this bibliography, I have divided the sources by the topics or composers they cover. However, there are many sources which deal with multiple composers, like George Russell and Takemitsu, or Messiaen and Takemitsu. I will follow a guideline for simplicity's sake: Only sources that deal exclusively with Takemitsu will be listed in Takemitsu's section. For any others, they will appear in the other composer's section.

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