THE PITCH CONTENT OF SELECTED PIANO WORKS OF TORU TAKEMITSU

THESIS

Presented to the Graduate Council of the University of North Texas in Partial Fulfillment of the Requirements

For the Degree of

MASTER OF MUSIC

by

Hidetoshi Fukuchi, B.A., B.M.

Denton, Texas

May, 1998


The purpose of this study is to examine the pitch content and compositional techniques of Takemitsu's recent solo piano works, which have not been analyzed by Koozin, and to trace the evolution of his techniques in his solo piano works during his career. I also discuss how Takemitsu projects his philosophy and aesthetics of musical composition through Western musical idioms.
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INTRODUCTION

Toru Takemitsu (1930-1996) is considered to be the leading post-war Japanese composer, who successfully manifested Japanese aesthetics through Western musical techniques. His compositional style and process are derived from Japanese aesthetics and study of nature. There are many essays written in Japanese on Takemitsu's philosophical views of music and the arts, including his own writings. Among the numerous writings on his works, many of which focus on the extramusical ideas in his compositions, there are very few analytical discussions of the technical aspects of his works.

Wilson examines the role of texture in Takemitsu's selected chamber and orchestra works in his dissertation, The Role of Texture in Selected Works of Toru Takemitsu.¹ Takemitsu himself describes his generative cells for his selected works in Dream and Number: The Mode of Musical Language. Although a few studies describe Takemitsu's use of motivic gesture based on pitch-set classes, none of them

¹ For another example, see Yoko Narazaki, Takemitsu Toru to Miyoshi Akira no Sakkyoku Yoshiki: Muchosei and Ongunsaho o Megutte [Compositional Style of Toru Takemitsu and Akira Miyoshi: Atonality and Tone Cluster] (Ph.D. dissertation, Tokyo Geijutsu University, 1991).
shows how the small motives relate to the large pitch structures except Timothy Koozin's dissertation, *The Solo Piano Works of Toru Takemitsu: A Linear/Set-Theoretic Analysis*. Koozin analyzes the pitch content of Takemitsu's solo piano works before 1988, and argues convincingly how Takemitsu constructs linear and vertical pitch structures from octatonic or whole-tone-referential cells. He also demonstrates Takemitsu's compositional techniques of association and coherence among isolated events through contextually emphasized focal pitch-classes, which unify each of his solo piano works.

The purpose of this study is to examine the pitch content and compositional techniques of Takemitsu's recent solo piano works, which have not been analyzed by Koozin or any other authors, and to trace the evolution of his techniques in his solo piano works during his career. I will also discuss how Takemitsu projects his philosophy and aesthetics of musical composition through Western musical idioms.

The first chapter discusses Western influence on modern Japanese music from the mid-nineteenth century to the present, and the influence of World War II and the aesthetics

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2 For example, see Edward Smaldone "Japanese and Western Confluences in Large-Scale Pitch Organization of Toru Takemitsu's November Steps and Autumn," *Perspectives of New Music*, 27/2 (Summer 1989), 216-231.
of traditional Japanese music on Takemitsu's music. The second chapter summarizes Koozin's analyses of Takemitsu's early solo piano works: Pause ininterrompue (1960), Piano Distance (1961), For Away (1973), Les yeux clos (1979), and Rain Tree Sketch (1982). In the following chapters, analyses of three recent solo piano works, Les yeux clos II (1988), Litany (1950/1989), and Rain Tree Sketch II (1992), are presented based on Koozin's analyses of early solo piano works.

The last chapter summarizes the shift in Takemitsu's compositional techniques over his career. Takemitsu's solo piano works were composed over a period of forty-two years. During this period, his compositional style and techniques have changed, but his unique techniques, which are derived from his philosophy of composition and Japanese aesthetics, are always evident in all his solo piano works.
CHAPTER I

BACKGROUND

Toru Takemitsu, who was born in Tokyo on October 8, 1930 and died on February 20, 1996, is the most well-known Japanese composer among Westerners. He is positioned in a time period in the history of the Japanese contemporary art music, when Japanese composers began to compose creative works after the period in which they merely imitated Western musical idioms. Takemitsu's music often expresses Japanese aesthetics through Western musical language, which separates him from the Japanese composers before World War II. These earlier composers merely combined Japanese traditional instruments or scales with Western instruments and musical idioms. In this chapter, I will first present the historical background of Japanese music since the mid-nineteenth century, when Western music started influencing Japanese music scene. Then, I will discuss Takemitsu's early

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experience, which made an impact on his career, and finally the Japanese aesthetic and its influence on Takemitsu’s works.

**Historical Background**

In order to illustrate how Takemitsu's music is a blend of Eastern and Western compositional techniques and philosophies, I will present a brief historical survey of the contacts between Japan and Western countries.

Western culture was first brought to Japan by Portuguese merchants in 1543. In 1549, Francis Xavier arrived with Jesuit priests to establish missions. Those missionaries converted a half million Japanese by the seventeenth century. In 1637, Japanese leader Tokugawa Iemitsu banned Christianity because he thought that it was a threat to political and social order. For the next 200 years, Japan banned all contact with Western countries except Holland. During this period of isolation, all Japanese traditional art forms flourished and developed to their highest level without major foreign influence.

The arrival of Commodore Perry from the United States in 1853 ended Japan's isolation. In 1868, when the Tokugawa shogun lost his power to the Emperor (Meiji Restoration), modern Western culture invaded Japan. For the next twenty years, threatened by the industrialized foreign military
powers, the Meiji government engaged in Japan's rapid modernization to catch up with the military forces of the Western countries. During this period, people in Japan started considering Japanese traditional culture as inferior to Western civilization. Extreme worship of Western traditions prevailed at the expense of the Japanese indigenous culture.

The first Western music that became popular was military music. The Meiji government promoted military bands for practical purposes. Court musicians were forced to learn Western music. When the ban on Christianity was lifted in 1872, Protestant hymns were sung among Japanese. The same year, the Meiji government ordered singing instruction in elementary schools. Shuji Izawa (1851-1917) and the American Luther Mason (1828-96) were appointed to establish the first music school (Tokyo Music School) to teach both Japanese and Western music. Although the initial goal was to combine styles of the East and West, in reality, only Western music was taught in public schools. Mason compiled a 'children's song book, which contains famous Western melodies with Japanese lyrics. Malm writes:

Indeed, not until the late 1950's was Japanese traditional music to be found on music appreciation records issued for public school use. Today even the songs of Stephen Foster can be claimed as part of the Japanese musical tradition, since they have been sung by
During the Meiji period, composers tried to merge traditional Japanese melody with Western harmony. Koto (Japanese zither) players were the first to apply the Western scales. They added the bass line in the lower register to the predominantly high register traditional Japanese music.

Before World War II, there were three schools of Japanese composers: German, French, and nationalist. The German school was represented by Kosaku Yamada (1866-1965), who studied composition in Berlin with Max Bruch and developed a style of German lieder in Japan. Since traditional Japanese music is centered around singing, lieder became more popular than pure instrumental music.

Tomojiro Ikenouchi (b. 1906), who studied for nine years in France, composed music influenced by Ravel and Debussy, and also translated French music theory texts into Japanese. Other composers in the French school included Toshiro Mayuzumi (1929-1997), Akiro Yashiro (b. 1929), and Akira Miyoshi (b. 1933).

Nationalists who were represented by Yasuji Kiyose (1900-81), Yoritsune Matsudaira (b. 1907) and Fumio Hayasaka (1914-55), tried to restore Japanese quality in their

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compositions. Takemitsu studied with Kiyose starting in 1948. Takemitsu's *Litany* (1989), which is a recomposition of *Lento in Due Movimenti* (1950), reflects some influence from Kiyose in the use of a Japanese traditional scale.

Nationalists before World War II were not really successful in merging both elements Japanese and Western music. Timothy Koozin writes:

> Many pieces composed in the 1930s and 40s by the nationalists used Japanese folk songs as thematic material in simple settings of triadic harmony. These delicate modal Japanese tunes were generally not served well by the comparatively heavy chordal accompaniment, creating more of a compromise than a meaningful synthesis.⁵


After World War II, many organizations of composers were formed and contributed to the introduction of Western contemporary music, such as musique concrète and dodecaphony. Takemitsu's experience during World War II had a major impact on his musical career. During the war, Takemitsu was a teenager and stayed with his aunt, who was a koto player. Traditional Japanese music represented by koto music reminded him of the terrible experience of the War. He held this
negative feeling toward traditional Japanese music in his early career.

Takemitsu took a few lessons with Yasuji Kiyose, but was mostly self-taught. He said that the greatest musical influence came from American jazz and European classical music, which he heard in his early years. An incident that made him decide to become a composer took place at the end of World War II, when he was fourteen and a member of a labor crew. At that time, Western music was forbidden in Japan, but one evening a soldier played a recording of the French chanson "Pariez-moi d'amour." Takemitsu said to himself, "I did not know there was such beautiful music in the world. I made the decision that if the war ever ended, I would become a musician."  

After World War II, he had to spend much time in bed because of pneumonia. "At that time", he said, "I listened to the western classical music on the American army radio station every day. So my first music teacher was a radio." He also went to a Center for Information and Education, which was established by the American army, to look at scores of

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American music. Takemitsu taught himself music through listening and studying scores. First he wanted to be a performer, but he decided to be a composer because he thought that a composer only needed pencils and papers. Takemitsu could not afford to have a piano, so he drew keys on a paper and practiced by imagining the sounds coming out from the paper keyboard. Whenever he heard someone playing a piano sound while walking down the street, he would go to that house and asked the strangers if he could "touch" their piano. Takemitsu said, "It was fortunate for me that I have never been turned down." When he could not afford to pay for his rented piano anymore, the composer Toshiro Mayuzumi, who had an extra piano, gave it to Takemitsu as a gift in 1954.

One day, when he was walking down the street, he saw a poster of the concert by contemporary composers, which was led by Yasuji Kiyose. Takemitsu met Kiyose and started taking free composition lessons. Takemitsu stated that every lesson was a heated philosophical discussion on music and art. While he was studying with Kiyose, the first public performance of his solo piano work Lento in Due Movimenti took place in a recital for the New Music Society in 1950.

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8 Noriko Ohtake, Creative Sources for the Music of Takemitsu. (DMA Dissertation, University of Maryland College Park, 1990), 17.

9 Ibid., 126.
Twenty-year-old Takemitsu received a devastating newspaper review that said Takemitsu's *Lento in Due Movimenti* was beneath criticism. He recalls that he was in such shock that he went into a movie theatre and cried in the darkness. Despite the low reputation Takemitsu received from the Japanese audience, he continued to compose. In 1959, Takemitsu redeemed his reputation when Stravinsky praised Takemitsu's *Requiem for Strings* (1957)\(^{10}\).

In 1951, together with composers, poets, and painters, Takemitsu founded the *Jikken-kobo* (Experimental Workshop). It was known for its avant-garde multi-media activities. In a concert by the workshop in 1956, Takemitsu premiered his musique concrète piece *Static Relief*. In the same year, he composed music for a film. In his forty-year career, Takemitsu composed ninety one film scores including "Woman of the Dunes" (1964), "Ran" (1985), and "Black Rain" (1989). He became the most prolific Japanese composer for film scores.

Since the impact made on him by the chanson, Takemitsu was always interested in Western music. He had no knowledge of traditional Japanese music and he even had a hatred for it. In his late twenties, however he happened to see

\(^{10}\) At that time, modern music was not widely accepted among Japanese audience, therefore the reputation of contemporary composers could be formed by a single music critic, unless a foreign celebrity like Stravinsky changed their view.
bunraku, the Japanese puppet show, and he was shocked by the powerful expression of the storyteller and music. Since then, he started studying Japanese traditional art and music.

In 1962, Takemitsu first used the Japanese traditional instrument biwa (Japanese lute) in his film score Seppuku. In 1966, he composed a concert work Eclipse for biwa and shakuhachi (Japanese bamboo flute), which led to his best-known work November Steps (1967) for biwa, shakuhachi, and orchestra. November Steps was commissioned for the 125th anniversary of the New York Philharmonic, and the success of the work made him internationally famous. In the rest of his career, most of Takemitsu’s works were composed for traditional Western instruments composed with Western musical idioms, yet they reflect the influence of Japanese philosophy and aesthetics.

Japanese Music and its Aesthetics

Japan's principal religions, Shinto and Buddhism had a major influence on the development of Japanese aesthetics. Shinto grew from the every day life of the ancient Japanese people. After Buddhism reached Japan in sixth century, Shinto became refined through the influence of Buddhism and Confucianism. In Shinto, all natural things and phenomena, such as mountains, ocean, and trees, are considered as having kami (divinities). Therefore, nature has always been a
significant part of the Japanese people and the principal theme of Japanese arts.

In traditional Japanese music, nature sound is imitated through musical instruments. Shakuhachi players tried to imitate the sound of wind. The same thing is true for biwa. "In a book from the Edo period [1615-1867], the biwa player is advised to try to imitate the sound of the cicada. The biwa is deliberately designed, with sawari plate, to create such insect sounds. This is also true of the Shamisen." Sawari means "touch" or "obstacle". The bridge of shamisen (three-stringed plucked chordophone) and biwa is intentionally raised to produce a noisy sound. Noise created by sawari has an essential quality in traditional Japanese music. Takemitsu emphasizes the importance of sawari as a productive resource. He writes:

The monthly biological function in women is also referred to in Japanese as the "monthly sawari"-- a natural inconvenience for women but essential for producing children. For me there is something symbolic about this: the inconvenience is potentially creative.12

Although most of the Japanese traditional instruments came from China and the Middle East, they were modified to


12 Ibid., 65.
accommodate Japanese aesthetic taste. For instance, biwa came to Japan from China more than a thousand years ago. The prototype of biwa, Chinese p'ip'a and Indian vina have a large number of frets that enable players to produce precise pitches easily. Since the frets of Japanese biwa were reduced to four or five over a long period of time, multiple imprecise pitches can be produced between two frets, which express slight changes of color and timbre.\textsuperscript{13} The high bridge sawari, which produces noisy sound, also separates biwa from its predecessors.\textsuperscript{14}

Japanese tend to enjoy the quality of a single sound rather than the melody created by the sound. This is illustrated in the expression, "Ichion Jobutsu" [With one sound one becomes the Buddha].\textsuperscript{15} In traditional Japanese music, the unique timbre of individual instruments is more important than the timbral balance among instruments as a whole. For example, in Piano Distance, emphasis is on the timbre of the sustained single pitch rather than the succession of tones. The piece starts with a single tone D\textsubscript{5} marked "with feeling." Then, D\textsubscript{4} is pressed with the pedal to produce its overtone, and sustained for twelve seconds.\textsuperscript{16}

\textsuperscript{13} Ibid., 63-64.

\textsuperscript{14} Ohtake, \textit{op. cit.}, 91.

\textsuperscript{15} Takemitsu, \textit{Confronting Silence}, 65.

\textsuperscript{16} See Example 3, p. 30.
Japanese affinity to nature and timbral quality is reflected in Takemitsu's compositional philosophy. His act of composition leads to the manifestation of reality, which involves nature. He writes:

To me the world is sound. Sound penetrates me, linking me to the world. I give sounds active meaning. By doing this I am assured of being in the sounds, becoming one with them. To me this is the greatest reality. It is not that I shape anything but rather that I desire to merge with the world.¹⁷

Takemitsu denounce the twelve-tone method of composition presenting very dangerous aspects, "The mathematical and geometric pursuit of sound apparent in this technique is purely an intellectual act."¹⁸ He preferred to let sounds be in their natural state. He writes:

Rather than the law of nature, I am more interested in the changes which occur in nature. It is not my desire to control the sound to move toward a certain goal. I wish to let the sound be as free as possible without any control of sound. My only wish is to gather sound around me and to move them just slightly. The worst thing to do is to drive the sound as driving an automobile.¹⁹

¹⁷ Takemitsu, Confronting Silence, 13.
¹⁸ Ibid., 80.
Music for Takemitsu was intended to put meaning into the sounds around him. "The external and internal world is full of vibration. Existing in this stream of infinite sound, I thought that it is my task to capture a single defined sound."\(^{20}\)

In his essay "My Technique" (1960), Takemitsu writes, "One day in 1948, in the crowded subway, the idea of bringing noises into tuned musical sounds occurred to me. In other words, composing music is the act of putting meaning to the pre-existing stream of sounds around us."\(^{21}\) (my translation) Elsewhere, he says, "In Western music, in general, noises are eliminated as much as possible, and an idea is expressed by using only prepared sounds."\(^{22}\) (my translation) For Takemitsu, composition is not manipulating sound, but rather communicating by means of sounds that already exist around us.

In 1948, Takemitsu recorded various sounds and frequencies on tape. In the same year that Takemitsu came up with his idea of bringing noises into his compositions, the French composer Pierre Schaeffer composed musique concrète,

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\(^{20}\text{Ibid.}, 8.\)

\(^{21}\text{Mitsuo Aki, "Toru Takemitsu and Japaneseesness," Polyphone 8 (1991), 151.}\)

which was based on similar ideas of Takemitsu. Musique concrète tried to express an abstract image by means of everyday concrete sounds.

Takemitsu's idea of bring noises into the streams of sounds can be projected not only in his works for musique concrète or the Japanese traditional instruments, but also in his works for Western instruments. For example, in Les yeux clos and Les yeux clos II, Takemitsu uses long sustained whole-tone referential chords as a background stream of sounds, which are superimposed on the octatonic referential materials. This stream of sounds exists in an eternal time space, which cannot be regulated by fixed rhythm. Takemitsu writes, "Sound is continuous, unbroken movement. If we understand it that way, conventional notation, which divides sound into discrete measures, is fruitless." In gagaku, the stream of sounds is played by sho. Takemitsu says that the most important instrument in gagaku is sho, which produces continuous clusters of sound without the attack of a definite beat.

23 See Figures 17 (p. 52) and 30 (p. 72)
24 Takemitsu, Confronting Silence, 81.
25 the traditional imperial court music of medieval Japan
26 Japanese mouth organ, with seventeen bamboo pipes
27 Takemitsu, Confronting Silence, 6.
In Takemitsu's piano works, recurrent related materials are often separated or interrupted by unrelated materials or time spaces. Koozin relates the time intervals between the recurrent materials to the Japanese concept of ma. The Japanese concept of time is related to the philosophy of Zen Buddhism. According to Japanese Zen Buddhism, time is an eternal background stream on which present events are superimposed. Life is an eternal cycle; therefore death is not the end, but the beginning of new life. This concept is very different from Western philosophy, in which time is progressive toward a certain goal. This difference is reflected in Takemitsu's music as a lack of climax or directness.

In the Japanese concept of time, finite and infinite time coexist. Robert Brumbaugh points out that the coexistence of finite time and eternity can be found in the haiku poetry of Basho.

An ancient temple pool;
Jump of a frog;
The sound of Water.

Here, a sudden move of a frog is superimposed on the background eternity.28

The concept of eternity is also reflected as an empty background space in Japanese black ink paintings of the sixteenth century, sumie. In both haiku and sumie, artists leave a space for imagination by not expressing meaning completely. The Japanese virtue of being modest and tactful is projected through empty spaces in sumie. Even today, Japanese people practice this virtue in their everyday life in communicating each other. In Japanese language, it is considered a virtue to be modest and tactful. In Japanese, the unspoken image is more important than spoken expression. Japanese people use subtle nuance of expression to imply their true meanings, and expect others to guess what they really mean.

The artist Mitsuoki in the seventeenth century advises, "If you are handling a poetic theme, do not describe it in detail, but leave its meaning unsaid. A blank space is also part of the picture; leave white space and fill it with unspoken meaning." 29

In Japanese, both space and time are expressed as the term ma. Ma is defined as "distance or interval between two things or events." People say good ma or bad ma to express good timing or bad timing. Good ma, good timing between lines, is essential for actors and storytellers.

Silence or *ma* is an important concept in Japanese arts. In the program note of Takemitsu’s *November Steps*, he emphasizes the importance of silence from the biological standpoint, "There is something suggestive in the biologists’ report that the dolphins’ communication takes place, not in their sounds, but in the length of silence between the sounds."³⁰

*Ma* is indispensable for music and gives intensity and meaning to the sounds that follow. Takemitsu writes,

> In short, this *ma*, this powerful silence, is that which gives life to the sound and removes it from its position of primacy. So it is that sound, confronting the silence of *ma*, yields supremacy in the final expression (Here I wish the term ‘expression’ to be understood in its most general sense).³¹

*Ma* also connects isolated events, "In the flow of Japanese music, for example, short fragmented connections of sounds are complete in themselves. Those different sound events are related by silences that aim at creating a harmony of events."³²

Takemitsu contributed significantly to the development of Japanese modern art music by expressing Japanese

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aesthetics through Western musical techniques. In his solo piano works, time concepts of both the infinite and the finite are represented by background sound or silence and local events. Isolated events occur separated or interrupted by unrelated materials or silence, yet they are related or associated through the various kinds of unifying elements. In the following chapters, I will examine Takemitsu's compositional techniques of associating of isolated events through pitch organization in his solo piano works.
CHAPTER II

SUMMARY OF KOOZIN'S ANALYSES OF TAKEMITSU'S EARLY SOLO PIANO WORKS

Takemitsu's basic compositional technique of generating large collections from the small cells has not changed during his career. However, his treatment of pitch content, formal structure, and texture evolved over several decades. In this chapter, in order to illustrate Takemitsu's earlier style, I will present a summary of Timothy Koozin's analyses of Pause ininterrompue (1960), Piano Distance (1961), For Away (1973), Les yeux clos (1979), and Rain Tree Sketch (1982).¹

In the earlier pieces, Pause ininterrompue and Piano Distance, octatonic reference is not explicit. Takemitsu started using a complete octatonic collection in For Away. In all these compositions, Takemitsu often alternates among different forms of the octatonic or whole-tone collections. He also uses notes that form semitones with members of these sets. Consequently, it often is hard to identify a single form of the octatonic in particular. Koozin shows that non-

¹ All the materials and examples are taken from Timothy Koozin, The solo piano works of Toru Takemitsu: A linear/set-theoretic analysis (Ph.D. dissertation, University of Cincinnati, 1989), 75-281.
scale tones primarily form semitone relations with the bass. He also illustrates that Takemitsu emphasizes the pitches that complete the large collection by placing them in the highest or lowest range of the phrase. Koozin usually groups large pitch collections vertically for the first three pieces. For the last two pieces, he identifies the octatonic materials in the higher register and whole-tone materials in the lower register. In both cases, his criteria for grouping pitches into sets is contiguity. Set members either are grouped in the same stem or are sometimes beamed together or in close proximity.

**Pause ininterrompu (1960)**

*Pause ininterrompu* consists of three movements. The first movement was composed in 1952. The second and the third movements were composed in 1959. The work was named after the poem by Shuzo Takiguchi.

*Pause ininterrompu* contains many of the compositional techniques that characterize Takemitsu's later piano works. In each of his piano works, focal pitch-classes are emphasized through extremely long duration, extreme register, and octave doublings and triplings. In this piece, contextually emphasized focal pcs form linear motions, which span the entire piece.
Another compositional technique that Takemitsu employs in all his piano works is the use of octatonic materials. Compared to his later piano works, the use of octatonic materials is limited in *Pause ininterrompu*.

In the first movement, octatonic materials appear more consistently than in the other two movements. Example 1 illustrates the shift between materials of the octatonic I (octI) and the octatonic III (octIII)\(^2\) collections in the opening section of the piece. Two pc sets X (0134679) and Y (023468) in Example 1 serve as referential sets of the piece. While set X is an octatonic collection, set Y is not. The octatonic complement for set X is contextually emphasized. For example, the octatonic complement G\(^4\) for set X in measure 2 is highlighted with an accent and a fermata in measure 1.

Semitone relations have an important role in all Takemitsu's piano works. They often appear at climactic points in separate register. Semitone dyads often form structural linear motions, which span the entire piece. In *Pause ininterrompu*, semitone dyads (Eb, E) and (C, C#) in set X in Example 1 form linear motions, which span the entire work. In the opening section, Eb\(^5\) is emphasized through

\(^2\) Throughout the thesis, three octatonic collections are labeled as shown in Peter van den Toorn's *The Music of Igor Stravinsky* (New Haven: Yale University Press, 1983), 50.

\(^3\) Throughout the thesis, register is indicated by an octave number, and C4 is middle C.
Example 1. *Pause ininterrompu*, No. 1, mm. 1-5

Triste \( \downarrow 48 \)

quasi parlando

\[ \begin{array}{cccc}
O\text{ct}\text{I} & O\text{ct}\text{IIII} & O\text{ct}\text{I} & O\text{ct}\text{IIII} \\
X & & & X \\
\end{array} \]

\[ \begin{array}{cccc}
O\text{ct}\text{I} & O\text{ct}\text{IIII} & O\text{ct}\text{I} & O\text{ct}\text{IIII} \\
\text{Y} & & & \text{poco rit.} \\
\text{X} & & & \text{X} \\
\end{array} \]

repetition and duration. The ascent from \( E^b \) to \( E \) in measure 5 anticipates the long-range ascent to \( E \) at the end of the movement, which eventually descends to \( E^b \) at the end of the
The semitone dyad (C, C#) appears at the cadential points in the second movement.

The (012) subset (A, B♭, B) of set Y (023468) in the opening section initiates the background bass motion, which spans the entire piece. B♭3 in set X of measure 2 is emphasized by octave doubling. A1 in measure 5 is emphasized by tripling and registral isolation.

Materials in the second movement can be divided into four categories:

1. Material related to the opening gesture
2. Three-chord gesture
3. Long tones
4. Frozen elements

The opening gesture contains all twelve tones without duplication. This gesture recurs with variation throughout the movement.

Example 2 illustrates three-chord gestures in the movement. The gestures in measures 24, 34, and 48 are made from the subsets of set X in the first movement. The gestures in measures 25 and 32 are made from set Y in the first movement. These two types of gestures are further distinguished through the dynamic markings.

Figure 1 summarizes long tones, which usually sound for

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4 Koozin defines frozen elements as isolated motives that are invariant with regard to pitch and register.
Example 2. *Pause interrompu*, No. 2, three-chord gestures

X³ X¹ X²

mm. 24

X² X¹ X³

34

X² X¹ X³

48

Y Y Y

25

Y Y Y

32

Y Y Y

Z X X

47

X (0134679)  Y (023468)
X¹ (013679)   Z (013478)
X² (01369)
X³ (0236)

more than nine seconds. Long tones made from the X subsets are prominent in the first twenty measures of the movement.

---

5 B-C⁰ in measure 33 should be B⁰-C because they are notationally redundant, and break the parallel sequence of the chord.
The shift to the long tones forming (01348) occurs after the long tones forming (0347) in measures 14-17.

Figure 1. Pause interrompue, No. 2, long tones

The most prominent frozen gesture is the cadential semitone dyad C1/C#7, which closes the first section (mm. 1-14) and the second movement. This is prepared by the F#1/F6 dyad, which appears two measures earlier.

Materials in the third movement can be divided into three categories:
1. Melody, composed mostly of long tones
2. Chordal figures
3. Isolated, referential sonorities

The melody of this movement forms a chromatic descent from E5 to C5, which spans the entire movement.

Figure 2 illustrates that many of the chordal figures in the third movement form subsets of either sets X or Y from the first movement.

Figure 2. Pause ininterrompu, No. 3, set-types in chords of three or more tones

<table>
<thead>
<tr>
<th>m.</th>
<th>set-type</th>
<th>(*) - subsets of X (0134679)</th>
<th>(**) - subsets of Y (023468)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(02346) **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>(0258) **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>(02458) **</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(02369)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>(013) *</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0236) **</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(01358)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0127)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(013) *</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0236) **</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(01367) *</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0127)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>(034679) *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>(034679) *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>(02458) **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>(0367) *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>(02346) **</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>R.H. (0236) **/ **</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L.H. (0246) **</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In the third movement, the semitone dyad in registral extremes G#1/G5 closes section B in measure 9 before the return of section A, just as the semitone dyad C1/C#7 closes the sections in the second movement. The (C, C#) dyad of the second movement appears in the upper register in the third movement, in which C# in the first six measures chromatically descends to C at the end of the movement.

Figure 3 summarizes the linear motions in the third movement. As shown in Figure 3, E5, which ascends from E♭5 in the first movement, descends to E♭5 at the end of the third movement. Two semitone motions (C#-C) and (E-E♭) are complemented by another semitone motion (F-F♯).

Figure 3. Pause ininterrompu, No. 3, linear graph
In *Pause ininterrompue*, contextually emphasized semitone dyads form linear motions spanning the entire work. Semitone dyads also appear isolated in registral extremes at the cadential points. Figure 4 shows background linear motions of the pitches in registral extremes throughout the three movements.

Figure 4. *Pause ininterrompue*, background linear connections in outer registers

In *Pause ininterrompue*, referential pc sets and linear motion of the contextually emphasized semitone dyads create coherence throughout the three movements.
Piano Distance (1961)

Unlike other Takemitsu's solo piano works, in Piano Distance focal pcs only form connections locally, but do not form large-scale linear motions spanning the entire work. Takemitsu still employs his additive process to form linear and vertical structures of the piece through the small generative cells. The two generative dyads (01) and (03) are combined to generate trichord (014), which generates larger octatonic referential collections. The next three examples illustrate the significance of trichord (014), which is generated by the additive process of the dyads (01) and (03).

Example 3 shows interrelations between dyads (01) and (03) in Piano Distance. In measure 7, two (01) dyads, (A, B♭) and (C, C#) separated by interval class 3 form tetrachord (0134). Lines in measures 17-21 indicate semitone relations in registral extremes, which appear with (03) dyad (E, G). As the dyad C1/C#7 in Pause ininterrompue, Takemitsu frequently uses semitone relations in registral extremes as the cadential gesture in his solo piano works.

Trichord (014) is the most prominent generative gesture in the piece. Example 4 shows both linear and vertical trichord (014).
Example 3. Piano Distance, interrelations between dyads (01) and (03)

mm. 1-9  
(C, D♭)  (A, B♭)
(01)  (01)  
(E, G)  

Tempo

- M.M. 20 - 3 sec.

mm. 17-21

(E, G)

Like Bell sound. 8va
Example 4. Piano Distance, recurrent (014) set/subsets

with much feeling

(C#, D, F) (C#, D, F) (C#, D, F) (E, G, A♭) (E, G, A♭)
(F, F#, A) (F, F#, A) (G, B♭, B)

(C, C#, E) (C, C#, E)

original tempo

(C#, E, F) (B♭, C#, D) (B♭, C#, D) (F, F#, A) (C#, E, F)
Trichords (014) are emphasized in even larger vertical structures. Figure 5 summarizes (014) subsets in the vertical structures of measures 1-20.

Figure 5. Summary of set/subset recurrence in vertical structures. *Piano Distance*, mm. 1-20

<table>
<thead>
<tr>
<th>mm.</th>
<th>set type</th>
<th>1st Chord</th>
<th>2nd Chord</th>
<th>3rd Chord</th>
<th>4th Chord</th>
<th>5th Chord</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>(01346)</td>
<td>(C# D F E B)</td>
<td>(C# D E F)</td>
<td>(C# D E F)</td>
<td>(C# D E F)</td>
<td>(C# D E F)</td>
</tr>
<tr>
<td>2-3</td>
<td>(01)</td>
<td>(C C# A B)</td>
<td>(A B)</td>
<td>(C C# A B)</td>
<td>(A B)</td>
<td>(C C# A B)</td>
</tr>
<tr>
<td>6</td>
<td>(014)</td>
<td>(C C# Bb A F F# D)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
</tr>
<tr>
<td>7</td>
<td>(0124589)</td>
<td>(C C# A Bb C C# E b E F F#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
</tr>
<tr>
<td>7</td>
<td>(0134)</td>
<td>(C C# A Bb C C# E b E F F#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
</tr>
<tr>
<td>9</td>
<td>(012356)</td>
<td>(C C# E b E G Ab B b F)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
</tr>
<tr>
<td>13</td>
<td>(0134679)</td>
<td>(E G A b)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
<td>(A Bb C C#)</td>
</tr>
<tr>
<td>15</td>
<td>(014)</td>
<td>(C C# A b b F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
</tr>
<tr>
<td>18</td>
<td>(012348)</td>
<td>(C F F# A Ab)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
</tr>
<tr>
<td>20</td>
<td>(01347)</td>
<td>(C F F# A Ab)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
</tr>
<tr>
<td>74</td>
<td>(01346)</td>
<td>(C F F# A Ab)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
</tr>
<tr>
<td>76</td>
<td>(01347)</td>
<td>(C F F# A Ab)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
<td>(F F# A b b A b)</td>
</tr>
</tbody>
</table>

The last two chords are included to show a long-range connection. In Figure 5, all the vertical structures of more than three contain a (0134) subset. Since (0134) is a combination of the (013) and (014) trichords, all the vertical structures in measures 1-20 are based on overlapping
(013) and (014) trichords. All the vertical structures are octatonic subsets except chords in measures 7, 9, and 18, which contain the non-octatonic subset (012).

The beamed figures in Piano Distance control textural density and provide contrast to surrounding fragmented materials. Short spacious beamed gestures with less notes gradually increase the textural density with more notes toward the end of the piece. Textural density reaches the highest point in measures 64-65 as shown in Example 5.

Example 5. Piano Distance, mm. 64-66

All chords in Example 5 contain at least one (014) subset except chords 1 and 7, which are on the downbeat of measures 64 and 65 respectively. Figure 6 illustrates that the number of (014) subsets in each chord coincides with the melodic shape. Chords at the melodic peak contain larger number of (014) subsets.
The first three chords in measures 64 and 65, chords 1, 2, 3, 7, 8, and 9 are pure octatonic subsets. Takemitsu increases tension and textural density by adding non-oct pcs toward the climactic point. Chord 14, the last chord in measure 65, is the only chord that contains two non-oct pcs, while all the other non-oct subsets, chords 4, 5, 6, 10, 12, 13, and 16, contain only one non-oct pc. Because of Takemitsu's process of adding chromatic pcs, the consistent octatonicism found in the first movement of Pause ininterrompu is not evident until the last section of Piano Distance. The piece progresses from potentially octatonic materials to pure octatonic materials in the last thirteen measures of the piece.

Takemitsu employs an additive process to generate the larger linear structures of the piece. For example, the tetrachordal beamed gesture (0146) in measures 43-45 is a combination of linear trichord types (026) and (014), which
appear in the outer voices of the previous beamed gesture as shown in Figure 7.

Figure 7. Linear structure generated through the additive process

```
mm. 42-43 (F, G, B) (026)
     (A, Bb, C#) (014)

    (026)

mm. 43-44 (B, C#, E, F) (0146) (014)
```

Examination of the overlapping linear trichords of the longest beamed figures in measures 39-45 and 64-69 reveals the gradual shift in emphasis from trichords (026) to (014). Linear trichord (014) is further emphasized contextually as shown in Figure 8. Overlapping (014) trichords in the bass link gestures B to C, E to F, and F to G. Linear trichord (014) is also emphasized by the placement on the downbeats in gesture E. In Figure 8, the added beams connect the first note, melodic peak and last note of the gesture. The dotted beam connects notes on downbeats in gestures B, C, and D. All the added beams indicate linear trichord (014) at sub-surface level.
Figure 8. (014) set/subsets at surface and sub-surface levels

mm. 39-45

mm. 64-69
The analysis of *Piano Distance* illustrates Takemitsu's compositional technique of an additive process to generate larger linear and vertical structures from the generative pc sets. Textural density is increased through the process of adding non-oct pcs and increasing the number of the generative trichords (014). In spite of the lack of large-scale linear motions of focal pcs and consistent octatonic reference, Takemitsu unifies the piece through the generative trichord (014), which generates the linear and vertical structures of *Piano Distance*.

**For Away** (1973)

*For Away* anticipates Takemitsu's later piano works in its thicker texture and its thorough use of octatonicism. The pitch content of the piece marks the sectional divisions as shown in Figure 9. In the nearly symmetrical arch form, the octIII reference, clarified in the first two sections, is reconfirmed in the last two sections after the chromatic third section. Even in the chromatic middle section,

![Figure 9. Large-scale form in For Away](image)

<table>
<thead>
<tr>
<th>mm. 1-6</th>
<th>mm. 7-13</th>
<th>mm. 14-26</th>
<th>mm. 27-35</th>
<th>mm. 36-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>octIII</td>
<td>focus on octIII</td>
<td>ambiguity</td>
<td>focus on octIII</td>
<td>octIII</td>
</tr>
<tr>
<td>reference</td>
<td>clarified</td>
<td>reference</td>
<td>reasserted</td>
<td></td>
</tr>
<tr>
<td>exposition</td>
<td></td>
<td></td>
<td></td>
<td>recapitulation</td>
</tr>
</tbody>
</table>
recurrences of focal pcs provide continuity throughout all the sections.

In For Away, Takemitsu generates both octatonic and chromatic materials through semitone-tritone relations around the contextually emphasized focal pc dyads (C F#) and (E Bb) as shown in Figure 10.

Figure 10. Tritone and semitone dyad relations

focal tritone dyads: (C F#)  (E Bb)

octIII:               (C F#)  (E b A)
                   (C# G)  (E Bb)

aggregate:            (B F)   (D A b)
                   (C F#)  (E b A)
                   (C# G)  (E Bb)

In the first section (mm. 1-6), octIII referential materials are projected based on the static (E Bb) tritone motive. In the second section (mm. 7-13), a complete oct III is confirmed through the recurrent (C F#) tritone motive. Example 6 shows surface projection of a complete octIII in the second section. In measure 9, Takemitsu highlights the A5, which completes the octatonic collection by placing it at the highest peak of the phrase. The A5 is also emphasized by
a semitone relation with the circled non-octIII pc 8 (A♭) in measure 10. Takemitsu frequently emphasizes structurally important notes by semitone relations.

Example 6. For Away, mm. 8-10

In the first two sections, the tritone motive is combined with semitone dyad to form the (0236) set, which projects octIII. For example, focal tritone (C F#) is combined with a semitone dyad (E E♭) in measure 8 of Example 6. Figure 11 lists the (0236) sets in the first two sections. The focal pc 1 (C) is emphasized contextually through the (0236) sets.

Although the surface octatonicism is absent in the highly chromatic third section (mm. 14-26), focal pcs are still emphasized to provide coherence. The section reaches
the highest chromatic saturation with a succession of thick
chords in measures 23-25 as shown in Example 7 below. Only
chord types A and F are octatonic subsets. All the chords
contain at least one tritone, which usually appears in the
lowest two notes of the chord. The focal tritone dyad (B♭E)
is emphasized by sustaining it in the bottom of chord type E
until it shifts by semitone to (A E♭) in chord type H. Chord
type E also contain another focal tritone dyad (C F#). The
highest note of the piano C8 in measure 24 and the highest
pitch of the sustained type E chord C5 reconfirm the
significance of focal pc C in the piece.

In measure 24, the highest tension is created by chord
type G, which contains the largest number of semitones and
tritone dyads. The tension is eased by the following chord
type H, which contains the smallest number of semitones and
tritones.
Example 7. *For Away*, mm. 23-25

A (013479)      E (023468)
B (0234679)      F (013467)
C (012358)       G (0124578T)
D (0234579)      H (012469)
In the chromatic third section, the stepwise chromatic line is embedded through semitone-tritone relations as shown in Figure 12. The upper beam in Figure 12 connects the focal pc C, the recurrent C5 and the climactic C8. The lower beam shows a long-range stepwise linear motion to C2. As shown in Figure 12, a linear motion of tritone dyads leads three times to focal tritone (E Bb). The prevalence of semitone-tritone relations and focal pcs in the chromatic third section provides a link to the octatonic referential sections.

Figure 12. For Away, long-range linear relations

Like the second section, the fourth section projects a surface-level octIII based on the recurrent (C F#) tritone motive. The section reaches the climactic point in measures
33-35. In measure 34, all the 12-tones are projected except focal dyad (C F#), which is supplied in measure 35. Takemitsu often extends octatonic collections toward complete chromatic saturation at the climactic point.

The final section is a chromatically embellished restatement of the first section. Non-oct pcs tend to appear in outer registers, and often form semitone relations with prominent focal pcs. A semitone relation C1/B6 appears as a final cadential gesture as in all Takemitsu's piano works.

Figure 13 shows a long-range linear motion, which spans the entire piece. Dotted bar lines indicate the five sectional divisions. The lowest beam shows a registrally displaced stepwise bass line centered on C1. The highest beam shows a linear motion in the high register, which is centered on A6 and A7 reaching to B6 at the end.

The two inner beams shows the main recurrences of focal tritone dyads (C F#) and (E Bb). These dyads recur mostly in the first two and last two sections of the piece, where the dyads generate an octIII collection. In the middle section, where the octatonic reference is obscured, the emphasis on focal pc 1 (C) and focal dyad (E Bb) is still maintained to unify all the sections.

In For Away, Takemitsu projects a complete octIII collection through an interplay of semitone and tritone dyads around focal tritone dyads (C F#) and (E Bb). Even in the chromatic middle section, he employs the same additive
Figure 13. Long-range linear connections in *For Away*.
process by maintaining the contextual emphasis on focal pc 1 (C) and dyad (E B⁰) to keep the large-scale continuity of the piece.

Les yeux clos (1979)

Les yeux clos was named after Odilon Redon's painting of the same title. Takemitsu was interested in many nonmusical art forms, such as painting, poetry, and film. Many of his compositions are based on works of such nonmusical art forms. Redon's painting was the beginning of his interest in visual art. Takemitsu wrote, "I could not take my eyes off that peculiar black-and-white image. Then I noticed the name 'Redon' and the title of the work, 'Les Origines' ['The Origins']. It was in that moment that I became interested in visual art." As its title, Redon's Les yeux clos [The Closed Eyes] is a painting of face, whose eyes are closed. The first Les yeux clos was composed in 1979, and was dedicated to the memory of the surrealist poet Shuzo Takiguchi, who was Takemitsu's mentor for art.

Compared to the spacious texture in Takemitsu's earlier piano works, Les yeux clos (1979) has more a continuous texture and rhythmic regularity. Despite the difference in

---

textural and rhythmic density, his fundamental process of pitch organization has not changed much from the earlier piano works. In *Les yeux clos*, as in *Piano Distance* and *For Away*, large pitch collections are generated from small motivic gestures. In earlier piano works, octatonic collections are generated through octatonic subsets, such as (014) in *Piano Distance*. In *Les yeux clos*, Takemitsu takes new directions in pitch organization by adopting trichord (026) as a generative motive, which is a subset common to both the octatonic and whole-tone collections. As a result, the piece is built on the juxtaposition and interpenetration of the octatonic and whole-tone collections. Throughout the piece, octatonic materials usually appear in the higher register as the surface level of the structure, while whole-tone materials appear in the lower register as a background sonority.

Takemitsu accomplishes the interrelation of two referential collections through the use of their common trichord subset (026). Figure 14 illustrates that the principal trichords (026) in *Les yeux clos* generate both the octatonic and whole-tone collections.

Throughout the piece, Takemitsu avoids projecting the pure octatonic and whole-tone collections by adding pitches outside of the referential collections. Besides, he frequently interchanges three versions of the octatonic and two versions of the whole-tone collections, which obstructs
Figure 14. The (026) trichord as octatonic/whole-tone generator

\[
\begin{array}{c}
\text{octI} \\
&B C# F G D E \text{Ab} \text{Bb}
\end{array}
\]

\[
\begin{array}{c}
\text{wtI} \\
&C D E F# G# A#
\end{array}
\]

determination of a single referential collection. Figure 15 illustrates interrelations among three forms of octatonic and two forms of whole-tone collections.\(^7\)

Figure 15. Summary of octatonic/whole-tone cross-reference

\[
\begin{array}{ccc}
\text{octI} & \text{octII} & \text{octIII} \\
E & D & F# & E \\
\text{Bb} & \text{Ab} & \text{C} & \text{Bb} \\
\text{C#} & \text{B} & \text{Eb} & \text{C#} \\
\text{G} & \text{F} & \text{A} & \text{G}
\end{array}
\]

As shown in Figure 15, each whole-tone collection shares a common subset (0268) with each of the octatonic collections.

\(^7\) Throughout the thesis, the two whole-tone collections are labeled as shown below.

\[
\begin{array}{ccccc}
\text{wtI} & C & D & E & F# & G# & A# \\
\text{wtII} & \text{Db} & \text{Eb} & \text{F} & \text{G} & \text{A} & \text{B}
\end{array}
\]
Each octatonic collection shares a common subset (0369) with two other forms of the octatonic collections.

Throughout the piece, rhythmically active octatonic referential passages tend to appear at the top, while sustained whole-tone referential chords appear in the bottom. Example 8 illustrates this tendency in measures 34-35.

Example 8. *Les yeux clos*, mm. 34-35

Example 9 illustrates the same kind of texture in measures 1-8. The first three trichords (026) in the bottom line form a complete wtI, while octI and II alternate in the top line.

The sustained chord in the bottom two lines of measures 3-5 contains a complete wtI collection. Non-wtI pc 11 (B)
Example 9. Les yeux clos, mm. 1-8
of the chord forms a semitone relation with the bass B♭.
Takemitsu frequently emphasizes a bass note through semitone
relations with non-wt or non-oct pcs. Another sustained
chord in measures 6-8 contains a complete wtI collection.
Non-wtI pcs 11 (B) and 1 (C#) form semitone relations with
the bass C.

A semitone relation also appears as a cadential gesture
in many of Takemitsu's piano pieces. In the last five
measures of Les yeux clos, the semitone dyad in registral
extremes (B6, C1) provides a final cadential gesture.

The wtI is projected at the deeper level of the
structure through contextually emphasized wtI focal pitch-
classes. Focal pcs are emphasized in the form of tritone
dyads usually appearing in the extremely low register.
Figure 16 illustrates the background linear motion of the focal tritone dyads.

As shown in Figure 16, the structural tritone dyads descending by whole tones project a complete wti collection. The piece can be viewed as a dialogue between the two tritone dyads (E, Bb) and (C, F#), which is linked by the tritone dyad (D, Ab). It is significant that in For Away, the dialogue between the tritone dyads (E, Bb) and (C, F#) also takes place. These two tritone together form a common subset (0268) to both wti and octIII. The difference is that in Les yeux clos, the focal tritone dyads appear in the whole-tone context, while in For Away, they appear in the octatonic context.

Figure 16. Background linear motion of the focal tritone dyads

<table>
<thead>
<tr>
<th>mm. 1-8</th>
<th>9-24</th>
<th>25</th>
<th>26-52</th>
<th>53-64</th>
<th>65-75</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>D</td>
<td>C</td>
<td>E</td>
<td>Ab</td>
<td>F#</td>
</tr>
<tr>
<td>Bb</td>
<td>Ab</td>
<td>F#</td>
<td>Bb</td>
<td>Ab</td>
<td>F#</td>
</tr>
</tbody>
</table>

The long term whole-tone structure is also supported by its vertical and linear projection spanned throughout the piece. Figure 17 summarizes long sustained whole-tone referential chords recurring throughout the piece. All these chords are notated as stemless square note heads. Whole-tone complement pcs in the incomplete whole-tone collection are
supplied immediately as the structurally important pitch, which is usually the bass. Non-wt pcs usually form semitone relations with the bass. An exception is the chord in measures 39-42, in which non-wtI pcs (G, D#) in the higher register form semitone relations with a tritone dyad (D, A♭) in the lower register.

Figure 17. Sustained whole-tone referential chords

<table>
<thead>
<tr>
<th>mm.</th>
<th>wt collection</th>
<th>wt complement</th>
<th>non-wt pc</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-5</td>
<td>complete wtI</td>
<td></td>
<td>B</td>
</tr>
<tr>
<td>6-8</td>
<td>complete wtI</td>
<td></td>
<td>C#, B</td>
</tr>
<tr>
<td>37-38</td>
<td>wt II</td>
<td>D#</td>
<td>Bb</td>
</tr>
<tr>
<td>39-42</td>
<td>wt I</td>
<td>Bb</td>
<td>G, D#</td>
</tr>
<tr>
<td>47-52</td>
<td>wt I</td>
<td>C, F#</td>
<td></td>
</tr>
</tbody>
</table>

Figure 18 lists all the linear motives (026), which project whole-tone collections in Les yeux clos. Changes in pc content in these linear motives (026) correspond with the five sectional divisions of the piece. The motives (026) in the second section (mm. 7-10) repeat at T7 in the third section (mm. 20-22). This transposition temporally shifts the focal whole-tone referential collection to wtII in the predominantly wtI referential piece. Three recurrent motives (026), F#-G#-C, E-F#-B♭, and C-D-F#, form a complete wtI collection. They are also summarized toward the end of the
The piece, illustrating the wtI collection serves as a background sonority of the piece.

**Figure 18.** (026) melodic motives

<table>
<thead>
<tr>
<th>mm. 1-6</th>
<th>none</th>
</tr>
</thead>
</table>
| m. 7    | F- G- B  
|         | F#-G#-C  | wtI |
| m. 9    | E- F#-Bb  | wtI |
|         | F- G- B  
|         | F#-G#-C  | wtI |
| m. 10   | F- G- B  
|         | F#-G#-C  | wtI |
| m. 20   | C- D- F#  
|         | C#-D#-G  | wtII|
| m. 21   | B- C#-F  
|         | C- D- F#  
|         | C#-D#-G  | wtII|
| m. 22   | C- D- F#  
|         | C#-D#-G  | wtII|
| m. 57   | Gb-Ab-C  | wtI |
| m. 59   | F- G- B  
|         | Gb-Ab-C  | wtI |
| m. 61   | Gb-Ab-C  | wtI |
| m. 63   | F- G- B  
|         | Gb-Ab-C  | wtI |
| m. 66   | C- D- F#  | wtI |
| m. 72   | E- F#-Bb  | wtI |
| m. 74   | C- D- F#  | wtI |

There are two chromatic linear motives, which are not subsets of either the octatonic or whole-tone collections.
Figure 19 lists the first ones, which form (012346). All these motives contain the wTI-subset (026).

Figure 19. Chromatic linear motives (012346)

\[
\begin{align*}
\text{mm. 2-3} & \quad \text{D-A-B}_b-\text{B-C-G}^# \\
\text{m. 4} & \quad \text{E-F-F}_b-\text{G-A}_b-\text{D} \\
\text{m. 6} & \quad \text{F}_b-\text{G-G}_b-\text{A}_b-\text{B}_b-\text{E} \\
\text{m. 32} & \quad \text{F-F}_b-\text{G-A}_b-\text{E}-\text{B}_b
\end{align*}
\]

Figure 20 lists chromatic linear motives, which form (012).

Figure 20. Chromatic linear motives (012)

\[
\begin{align*}
\text{m. 14} & \quad \text{B}_b-\text{C}_b-\text{A} \\
\text{m. 17} & \quad \text{F}_b-\text{G-F} \\
\text{m. 29} & \quad \text{F}_b-\text{G-F} \\
\text{m. 34} & \quad \text{F-}\text{G}_b-\text{E} \\
\text{m. 46} & \quad \text{G-}\text{A}_b-\text{G}_b
\end{align*}
\]

In *Les yeux clos*, Takemitsu applies his additive process to build up highly chromatic vertical and linear structures from the generative motive (026). Yet, the contextually emphasized wTI focal pitch-classes project the wTI collection as the background structure against the surface octatonic and highly chromatic events.
Rain Tree Sketch (1982)

Rain Tree Sketch, which was composed in 1982 has a programmatic dimension.

The name and presumably the piece, was inspired by a quotation from a novel by Kenzaburo Oe (Atama no ii, Ame no Kí): "It was named the 'rain tree,' for its abundant foliage continued to let fall rain drops from the previous night's shower until the following midday. Its hundreds of thousands of tiny, finger like leaves store up moisture, whereas other trees dry out at once. What an ingenious tree, eh?"^8

As in Les yeux clos, Takemitsu continues to build octatonic-whole-tone structures from the generative trichord (026) in Rain Tree Sketch. On the other hand, the generative trichord (014) of Piano Distance returns in Rain Tree Sketch, and it is emphasized in both phrase and large-scale levels. As in all Takemitsu's piano works, focal pcs that are a semitone apart form a structural linear framework in Rain Tree Sketch.

Surface octatonicism superimposed on the background whole-tone reference is evident especially in the first and final sections of Rain Tree Sketch. Example 10 shows the whole-tone structures in the first section (mm. 1-13). In measure 3 of the left hand, emphasis on the wtI subset (026)

Example 10. Rain Tree Sketch, mm. 1-13

\[ \text{wtI} \]

\[ \text{wtII} \]

\[ \text{wtI: (CDF\#) (DEG\#) (CDF\#) (DEG\#) wtII: (ABD\#) (BC\#F)} \]

\[ \text{wtI: (ABC\#) (DEF\#) (GAC\#) wtII: (AB\#E) (BC\#F)} \]

\[ \text{wtI: (AB\#C\#) (BC\#F)} \]
shifts to the wtII subset (026). The descending wtII melodies in measures 4 and 7 complement this shift to wtII. As shown in Example 10, wtII pcs in the highest voice are emphasized throughout the section by appearing at the beginning and the end of each measure. Non-wtII pcs are almost always the highest notes in each measure. The (026) sets in measures 5, 8, and 10 project a complete wtII through the even number transpositions of $T_{10}$ and $T_8$ as shown in Figure 21.

Figure 21. The (026) sets, which complete wtII

<table>
<thead>
<tr>
<th>mm. 5</th>
<th>mm. 8</th>
<th>mm. 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>(B C# F)</td>
<td>(A B Eb) $T_{10}$</td>
<td>(G A C#) $T_8$</td>
</tr>
</tbody>
</table>

In the second section (mm. 14-31), the octatonic reference is more explicit than in the first section as shown in Example 11. The (026) sets continue to appear in the lower register. They generate the octatonic context instead of the whole-tone context in the first section. As shown in Example 11, the octatonic subsets (036) and (0369) are prolonged in the lower register of the second section as the (026) in the first section.

Measure 18 is an embellishment of measure 14. The octatonic septachord (0134679) in measure 14 is embellished in measure 18, in which a complete octII is projected. This
Example 11. Rain Tree Sketch, mm. 14-31

(0134679) (0134679T)

texto texto texto texto texto

Tempo I

(036)

Texto texto texto texto texto

(0369)

Texto texto texto texto texto

(0369)

Texto texto texto texto texto

(0369)
is an example of Takemitsu's motivic development through the restatement of familiar materials in more dense octatonic or whole-tone-references.

Example 12 illustrates that the octatonic subset (014) is the most important generator for the both surface and subsurface level upper melodic materials in the second section. As shown in Example 12, the octatonic (014) set first appears

Example 12. Rain Tree Sketch, (014) sets at surface and subsurface levels

mm. 1-2

mm. 12-41
Example 12 (continued)
in measure 1-2 of the whole-tone referential section. Then, it is fully realized in the octatonic second section. Pc 5 (F) is emphasized in measures 14-27 through its appearance in the four 

In spite of the surface octatonicism in the second section, the whole-tone (026) in the lower registers link the first and second sections. Figure 22 shows the (026) sets in the second section, which emphasize wtI and contrast with wtII in the first section.

Figure 22. (026) whole-tone relations in lower registers

<table>
<thead>
<tr>
<th>measure</th>
<th>(026)</th>
<th>wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>(A♭ B♭ D)</td>
<td>I</td>
</tr>
<tr>
<td>18</td>
<td>(F♯ A♭ C)</td>
<td>I</td>
</tr>
<tr>
<td>20</td>
<td>(F♯ A♭ C)</td>
<td>I</td>
</tr>
<tr>
<td>23</td>
<td>(E♭ F A)</td>
<td>II</td>
</tr>
<tr>
<td>29</td>
<td>(C E F♯)</td>
<td>I</td>
</tr>
<tr>
<td>30</td>
<td>(E♭ G A)</td>
<td>II</td>
</tr>
</tbody>
</table>

In the third section (mm. 31-51), the surface octatonicism is still explicit through the succession of dense chords as shown in Example 13. All the chords in Example 13 are the octatonic subsets except chord 4, in which the non-oct pc 5 (F) forms a semitone relation with the bass F♯. Arrows in Example 13 show octatonic completion. For example, the bass notes in chords 9 and 10 complete wtII for each chord.
Before the reprise of the opening section at measure 59, Takemitsu introduces the overlapping patterns of unequal length in the upper and lower scores as shown in Example 14. In measure 42, the top voice A-A\textsuperscript{b}-E-F-B-B\textsuperscript{b} is the same ordered pc as in the top voice in measure 1. The pattern in measure 42 also links to the opening measure through the (026) subset in the lower register. All pitches in measure 52 lower than G\textsuperscript{5} (F\# A C E\textsuperscript{b}) form the (0369) set, which links to the second section.

As shown in Figure 23, if both patterns in the upper and lower scores of measure 42 had continued one more note,
Example 14. Rain Tree Sketch, mm. 42-52

octI
\begin{align*}
A & \rightarrow A_b \rightarrow E \\
& \text{legatiss.} \\
& \text{rapido}
\end{align*}

(026)

octIII
\begin{align*}
F & \rightarrow E_b \rightarrow C \\
& \text{Tempo II} \\
& \text{marcato e cresc.}
\end{align*}

octIII
\begin{align*}
\text{Senza misura} \\
\text{Tempo I} \\
& \text{dying away}
\end{align*}

octII
\begin{align*}
C & \rightarrow E_b \rightarrow E \rightarrow F \\
& \text{Tempo II (rapidly)} \\
& \text{gradually} \rightarrow \text{cresc} \rightarrow \text{en} \rightarrow \text{do}
\end{align*}

(0369)
the patterns would reach the focal pitch A. This is delayed until measure 45.

Figure 23. Patterns in measure 42

\[ A-A^{\flat}-E-F-B-B \mid A-A^{\flat}-E-F-B-B \mid (A) \]
\[ A-A^{\flat}-E-F-B \mid A-A^{\flat}-E-F-B \mid (A) \]

A-A^{\flat}-E in the upper pattern of measure 42 is a truncated version of the linear motive A-A^{\flat}-G-E in measure 41. This motive recurs at T_8 (F-E-E^{\flat}-C) in measures 43 and 44. The upper melody in measure 52 begins with reordered version of the F-E-E^{\flat}-C motive (E^{\flat}-F-C-E). The patterns in measures 42 and 52 are both embellished through semitone relations as shown in Figure 24.

Figure 24. Semitone relations in motives, A-A^{\flat}-G-E and F-E-E^{\flat}-C

\[ A-A^{\flat}-G-E \quad A^{\flat} \quad A \quad E \]
\[ mm. 39-41 \quad m. 42 \]

\[ F-E-E^{\flat}-C \quad C \quad E^{\flat} \quad E \quad F \]
\[ mm. 43-44 \quad m. 52 \]

A semitone relation between focal pc A and B^{\flat} links measures 42 and 52. In measure 42, both pitches are the
first and last pcs for the right hand, while in measure 52, they are the highest and lowest pcs. The chromatic bass line C#-C-B-Bb in measures 42-44 reaches A, which continues sounding in the bass from 45-52. This is contrasted by Bb at the end of the piece.

Example 15 shows the principal cadences in the piece. The final cadence (mm. 80-84) is an arpeggiated version of the cadence in measures 45-51 at T1. It projects a complete

Example 15. Rain Tree Sketch, cadential passages


dying away
Example 15 (continued)

Example 15 (continued)

Example 15 (continued)

octI, while the cadence in measures 45-51 projects the octIII septachord (0134679). All the cadential passages contain semitone relations in registral extremes as shown in Example 15. Bass notes in all the cadences form the ascending motion A\textsubscript{b}-A-A-B\textsubscript{b}, while the soprano notes form the line G-G-F-F-F\#-F\#, which encircle the final F\#6.

Figure 25 shows all notes lower than E\textsubscript{b}2, which form a long-range bass motion. Both of the long sustained bass in measures 42 and 45 are approached by a semitone followed by a whole-tone. The first octave doubling (C\#1/C\#2) in measure 42 starts the projection of the generative trichord (014), C\#-A-B\textsubscript{b}. This is related to the local (014), F-G\#-A in measure 1 through inversion, with pc A as the axis of symmetry:
(F G# A) (A B♭ C#)

Figure 25. Lower-register pitch content

Figure 26 shows all the contextually emphasized focal pcs in the piece. The long-range bass motion A1-B♭1 is complemented by F6-F♯6 in the higher register. As shown in Figure 26, a semitone relation between B♭6 in the upper register and pc A in the bass spans the entire work.

In Rain Tree Sketch, Takemitsu projects octatonic-whole-tone collections through the (026) set in the lower register and the (014) set in the upper register. At the point of high tension, Takemitsu often restates familiar materials in more complete octatonic or whole-tone references. Moreover, he expands octatonic or whole-tone sets to chromatic saturation through the semitone relations based on these collections. Along with such motivic transformation, the piece is unified through the generative (014) set in both surface and deep levels and semitone
relations of focal pcs A/B, which form a large-scale motion that spans the entire work.

Figure 26. Rain Tree Sketch, Linear graph
CHAPTER III

ANALYSIS OF LES YEUX CLOS II (1988)

In the next three chapters, I use the same large pitch collections that Koozin uses (see pp 22-23). Unlike Koozin, I consistently group the pitch classes that are beamed together or are on the same stem as the fundamental musical gestures of the work. Since these later works are more regular metrically than the earlier ones, these criteria reliably identify set members.

Les yeux clos II was composed in 1988 for pianist Peter Serkin. In Les yeux clos II, Takemitsu applies his additive process of structuring large pitch collections from small generative cells, as in his earlier piano works. As in Les yeux clos, the overall pitch organization in Les yeux clos II can be summarized as surface octatonicism superimposed upon the background whole-tone collections. The octatonic-whole-tone reference is frequently obscured through the use of non-oct-wt pitches, which frequently highlight the structural bass note by semitone relations. In the highly chromatic texture, the priority of octIII and wtI is projected by the focal pitches contextually emphasized through long sustained
chords, extreme register, linear motives, and doubling and tripling.

In *Les yeux clos*, two contextually emphasized focal tritone dyads (E, B♭) and (C, F♯) generate the background structure of the wtI collection. In *Les yeux clos II*, two focal tritone dyads (E♭, A) of wtII and (B♭, E) of wtI compete each other for the priority of the whole-tone background structure. At the same time, both the tritone dyads belong to the octIII collection, and the dialogue between them confirms the priority of octIII, which spans the entire foreground structure of the piece. These two focal tritone dyads divide the piece into two main sections according to the focal whole-tone collection as shown in Figure 27.

Figure 27. Focal tritone dyads

mm. 1-27 (E♭, A) wtII octIII

28-57 (B♭, E) wtI octIII

The focal tritone dyads (E♭, A) and (B♭, E) together form tetrachord (0167), which recurs as one of the generative motives for the octIII collection. As in *Les yeux clos*, the focal pitches of whole-tone collections are contextually emphasized through extreme register, long sustained chords, linear motives, and doubling and tripling of pitch classes.
Figure 28 illustrates the background linear motion of the focal pitches, which are emphasized by appearing in the low registral extreme. These focal pitches appear as part of a tritone dyad. As shown in Figure 28, pc 3 (E♭ or D#) is emphasized most by appearing eight times throughout the piece. Pitches in both wtI and wtII appear alternately and outline each whole-tone collection as shown in Figure 29. Starting with pcs 0 (C) and 1 (C#), the first three pitches of each whole-tone collection appear in ascending order. For wtII, E♭ is further emphasized by appearing at the beginning and the end.

Figure 28. Background linear motion of the focal pitches in the low registral extreme

m 1 3 4 5 9 10 11 12 14 16 19 25 33 41 43 45 56

E♭ C C# Eb E♭ E♭ D E D# F D E E♭ D# D# E♭ Bb

Figure 29. Whole-tone collections generated by the focal pitches of the low registral extreme

wtI

E♭ C C# Eb D E D# F D E E♭ Bb

wtII
The dialogue between wtI and wtII is also articulated by the focal pitches Eb and Bb. According to Figure 28, Bb appears only once in the extremely low register at the end. However, Bb is emphasized through the generative motive (026), Bb-C-E, which recurs twelve times in measures 35-40 and 47-53. The complete wtI collection in measures 25-26 marks the shift of the focal pc from pc 3 (Eb) to pc 10 (Bb). In the quasi-development section (mm. 27-32) the priority of Bb and its tritone dyad (Bb, E) is confirmed through vertically doubled and tripled pc 10 (Bb). Therefore, from measure 25 to the end of the piece, the focal pitch Bb and wtI have priority over the pitch Eb and wtII. The pitch Eb in the low register after measure 25 implies the foreground structure of octIII.

As in Les yeux clos, long sustained whole-tone referential chords appear in the lower register against the octatonic materials in the upper register in Les yeux clos II. Figure 30 lists all the sustained whole-tone referential chords. These chords, which sustain more than a measure, are notated as stemless square note heads.

For all the long sustained chords (more than a measure), the whole-tone complement for each chord usually follows that chord immediately in the outer voices. Non-wtpcs usually form semitone relations with either the lowest or highest note. As Figure 30 shows, the whole-tone referential chords only appear in the first half of the piece (mm. 1-25).
Figure 30. Sustained whole-tone referential chords

<table>
<thead>
<tr>
<th>mm.</th>
<th>wt collection</th>
<th>PC-Set</th>
<th>wt complement</th>
<th>non-wt pc</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>wtII</td>
<td>(013679)</td>
<td>F, B</td>
<td>E, Bb</td>
</tr>
<tr>
<td>7</td>
<td>wtII</td>
<td>(02458)</td>
<td>C#, F</td>
<td>F#</td>
</tr>
<tr>
<td>8</td>
<td>wtI</td>
<td>(0137)</td>
<td>D, E, Bb</td>
<td>F</td>
</tr>
<tr>
<td>9</td>
<td>wtII</td>
<td>(02458)</td>
<td>Bb, B</td>
<td>E</td>
</tr>
<tr>
<td>10-11</td>
<td>wtII</td>
<td>(02458)</td>
<td>Eb, B</td>
<td>E</td>
</tr>
<tr>
<td>11</td>
<td>wtI</td>
<td>(02368)</td>
<td>D, Ab</td>
<td>A</td>
</tr>
<tr>
<td>12</td>
<td>wtI</td>
<td>(02458)</td>
<td>C, E</td>
<td>F</td>
</tr>
<tr>
<td>13-14</td>
<td>wtI</td>
<td>(02458)</td>
<td>C, E</td>
<td>E#</td>
</tr>
<tr>
<td>14-15</td>
<td>wtII</td>
<td>(02368)</td>
<td>Eb, A</td>
<td>Bb</td>
</tr>
<tr>
<td>22-24</td>
<td>wtII</td>
<td>(02458)</td>
<td>G, B</td>
<td>F#</td>
</tr>
<tr>
<td>25</td>
<td>wtI</td>
<td>(02458)</td>
<td>C, E</td>
<td>F</td>
</tr>
</tbody>
</table>

A complete wtII is projected through three wtII referential chords sustaining for more than a measure, while there is only one incomplete wtI referential chords sustaining for more than a measure. This illustrates the priority of the wtII collection in the deeper level against the frequent shift of the local priority between wtI and wtII collections in the first half of the piece. It is also significant that all these chords contain at least one (026) triad as their subset, which is a generative set for both Les yeux clos and Les yeux clos II.
In this piece, Takemitsu uses the interval of the tritone as the most fundamental building block. As in Les yeux clos, the linear trichord (026) serves the most significant generative gesture in Les yeux clos II. Trichord (026) is often extended to its supersets, (0268), (0236), (0246) and (02368). Figure 31 illustrates the linear motives based on trichord (026). Among all the (026) related trichords, the most significant linear motive constitutes specific interval classes of 2 and 6 as the first (026) motive in measure 4 as shown in Example 16. In this chapter, I will refer to this as the primary (026) motive. The motives containing the primary (026) motive are listed in bold face in Figure 31.

In the first half of the piece (mm. 1-26), two motives B-C#-G-F (m. 4) and A-B-F-D# (mm. 16-20), which contain the primary (026) motives, form a complete wtII collection. This suggests the priority of wtII collection in the first half of the piece. In this half of the piece, all the primary (026) motives appear with another (026) triad, which belongs to the other form of the whole-tone collection. For example, in measure 4, the primary (026) motive B-C#-G-F of wtII appears in the middle line, while the trichord (026) Ebb-Ab-E of wtI appears in the top line. Here the outer voices form semitone relations (G-Ab) and (F-E) respectively. The semitone relations also occur in measures 11 and 16-20. They characterize the conflict between the wtI and wtII
Figure 31. Linear motives based on trichord (026)

<table>
<thead>
<tr>
<th>measures</th>
<th>PC-Set</th>
<th>wt</th>
<th>oct</th>
<th>ordered pitch intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>$B^b\text{-}A^b\text{-}E$&lt;br&gt;$B\text{-}C^#\text{-}G\text{-}F$</td>
<td>(026)&lt;br&gt;(0268)</td>
<td>I&lt;br&gt;II</td>
<td>I&lt;br&gt;III</td>
</tr>
<tr>
<td>10</td>
<td>$B^b\text{-}F^#\text{-}E$&lt;br&gt;$E^b\text{-}C^#\text{-}A$</td>
<td>(026)&lt;br&gt;(026)</td>
<td>I&lt;br&gt;II</td>
<td>III&lt;br&gt;III</td>
</tr>
<tr>
<td>11</td>
<td>$B\text{-}A\text{-}F$&lt;br&gt;$C\text{-}D\text{-}G^#\text{-}F^#$</td>
<td>(026)&lt;br&gt;(0268)</td>
<td>II&lt;br&gt;I</td>
<td>II&lt;br&gt;III</td>
</tr>
<tr>
<td>16-20</td>
<td>$D^#\text{-}G^#\text{-}E\text{-}D$&lt;br&gt;$A\text{-}B\text{-}F\text{-}D^#$</td>
<td>(0126)&lt;br&gt;(0268)</td>
<td>I&lt;br&gt;II</td>
<td>II&lt;br&gt;II</td>
</tr>
<tr>
<td>22</td>
<td>$G\text{-}B^b\text{-}C\text{-}F^#$</td>
<td>(0146)</td>
<td>I</td>
<td>III</td>
</tr>
<tr>
<td>23</td>
<td>$C^#\text{-}B\text{-}F\text{-}E^b$&lt;br&gt;$D^#\text{-}A\text{-}E^#$</td>
<td>(0246)&lt;br&gt;(026)</td>
<td>II&lt;br&gt;II</td>
<td>II&lt;br&gt;II</td>
</tr>
<tr>
<td>25</td>
<td>$B\text{-}B^b\text{-}A\text{-}F$&lt;br&gt;$C^#\text{-}G\text{-}B$&lt;br&gt;$E\text{-}D\text{-}B^b\text{-}G^#$</td>
<td>(0126)&lt;br&gt;(026)&lt;br&gt;(0268)</td>
<td>II&lt;br&gt;II&lt;br&gt;II</td>
<td>I&lt;br&gt;II&lt;br&gt;I</td>
</tr>
<tr>
<td>26</td>
<td>$B^b\text{-}C\text{-}F\text{-}E\text{-}D^#$</td>
<td>(02368)</td>
<td>I</td>
<td>III</td>
</tr>
<tr>
<td>28</td>
<td>$G\text{-}C^#\text{-}A\text{-}B$&lt;br&gt;$B^b\text{-}E\text{-}C\text{-}D$&lt;br&gt;$B\text{-}F\text{C}^#$</td>
<td>(0246)&lt;br&gt;(0246)&lt;br&gt;(026)</td>
<td>II&lt;br&gt;I&lt;br&gt;II</td>
<td>I&lt;br&gt;+6&lt;br&gt;+5</td>
</tr>
<tr>
<td>30</td>
<td>$F^#\text{-}E\text{-}C\text{-}D^#$</td>
<td>(0236)</td>
<td>(0236)</td>
<td>I&lt;br&gt;II</td>
</tr>
<tr>
<td>35 &amp; 38</td>
<td>$Bb\text{-}C\text{-}F^#$</td>
<td>(026)</td>
<td>(026)</td>
<td>I&lt;br&gt;II</td>
</tr>
<tr>
<td>36 &amp; 37</td>
<td>$Bb\text{-}C^#\text{-}E$</td>
<td>(0236)</td>
<td>(0236)</td>
<td>I&lt;br&gt;II</td>
</tr>
<tr>
<td>39 &amp; 40</td>
<td>$Bb\text{-}C\text{-}F^#$&lt;br&gt;$G\text{-}D^#\text{-}E\text{-}A$&lt;br&gt;$A\text{-}F\text{-}B$</td>
<td>(026)&lt;br&gt;(0248)&lt;br&gt;(026)</td>
<td>(026)&lt;br&gt;(026)&lt;br&gt;(026)</td>
<td>I&lt;br&gt;II&lt;br&gt;II</td>
</tr>
<tr>
<td>40</td>
<td>$C\text{-}E\text{-}F^#\text{-}A\text{-}Bb$</td>
<td>(02368)</td>
<td>(02368)</td>
<td>I&lt;br&gt;II</td>
</tr>
</tbody>
</table>

Collections throughout the first half of *Les yeux clos* II. On the other hand, in *Les yeux clos*, the conflict between wtI and wtII through semitone relations recurs throughout the
Example 16. Primary (026) motive

```
\[ \begin{array}{c}
   & E & D & C & B^\flat & A & G \\
   1 &   &   &   &   &   &   \\
   2 &   &   &   &   &   &   \\
   3 &   &   &   &   &   &   \\
   4 &   &   &   &   &   &   \\
\end{array} \]
```

piece (see Figure 18, p 56). The emphasis shifts from the wtII collection to the wtI collection when a complete wtI collection is projected through tetrachord (0268) and pentachord (02368) in measures 25-26 (see Example 21, p 90). In the second half of the piece (mm. 27-57), the primary (026) motive B^\flat-C-F# recurs twelve times to manifest the importance of the wtI collection.

In *Les yeux clos II*, several basic materials, which are distinguished from each other by their texture, seem to imply the sectional divisions. As shown in Example 17, the first section (mm. 1-5) features an upper voice ostinato, which forms the interval of a perfect 5th juxtaposed against the tritone in different transpositions.

Measures 1-3, project a complete octIII with non-oct pc 8 (G#). This G# is articulated by appearing in the top voice
Example 17. *Les yeux clos II*, mm. 1-5

\[ \mathcal{O} = \text{Very Slow} \]

octIII

\[ 0167 \]

octI

\[ 0268 \]

\[ 026 \]

\[ 015 \]
and forming an upper voice ostinato with C# throughout the section. The G# also forms a semitone relation with pc 9 (A), the top note of the lowest sounding tritone Eb-A. In the bottom two lines, Takemitsu presents a complete octatonic collection through four pairs of tritone dyads. He articulates the two focal tritone dyads of the piece, (Eb, A) and (Bb, E) by placing them in the lowest register. In the bottom line of measure 3, a referential material is presented. Non-referential pc 1 (C#) forms a semitone relation with the bass C. Total pitch content of measures 1-3 is a sum of complete octatonic and referential, which is Messiaen's mode VII (012346789T). The twelve tone complement of this set, tritone dyad (B, F) is immediately supplied in the following measure (m 4) as the lowest tritone dyad.

In the middle line of measure 4, the first primary (026) motive, B-C#-G, appears nested in the tetrachord (0268), B-C#-G-F. The motive B-C#-G has as its ordered pitch intervals +2 and +6. In this tetrachord, another trichord (026) at T6, C#-G-F, is projected by sharing pc 1 (C#) and pc 7 (G) as shown in Figure 32.

Figure 32. Primary (026) motive nested in (0268)
The tetrachord (0268) is the largest common subset of the octatonic and whole-tone collections. In both Les yeux clos and Les yeux clos II, this tetrachord serves as the intersection between the octatonic and whole-tone collections. Tetrachord (0268) is such a symmetrical set, made up of two sets of the tritone separated by a whole step. It contains four possible trichord subsets, and all are (026). For instance, the tetrachord (0268) in measure 4 contains two other trichords (026), B-C#-F and B-G-F, in addition to the ones projected on the surface as shown in Figure 32. Therefore, any linear tetrachord (0268) consists of two trichords (026) by sharing two common tones.

In the top line of measure 4, another (026) motive at T9, Bb-Ab-E, is presented. The initial linear interval 2 is replaced by its complement 10 through the octave displacement of the Ab. Along with the D that is sustained from the previous measure, the tetrachord (0268) and the trichord (026) in measure 4 completes the octatonic I collection.

The second section (mm. 6-15) shown in Example 18 is based on the chromatic linear motive (012) from Les yeux clos (see Figure 20, p 57). This linear motive has a vertical structure of set (02458), which is a combination of (015) in the upper part accompanied by a tritone dyad in the lower part as shown in Example 19. As shown in Figure 31 on p 74, many of the sustained whole-tone referential chords in Les yeux clos II have the same vertical structure using (02458),
Example 18. *Les yeux clos II*, mm. 6-15

12 tone aggregate
Example 18 (continued)
Example 19. *Les yeux clos*, m. 14

which contains one non-wt pc. In the second section of *Les yeux clos II*, wtI and wtII referential chords alternate frequently through the linear chromatic motive (012) as shown in Example 18. Whole-tone referential chords recur in the lower register against the octatonic materials in the upper register. In this section, the quick shifts between the wtI and wtII referential chords reinforce the competition between wtI and wtII. They also provide a highly chromatic texture along with the octatonic materials in the upper register.

The conflict between the perfect 4th or 5th and the tritone continues in the second section. In this section, the perfect 5th interval is inverted to the perfect 4th, and is presented in the vertical trichord (015) as shown in Example 18. The trichord (015) appears in the middle line along with the tritone in the bottom line. The linear
trichord (015) appears in the bottom line of measure 3 (see Example 17, p 80) and anticipates Takemitsu's extensive use of this trichord. The trichord (015) is not a subset of either the octatonic or whole-tone collections. The recurrent trichord (015) in the different levels of transposition obscures the overall pitch content in this section.

In measure 6, the top line is based on octI and II, while the bottom line is based on wtI. In the top line, the first half forms a complete octI with non-oct pc 6 (F#), which forms a semitone relation with the non-wt pc 5 (F) in the bottom line. The octatonic collection in the first half repeats at T10 in the second half of the top line, which forms a complete octII with non-oct pc 4 (E). This pitch forms a semitone relation with the non-wt pc 3 (Eb) in the bottom line. In the bottom line, wtI in the first half also repeats at T10, which forms a complete wtI collection.

The tritones that belong to wtI continue to appear in the bottom line of measures 7-8. The top line of measure 7 forms a complete octI along with the B in the middle line. The top line of measure 8 also forms a complete octI along with the G in the middle line. It contains non-octI pc 0 (C). In measure 10, all the tritones belong to octIII except the tritone B-F. With two other non-octIII pcs 2 (D) and 8 (G#), all the 12 pitches appear in this measure.
In the middle line of measures 7-10, the vertical trichord (015) appears at various levels of transposition. Two pairs of the trichord (015) and tritone (T₀ and T₃) in measure 7 appear in measure 8. The first pair D♯-E-G♯ and F♯-C also appears in measure 12, then the trichord (015) D♯-E-G♯ repeats at T₁ (E-F-A) and T₂ (F-G♭-B♭). Trichord (015) and the tritone together form pentachord (02458), which contains two members of the most essential trichord in the piece (026). The pentachord (02458) repeats at T₁₀ and T₁ in measure 9.

In the middle line of measure 9, two perfect 4ths (E♭-A♭ and D-G) juxtapose against the tritone in the bottom line. This repeats at T₁₀ in measure 10 and T₀ in measure 12.

In the middle line of measure 10, trichord (027) C-D-G appears and repeats immediately at T₁ (C♯-D♯-G♯). Like trichord (015), trichord (027) is not a subset of the octatonic or whole-tone collections, but it forms pentachord (02469) together with the tritone in the bottom line in measure 10. This pentachord contains two members of the trichord (026). Measure 10 repeats at T₁ in measures 13 and 14. In measure 11, two motives (0268) and (026) in measure 4 return at T₁, which complete the octatonic II collection.

The third section (mm. 16-20) shown in Example 20 is based on the linear motive A-B-F-D♯ (0268) T₁₀ in the middle line against the linear motive D♯-G♯-E-D (0126) in the top line. The motive (0268) is the largest common subset of wtII
Example 20. Les yeux clos II, mm. 16-20
and octII. The motive (0126) is subset of neither the whole-tone nor the octatonic collections. The entire section is based on wtII-octII, however it is highly chromatic, and all the twelve pcs appear except pcs 1 (C#) and 10 (B♭).

Throughout the section, pc 2 (D) is emphasized by appearing in the outer voices in extreme registers.

Within these five measures, four statements of the linear motive (0268), which contains the primary motive (026), are made with the variations of rhythm and accompanied materials. In the top line of each (0268) statement, the linear trichord G#-E-D (026) appears nested in the tetrachord D#-G#-E-D (0126). Here, the trichord (026) has its ordered pitch intervals +8 and +10. Therefore, unlike the primary (026) motive of the piece, the tritone interval does not unfold as a surface melodic interval.

The fourth section (mm. 21-27) shown in Example 21 has a thicker texture than previous sections, which suggests a climactic intensity toward the strong cadence at measure 26. In this section, the pitch content of wtII-octIII reference shifts to a wtI-octI reference at the cadence. Measure 21 consists of a complete octIII with pc 5 (F). In measures 22-24, the priority of wtII is evident through the long sustained chord of stemless square note heads, along with the melody outlining wtII subset (0246) in measure 23. Measure 22 consists of two tetrachords, D#-E-A-C# (0137) and G-B♭-C-F# (0146), which are Z-related sets and together form the
Example 21. *Les yeux clos II*, mm. 21-27

21 octIII

22 octIII

(02458) $\text{pp} \cdot (0137) \ Z$-related sets

24 wtII I II I

octI

(0126) $\text{pp} \cdot (026)$

(03268) \text{a}m

(0268) $\text{pp} \cdot (02368)$
complete set of octIII. The tetrachord (0146) encloses the (026) motive at T11 (B♭-C-F#). The tetrachord (0137) contains trichord D#-A-C# (026), but it does not appear on the surface level because of an interruption by an E.

The highest melody in measure 23 outlines the tetrachord, C♯-B-F-E♭ (2468), which nests two inversionally related (026) motives, C♯-B-F (T₀I) and B-F-E♭ (T₄R). In the bottom line of the same measure, trichord (026) D#-A-E♯, appears projecting ordered pitch intervals +6 and +8.

In measure 24, a conflict between wtI and wtII occurs. The total pitch content in measures 24-26 reaches the highest chromatic density, projecting all twelve pcs. The lower register of measures 23-24 can be viewed as an octII collection. Despite the chromaticism, measures 25-26 project wtI and octI collections. In measure 25, the linear motive (0268) E-D-B♭-G♯, which is a common subset for both wtI and octI, appears in the lower register against the octI referential material in the higher register. Three linear statements (0126), (026), and (0268) in measure 25 contain trichord (026), but each of them reorders the pitch intervals possible in the primary (026) motive. These three linear statements form a complete octI collection. The non-octI pc 9 (A) forms a semitone relation with the bass G#.

In measure 26, the primary (026) motive recurs at T₁₁ (B♭-C-F#) as the part of tetrachord (0268) B♭-C-F♯-E. It is important that this tetrachord completes the wtI collection.
along with the tetrachord (0268) E-D-Bb-G# in measure 25. This complete statement of the whole-tone aggregate closes the first half of the piece preceding the opening of a development-like section. Koozin characterizes this sectional closure by saying "Throughout Les yeux clos, there is a tendency for rhythmically active octatonic-referential passages to achieve closure in sustained chords which are whole-tone-referential." The tetrachord (0268) in measure 26 extends to the pentachord (02368) at the end by adding non-wtI pc 3 (D#), which form a semitone cadential gesture with the bass E sustaining from the previous measure. The semitone cadential gesture also appears between B and C at the end of Les yeux clos.

The pentachord Bb-C-F#-E-D# (02368) is also significant because the same pentachord starts the new section in measures 35-40, which repeats exactly in measures 48-53. Moreover, that pentachord along with another member of the pentachord (02368) at T4I is the essential motivic material in that section.

The fifth section (mm. 28-32) shown in Example 22 has features of a development, in which all the materials in the previous sections return one after another quickly. The section starts with the rhythmic motive in the opening section on the doubled pc 10 (Bb), which is the focal pc in

1 Koozin, op. cit., 196.
the second half of the piece. Throughout the section, the doubled or tripled pc 10 appears at the downbeat of each measure. In measure 28, a dialogue between wtI and wtII is played by the linear motive (0246) and the vertical chord (02458) from the second section. In this measure, trichord G-C#-A (026) is stated in tetrachord G-C#-A-B (0246). Then, it repeats at T₃, Bᵇ-E-C-D, followed by trichord (026) B-F-C#.
All twelve tones are presented in measure 28. Measure 29 consists of a complete octIII and pc 8 (G#) as in measure 1.

In measure 30, trichord F#-E-C (026) is nested in tetrachord F#-E-C-D# (0236). This tetrachord is an exact transposition of the tetrachord (0236) E♭-C#-A-C in measure 10 at T₉. Measure 30 consists of a complete octIII. Measure 31 repeats measure 21 at T₁ with some alterations, and it forms a complete octI with pc 6 (F#). Measure 32 projects the entire twelve tone aggregate, which intensifies the climactic quality resolving to the reprise of the opening material in the following measure. The climactic gesture is reinforced by the semitone registral split between outer voices E₃ and F₇. The semitone relations between outer voices also occur in measures 30 (E₃, D#₇) and 31 (C♯₃, D₅). It is significant that pc 4 (E) is emphasized by its semitone pitches (F₇ and D#₇), since pc 4 is a member of the focal tritone dyad (B♭, E) in the second half of the piece.

The sixth section (mm. 33-34) shown in Example 23 is the reprise of the opening section with a thicker texture that results from Takemitsu's additive process. In measure 33, the trichord (016) F#-G-C is added to the P5 G#-C# and forms pentachord (01267). In the bottom line of this measure, three pairs of the tritone in measure 10 recur. Also, in this measure, two vertical trichords (026) C#-A-G and B♭-C-E are presented.
In measure 33, the tritone B⁰-E appears three times in the three different registers, which anticipates the shift of the central tritone from B⁰-A to B⁰-E at the end of the piece. In measure 34, another non-octIII pitch B appears just below the highest pitch D#7. The pitch B forms a semitone relation with the B⁰, which is one pitch of the new central tritone B⁰-E. This tritone is presented twice in this measure. The total pitch content in measure 33 consists of a complete octIII with pc 8 (G#) as in measure 1. Measure 34 consists of a complete octIII with pcs 8 (G#) and 11 (B).

Example 23. Les veux clos II, mm. 33-34
The seventh section (mm. 35-40) shown in Example 24 is based on the linear motive (0268) B₇-C-E-F#, which is a common subset for wtl and octIII. This motive confirms the priority of wtl and octIII in the second half of the piece. This section, which is repeated in measures 47-53, employs the most concentrated appearance of trichord (026) both horizontally and vertically in the piece. In this section, the pentachord B₇-C-F#-E-D# (02368) in measure 26 returns in the context of the octatonic collection rather than the

Example 24. Les yeux clos II, mm. 35-40

octIII (02368)  (048)  (026) (026) (026)
35

octIII (02368)  (026)  (026)  (026)
38

(02368)T₄I  (02368)T₄I

(02368)T₆I  (02368)T₄I
whole-tone collection. As shown in Figure 33, octIII can be completed by four members of the pitch set (02368), which share the octIII-wtI common subset (0268) B-C-E-F#. The first three members appear in this section and the last one (T₆) appears extensively in the next section (mm.41-44).

Figure 33. Motive (02368)

<table>
<thead>
<tr>
<th>mm.  26, 35 and 38</th>
<th>T₀</th>
<th>Bᵇ C F# E D#</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm.  37, 39, and 40</td>
<td>T₄I</td>
<td>Bᵇ C F# E C#</td>
</tr>
<tr>
<td>mm.  38 and 39</td>
<td>T₁₀I</td>
<td>Bᵇ C F# E G</td>
</tr>
<tr>
<td>mm.  11, 21, and 42-44</td>
<td>T₆</td>
<td>Bᵇ C F# E A</td>
</tr>
</tbody>
</table>

In measure 35, the primary (026) motive is presented at T₁₁ (Bᵇ-C-F#) nested in the pentachord (02368) at T₀. Then, the same pentachord recurs in measure 38 with a chordal accompaniment, which completes octIII. This is an example of Takemitsu's technique of motivic development, in which motives are repeated in more complete octatonic or whole-tone collections. The same measure introduces the vertical pentachord (02368) at T₁₀I (Bᵇ-E-F#-G-C). In measure 39, the pentachord (02368) at T₀ appears with tetrachord G-D#-B-A (0248), which contains trichord (026) D#-B-A. Non-oct pc 11
(B) forms a semitone relation with the lowest pitch C. In this measure, pentachord (02368) at T₄I (Bᵇ-C-C♯-E-F♯) and T₁₀I appear vertically. In measure 36, tetrachord Bᵇ-C-C♯-E (0236) is presented in the left hand part along with the augmented triad (048) in the right hand part, which includes non-octIII pc 11 (B). It forms a semitone relation with the lowest bass Bᵇ. The tetrachord Bᵇ-C-C♯-E (0236) expands to pentachord (02368) at T₄I (Bᵇ-C-C♯-E-F♯) with a rhythmic alteration in measure 37. In the right hand part of this measure, three vertical trichords (026) accompany the pentachord. The highest pitch B, a non-octIII pc again forms a semitone relation with the lowest pitch Bᵇ. Measure 37 repeats with altered rhythm in the last measure (m 40) of the section. Two more non-octIII pcs 8 (Aᵇ) and 5 (F) are added in measure 40, in which all of the 12-tone aggregate except pc 2 (D) is presented. This section illustrates Takemitsu's additive process, in which motivic materials recur in a chromatically and texturally dense environment toward the climactic moment.

The eighth section (mm. 41-44) shown in Example 25 is a transitional section to the second reprise of the opening material in measure 45. This section intensifies the climactic quality of the piece by introducing the fast passages in the lower register. Measure 41 consists of two members of set class (0167) D♯-A-Bᵇ-E and G-C-Gᵇ-C♯, which recall and anticipate the return of the opening section. Two
members of set class (0167) form a complete octIII collection. The octatonic subset (0167), which consists of two tritone dyads separated by a semitone, recurs in the lower register throughout the piece (mm. 1, 4, 10, 14, 33, 34, 45, and 56). All (0167) subsets generate the octIII collection, except one in measure 4, which generates octII. Measure 42 also forms a complete octIII collection based on tetrachord (0167). In the same measure, pentachord (02368) C-E-F#-A-Bb, which includes trichord (026) C-E-F#, also
appears. In measures 43-44, non-octIII pcs 2 (D), 8 (G#), and 11 (B) are added to the complete octIII, so that all twelve tones except pc 5 (F) are presented.

Measure 45 is an exact repetition of measure 1.

Measure 46 summarizes the dialogue between wtI and wtII, in which both wtI and wtII referential chords alternate as shown in Example 26.

Example 26. Les yeux clos II, m 46

After the reprise (mm. 47-53) of the seventh section (mm. 35-40), which further confirms the priority of the tritone dyads (B⁰-E), the opening material comes back for the last time at the end of the piece (mm. 55-57) as shown in Example 27. It is significant that Takemitsu omits the
lowest tritone dyad (E♭-A) from the final reprise of the opening material and instead presents the tritone dyads (B♭-E) as the lowest tritone dyad. This reconfirms the shift of the focal tritone dyad from (E♭-A) in the first half of the piece to (B♭-E) in the second half of the piece.

Example 27. *Les yeux clos II*, mm. 55-57

In summary, as in *Les yeux clos*, Takemitsu employs the generative motive (026) to builds large collections of whole-tone-octatonic reference in *Les yeux clos II*. As a result,
the pitch content of *Les yeux clos II* can be characterized as surface octatonicism superimposed upon a whole-tone referential background. Takemitsu does not limit his pitch material to the octatonic-whole tone reference, but expands it to include other pcs, especially at the climactic point in each section. Non-octatonic or non-whole tone pitches are often further articulated through a semitone relation with the structural pitch, which is often the lowest pitch. Takemitsu's active use of non-octatonic or non-whole-tone pitches relates to his philosophy of composition, which he articulates as "bringing noises into tuned musical sounds". Although the frequent shifts among different forms of the octatonic and whole-tone collections is evident on the local level, the global priority of wti and octIII is manifested by the focal pitches contextually emphasized through extreme register, long sustained chords, linear motives, and doubling and tripling. In *Les yeux clos II*, the background structure of the whole-tone collection does not seem as explicit as it is in *Les yeux clos*. 
ANALYSIS OF LITANY (1950/1989)

Litany (1989) is a recomposition of Takemitsu's first published solo piano piece, _Lento in Due Movimenti_ (1950). Takemitsu lost the original score and rewrote it from the original sketch. It is not certain that how larger portion of the original score was reproduced in Litany. Since the pitch organization in the second movement of Litany has a significant influence over Takemitsu's last solo piano work, _Rain Tree Sketch II_ (1992), it is appropriate to place Litany (1950/1989) after _Les yeux clos II_ (1988) to see the chronological changes in Takemitsu's compositional style.

The piece consists of two movements, Adagio and Lento misterioso. Litany is based on pitch organizations that are significantly different from all his previous solo piano works. The piece was originally composed in 1950 during Takemitsu's study with Yasuji Kiyose (1900-81), and the first movement reflects some influence from Kiyose in the use of a pentatonic scale. The second movement projects typical octatonic collections and unusual diatonic collections, which reappear in Takemitsu's last solo piano work, _Rain Tree Sketch II_. 
In this chapter, I will illustrate the pitch content that determines the overall structure of the piece. Then, I will investigate aspects of musical coherence (motivic gesture and set class) in the composition. Finally I will demonstrate how all those parameters are put together to express Takemitsu's idea of composition.

The First Movement (Adagio)

In the first movement of *Litany*, Takemitsu uses a conventional key signature of four flats. This is the only time he uses a key signature in all his solo piano works. In the first section (mm. 1-20), the key signature seems to indicate the key of F minor. However, the aural effect is C hemitonic hexatone because of the absence of the leading tone E or the subtonic Eb in the key of F minor. This hemitonic hexatone is based on the Japanese traditional hemitonic pentatone, which is different from the Chinese pentatonic scale. As shown in Figure 34, a typical Chinese scale is a pentatonic scale with no semitone (anhemitonic pentatonic). On the other hand, a typical Japanese scale is a pentatonic scale with semitones (hemitonic pentatonic).\(^1\)

---

As shown in Figure 34, in the hemitonic pentatone, sol is always missing and do and re are interchangeable. Thus, the pentatonic scale is often expanded to the hexatonic scale by having both do and re. Mi and ti are more important than other scale tones, and they are usually emphasized by a semitone cadential pattern (fa-mi) or (do-ti). Takemitsu's frequent use of semitone gestures in his solo piano works can be related to Japanese affinity for semitone gestures.

Figure 35 shows the overall pitch content of the first movement of *Litany*. Each transposition of hemitonic hexatones is one of the scale tones of the original C hemitonic hexatone. Takemitsu projects large scale coherence by composing out his initial idea of the C hemitonic hexatone. Although the movement is mainly based on the hemitonic hextatone, which are not found in any other solo piano works of Takemitsu, an implication of the usual octatonic-whole-tone reference is found in measures 41-45.
Figure 35. **Litany**, No. 1, overall pitch content

mm. 1-20 C hemitonic hexatone C-D\(^b\)-F-G-A\(^b\)-E\(^b\) (013568)

mm. 21-24 F hemitonic hexatone F-G\(^b\)-B\(^b\)-C-D\(^b\)-E\(^b\) (013568)

mm. 25 G\(^#\) hemitonic hexatone G\(^#\)-A-C\(^#\)-D\(^#\)-E-F\(^#\) (013568)

mm. 26-33 B\(^b\) hemitonic hexatone B\(^b\)-C\(^b\)-E\(^b\)-F-G-A\(^b\) (013568)

mm. 34-36 mode III of Messiaen's modes of limited transposition (01245689T)

mm. 37-40 C\(^#\) hemitonic hexatone C\(^#\)-D-F\(^#\)-G\(^#\)-A-B (013568)

mm. 41-45 chromatic saturation-combination of a whole tone subset (02468) and an octatonic subset (013679) which form mode VII of Messiaen's modes of limited transposition (012346789T)

mm. 46-47 A\(^b\) hemitonic hexatone

m 48 (0148) subset of Messiaen's mode III and VII

As shown in Example 28, the first section (mm. 1-20) consists of six phrases, a, b, b', b'', and c. Phrase a (mm. 1-2) is entirely in the C hemitonic hexatone. Phrase b (mm. 3-6) introduces non-scale tones, F\(^#\) and B. Phrase b' (mm. 7-10) is a variation of phrase b. Phrase b'' (mm. 11-16) is another variation of phrase b. Phrases c (mm. 17-18) and c' (mm. 19-20) constitute the second theme, which sounds like a Japanese lullaby.
Example 28. Litany, No. 1, mm. 1-25
Example 28 (continued)

Takemitsu uses a traditional Japanese hemitonic pentatonic (or hexatonic) scale, C-D\textsuperscript{b}-F-G-A\textsuperscript{b} (or B\textsuperscript{b}) for the main theme (mm. 1-2), which is a preexisting stream of sounds, then he gradually introduces "noise," which is represented by the non-scale tones F\# (m 3) B (m 4), and D (m
7). Non-scale tones add the interval of the tritone resulting in the three note pc set class (016).

In this piece as well as in many other Takemitsu's compositions, the interval of the tritone serves an important role. Takemitsu was always fascinated by the symmetrical feature of the tritone. The hemitonic hexatonic scale itself contains the tritone between Fa and Si (Db and G in the C hemitonic hexatone). This tritone is emphasized by placing it in the lowest dyad in measure 1 and in the highest dyad in measure 2. Takemitsu then, adds non-scale tones F# and B in measures 3-4, where each added note forms a set of tritones with scale tones (C-F# and F-B). All three tritones (Db-G, C-F#, and F-B) together form a symmetrical hexachord, (012678), which is mode V of Messiaen's modes of limited transposition. Measure 3 adds a semitone, and forms the trichord (016), which is the most prominent trichord in this movement.

After the major cadence on C (m. 6), another non-scale tone D is introduced in measures 7-8 and 13-14, which also forms trichord (016). In measures 7-8, three (016) trichords, Db-D-G, F#-G-C, and Ab-G-D, constitute Messiaen's mode V. A symmetrical pair of (015) trichords in measures 8 and 11 also forms mode V. With three non-scale tones (F#, B, D), the pitch collection in measures 7-14 is (012346789), which is the complement-related set of (016), the primary trichord of the piece. The set class (012346789) is one
pitch (E) short from the completion of mode VII, which occurs in the climactic section (mm. 41-45), but at a different level of transposition. The pitch E, which completes mode VII, appears in the F minor major 7th chord in the very last measure (m 48). Measure 11 introduces non-scale tones F# and B to form (016). In the climactic part of section A (mm. 15-21), all the pitches are from the C hemitonic hexatone except B in measure 18 at the fermata. The non-scale tone B forms pc set (016), and forms a semitone relation with the bass B in measure 18.

In measure 21, the first appearance of Eb (sol) negates the sense of the C hemitonic hexatone collection. In measures 21-24, all the pitches belong to F hemitonic hexatone. The first part (phrase c) of the second theme (Japanese lullaby) is in T5.

Measure 25 contains a perfect 5th in the bass, and produces the aural effect of an A major 13th chord without the 9th. At the same time, all these 6 notes constitute the G# hemitonic hexatone.

The last beat of measure 24 starts the opening theme in the Bb hemitonic hexatonic (T10). This six measure long theme 1 is extended by T5 of theme 2 (only the first phrase) in measures 32-33. There is a registral expansion of the last note in measure 33.

The transition in measures 34-36, shown in Example 29, contains a pitch collection different from the hemitonic
hexatone. The entire section seems to be based on members of pc set class (01245689T), Messiaen's mode III. In measure 36, Takemitsu emphasizes pc 1 (C#), which completes mode III, by tripling it and placing it as the highest pitch (C#7) of the movement. Along with the lowest pitch of the movement Cb1 in measures 34-36, these semitones that encircle C confirm its centricity in the movement. The complementary pcs of mode III, 8 (Ab), 0 (C), and 4 (E), which complete the twelve-tone aggregate appear in the last measure (m 48) of the movement (see Ex. 30). Measure 34 starts with a subset (048) on the first beat. This set class is a complement of (01245689T), which has a similar interval content. Of all Messiaen's modes of limited transposition, only the complement of Mode III, (048) does not contain the tritone. Therefore, mode III is the only mode that is not one of subsets of mode VII, while all the rest are. Although mode III is not directly related to mode VII or to the hemitonic hexatone, the trichord (016) in measure 36 suggests a link with other materials.

Measure 34 contains a canonic imitation at octave. The linear motive (D-F#-Bb-F-A) in measure 34 is a member of set class (01458), which is a subset of mode III. It repeats at T5 in measure 35. In measures 37-40, the second half of theme 2 is heard in the C# hemitonic hexatone (Tb).

The pitch content of the climax of the piece (mm. 41-45) is mode VII (012346789T). After the climactic section,
Example 29. *Litany*, No. 1, mm. 34-36

The lullaby theme is heard again in T₈.

As in other solo piano works of Takemitsu, in this movement, the same linear motivic gestures come back with variations and in different contexts. The trichord (016), which permeates the piece, describes many of the motivic activities. The interval content of (016), ic₁, ic₅, and ic₆ are all essential intervals in the piece.

As shown in Example 28, The opening motive Bᵇ-Dᵇ-C (013) in measure 1 repeats immediately in measure 2 with registral expansion. Then, the same motive (contour class of <0,2,1>)² is transformed into G-F♯-C <1,0,2>, which is the retrograde

inversion of \( <0,2,1> \). This G-F\#-C motive is a member of the most prominent trichord (016) in the piece, and reappears in measures 7 and 11. Every time the motive G-F\#-C appears, it is accompanied with one or two other trichords (016). In measure 3, it is accompanied with trichords (016), G-A^b-D^b and C-D^b-F\#, in measure 7, with D-D^b-G, and in measure 11, with C-D^b-F\#. The opening motive and its transformation (016) come back at T_10 in measures 26 and 28 respectively.

The opening motive also contains a musical idea, the descending semitone D^b-C, which comes back later. The descending semitone gesture is an unique feature of the Japanese scale, which is not found in the Chinese scale. Two auxiliary notes (fa and do) in Japanese scale, give an expressive gesture by descending a semitone to the primary notes (mi and ti). In measure 8, the non-scale tone D6 and the bass D^b2 together form a semitone relation D^b2/D6, which descends by a semitone to C2/D^b6 to form an usual semitone cadence in measure 10. In measures 8-16, along with this semitone cadence, the semitone descent D^b-C in the bass emphasizes the tonic C.

The semitone gesture comes back in the climactic section (mm. 41-45) as shown in Example 30. In measure 41, that gesture is a part of the statement, D^b-A^b-D^b-C (015), which repeats in measure 44. In measures 42 and 45, it is stated in a concealed way through a registral split.
measures 41-43, the semitone gesture (D\textsubscript{b}-C) in the top line
is stated in three different levels of textural density.

Example 30. Litany, No. 1, mm. 41-48

mode VII (012346789T)
(015) (015) (013679) (02468) (013679)

As shown in Figure 36, Takemitsu employs his process of
adding semitones, which also increase tritone relations, to
develop the (015) motive A\textsubscript{b}-D\textsubscript{b}-C. In the left hand part of
measure 41, an ascending semitone A\textsubscript{b}-A appears, while in the
left hand part of measure 42, descending semitones A-A\textsubscript{b}-G
appear. Measure 43 summarizes the semitone gesture through
the simultaneous statement at \( T_0 \) (D\(^b\)-C), \( T_2 \) (E\(^b\)-D), \( T_3 \) (E-E\(^b\)), \( T_6 \) (G-G\(^b\)), \( T_8 \) (A-A\(^b\)), and \( T_9 \) (B\(^b\)-A). In measure 43, the pitch B\(^b\), which completes Messiaen's mode VII, is emphasized by appearing in the bass.

Figure 36. Development of the (015) motive A\(^b\)-D\(^b\)-C

<table>
<thead>
<tr>
<th>Measure</th>
<th>Staff</th>
<th>Pitch Class</th>
<th>(0145) Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>C D(^b) A(^b) A</td>
<td>(0145)</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>C D(^b) E(^b) F# G A(^b) A</td>
<td>(0123679)</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>C D(^b) D E(^b) E F# G A(^b) A B(^b)</td>
<td>(012346789T)</td>
<td></td>
</tr>
</tbody>
</table>

Another important interval is ic5 (P5 and P4), This interval is presented in the motive F-A\(^b\)-A\(^b\)-D* (037) followed by D\(^b\)-G-G-C (016). These two motives first appear in the top melody of measure 4-6. Then, they are repeated rhythmically altered in the bass part of measures 8-9 and 13-14. They also return at \( T_10 \) in measures 30-31.

As in Les yeux clos II, this movement also can be viewed as a conflict between intervals 5 and 6, which characterizes Takemitsu's idea of "bringing noises into tuned musical sounds." Throughout the movement, a constant interaction between intervals 5 and 6 is observed both melodically and harmonically. The melodic (F-C) and harmonic (D\(^b\)-A\(^b\)) gestures of interval 5 in measures 1-2 are answered by tritones in measures 3-4. In the top line of
measures 4, 5, and 6, intervals 5 and 6 are alternated (F-A_b-D_b-G-C) accompanied by harmonic intervals 5 (F-B_b) and 6 (D_b-G) in the left hand. In measures 8-9 and 13-14, the same motive F-A_b-D_b-G-C is accompanied by tetrachords (016) and (015). As shown in Figure 37, in measures 8-9 and 13-14, the motive F-A_b-D_b-G-C is restated in a chromatically dense context, in which the number of semitones and tritones increases.

Figure 37. Motive F-A_b-D_b-G-C

The first movement of Litany is based on the Japanese hemitonic hexatonic scale, which is not found in any other solo piano works of Takemitsu. The movement is built through an additive process based on the tritone and semitone intervals. Takemitsu seems to delineates his idea of composition, "bringing noises into tuned musical sounds," through the non-scale tones, which form trichord (016). Because of the Japanese lullaby-like second theme, the movement seems to portray the scene that a mother is trying to put her baby to sleep, but its peaceful and quiet
environment is constantly disturbed by everyday noises around her.

**The Second Movement (Lento misterioso)**

In the second movement of *Litany*, tempo change contributes to the sectional division. The basic musical ideas in each section also change along with its tempo. Figure 38 shows the overall structure of the movement. The exact return of section A and the contrasting sections B and C describe its overall form as rondo.

Figure 38. *Litany*, No. 2, overall structure

<table>
<thead>
<tr>
<th>mm. 1-8</th>
<th>A</th>
<th>Lento misterioso</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm 9-10</td>
<td>Transition</td>
<td></td>
</tr>
<tr>
<td>mm. 11-20</td>
<td>B</td>
<td>Piu mosso</td>
</tr>
<tr>
<td>mm. 21-22</td>
<td>Transition</td>
<td></td>
</tr>
<tr>
<td>mm. 23-28</td>
<td>B'</td>
<td>Piu mosso</td>
</tr>
<tr>
<td>mm. 29-36</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>mm. 37-51</td>
<td>C</td>
<td>Allegro con moto (mm. 37-39)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poco piu mosso (mm. 39-47)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lento (mm. 48-51)</td>
</tr>
<tr>
<td>mm. 52-57</td>
<td>B'</td>
<td>Piu mosso</td>
</tr>
<tr>
<td>mm. 58-64</td>
<td>A</td>
<td></td>
</tr>
</tbody>
</table>
The pitch content of the movement is summarized as a contrast between the diatonic collection in D major and the three octatonic collections. Although there is no key signature indication, the recurring A section is based on the tonality of D major because of the functional harmonic progression, subdominant-dominant-tonic. The overall harmonic progression in section A is shown in Figure 39.

Figure 39. *Litany*, No. 2, harmonic progression in section A

[D] m 1 IV\(^7\) - (Fr6) - V\(^7b9\)

mm. 2-3 tonal ambiguity based on C# dom7 can be explained as a tritone substitute for the following chord, Gm9 (iv\(^9\))

m 4 iv\(^9\) - V\(^7/B9/13\)

m 5 I\(^7\) - ii\(^9\) - tonal ambiguity based on C# dom7 which contains double leading tones (G# and B\(_b\)) to the following A

m 6 tripled A followed by Gr6 and iM\(^7\)

m 7 IVm\(^7/#11\) - ivM\(^7\) - V\(^7/9/13\)

m 8 I\(^7/9/#11/13\)

The contrasting sections B, B' and C are based on octatonic collections. Takemitsu uses all three forms of the octatonic scale and alternates them frequently. He also adds non-scale tones that often appear in the soprano voice. The
overall pitch content of the second movement of Litany is shown in Figure 40. Although sections B, B', and C are not

Figure 40. Litany, No. 2, overall pitch content

A

mm. 1-8, 29-36, 58-65 [D] D major diatonic collection +
   pc 10 (Bb), pc 8 (Ab), and pc 5 (F)

B

mm. 9-10 octIII complete + pc 2 (D) and pc 5 (F)

mm. 11-14 octI + pc 3 (D#), pc 6 (F#), and pc 9 (A)
   (01235679T) complementary set of (037)

m 15 octII & III
m 16 octIII + pc 8 (G#)

m 17 octIII & II

m 18 octI complete + pc 3 (Eb)

mm. 19-22 octIII + pc 5 (F)

B'

mm. 23-28, 52-57 octI complete + pc 3 (Eb) and pc 9 (A)
   = mode VII

C

m 37 octIII complete

m 38 twelve tone aggregate including E, C, and Eb
   in m.37

mm. 39-43 octIII complete

m 44 octI & II
limited to a single form of the octatonic collections, the complete statement of octI appears only in sections B and B', and the complete octIII occurs only in sections B and C. Therefore, in the deeper levels, the B' sections are structured based on octI, while section C is based on octIII. Section B is a mixture of octI and octIII. As in all Takemitsu's solo piano works, pitches that complete the octatonic collections are contextually emphasized by appearing in the top voice as in measures 9, 18, 23, 37, 42, 43, 45, and 47.

Takemitsu often exceeds the limit of the octatonic collection. In section B, all the non-oct pitches, except A in measure 13 and F in measures 19-21, appear as the highest pitch and form semitone relations with the bass. A in measure 13 and F in measures 19-21 appear as part of a linear semitone gesture. In section C, all the non-oct pitches appear as a part of linear semitone gestures.
The octatonic collection can produce four pairs of major and minor triads, set class (037), as shown in Figure 41. Along with eight diminished triads on each scale tone, these conflicting pairs of major and minor triads provide an instability of tonal center\(^3\), which contrasts with the stable tonality of D major in section A. At the same time, the diatonic triads common to the octatonic and D diatonic collections link the two contrasting sections. For example, in measure 27, the E half diminished 7th chord derived from the octI collection functions as a pivot chord (ii\(^0\)) preparing the reprise of section A (m 29), the key of D major. Previously this chord appeared in measure 5 of section A as a borrowed supertonic 7th chord in D major. In the following measure (m 28), the C# dominant 9th chord, which appeared in measure 3 as a tritone substitute for the

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\(^3\) Joseph Straus calls this "a static polarity of competing center" in Introduction to Post-Tonal Theory (New Jersey: Prentice Hall, 1990), 101.
subdominant chord, functions as a link to the first chord (subdominant) in the reprise of section A (m 29). The second reprise (m 58) is prepared in the same way. Although these common chords provide some connections among sections, the most significant unification devices in the movement are motives and pc sets.

Figure 42 illustrates the initial statements of the significant trichords, which all occur in measure 1. Among all the trichords, (013) and (016) correspond to the specific motives used and recur throughout the movement at many levels of transformation. Recurrence and interplay of motives (013) and (016), or the two motives combined (0136), play a crucial role in this movement. Both motives are common subsets of the diatonic and octatonic collections and function as generative motives for this movement.

Figure 42. Significant trichords in Litany, No. 2
In the second movement, Takemitsu develops the opening motive $B^b-D^b-C$ (013) from the first movement extensively. In the first movement, this motive was transformed into $G-F^#-C$ (016) through the retrograde inversion of contour class $<0,2,1>$, and always appeared as a member of the set class (016). However, in the second movement, it is developed by keeping the interval content of set class (013). Example 31 illustrates three motives based on set class (013). (013) motive x with ordered pitch intervals (+3, -1) is the opening

Example 31. Motives based on set class (013) in Litany

(013) motive x (+3, -1)  
Litany, No. 1, m 1  
Adagio ($J=54-63$ca.)

(013) motive y (+3, -2)  
Litany, No. 2, m 2

(013) motive z (-1, -2)  
Litany, No. 2, mm. 6-7
motive in the first movement. (013) motive y with ordered pitch intervals (+3, -2) is the primary motive in the second movement and recurs at many levels of transformation throughout. (013) motive z is not structurally significant, but appears as a link between the primary motives.

As shown in Example 32, the first appearance of (013) motive y in the second movement is in measure 2. This motive, C#-E-D, belongs to contour class <0,2,1>, but has a different ordered pitch intervals from the opening motive x in the first movement. This (013) motive y in measure 2 is immediately followed by a double statement of the significant motive (016), which is presented horizontally as D-C#-G and E-F-B. E-F-B is used in the lower voice. Note that this motive (016) has an initial contour of +1, which is inverted from the -1 of the upper motive. Then, a retrograde version, rhythmically altered, of (013) motive y at T_5 (G-A-F#) overlaps with the motive (016) by sharing pc 7 (G). In the bass of measures 4-5, an inversion of (013) motive y, G-E-F# (T_5I) appears.

In the A sections (mm. 1-8, 29-36, and 58-65), motives C#-E-D (013) and D-C#-G (016) support the key of D major and represent Takemitsu's idea of pre-existing sounds. Then, other members of the set class (016) intervene as noises. Eventually, a prolongation of the leading tone C# resolves to the key of D major at the end of section A.

In measure 1, Takemitsu conceals the motives (013) D-E-
C# and (016) D-C#-G in the inner voice before the obvious initial statement in measures 2-3. The motive D-E-C# is a retrograde version, rhythmically altered, of the motive C#-E-
D in measure 2. The following motive D-C#-G (016) is truncated and overlapped with the previous (013) motive y. Then, immediately another (013) motive y G-F-A\textsuperscript{b} starts with an overlapping G. This motive, with an octave displacement of G, is a retrograde inversion, rhythmically altered, of the original at T_{91}. Thus, in the left hand part of measures 1-3, three motives (013), (016) and (013) overlap each other. In the right hand part of measure 1, two trichords (016) appear vertically as C#-G\#-D and A-E-B\textsuperscript{b}.

In the left hand part of measures 4-7, a pair of (013) (016), C#-E-D-D-C#-G (0136) in measure 2 is prolonged. Here, the primary motive expands over four measures and constitutes a large-scale statement of (0136). Takemitsu clearly indicates this motivic prolongation by the use of stem direction. He often distinguishes structural pitches from non-structural pitches by differentiating them through the stem direction. He employs this technique throughout the movement. Also, the prolonged pitch C# is further reinforced by its triple statement on the first beat of measure 7. The emphasis on the leading tone C# and the prolongation of motive D-C#-G, which contains the tritone of the key of D major, builds up intensity and forward motion toward the end of section A. Another factor that produces tension is the saturation of the (016) motive and (013) motive z through simultaneously overlapping statements toward the end of section A as shown in Figure 43. Motive (013) z, D-C#-B has
an ordered pitch interval of (-1, -2). Therefore, it is not related to the opening motive (013) through a conventional motivic transformation, but only by sharing the same pitch-set class. In the transition to section B (mm. 9-10), Takemitsu makes an concealed statement of (013) motive y at \( T_2 \), which appears in the inner voice as B\(^b\)-F\(#\)-E.

Figure 43. Motivic structure. Litany, No. 2, mm. 5-7

\[
\begin{align*}
\text{m. 5} & \quad \text{m. 6} & \quad \text{m. 7} \\
D & \quad \text{C\# vertical chord of (016) } T_0 \\
G & \quad \text{C\#-- G prolongation of (016) } T_0 \\
\text{D-C\#--} & \quad \text{C\#-- B-B\(b\) (013) motive } z \text{ } T_0 \text{I retrograde} \\
\text{D-C\#-B (013) motive } z \text{ } T_0 \\
\text{A-G\#-D (016) } T_7
\end{align*}
\]

In section B shown in Example 33, the primary motives continue sounding throughout, despite the fact that the overall pitch content changes from the D diatonic collection in section A to the octatonic referential collections. In the left hand of measures 11-12, (013) motive y comes back at \( T_9 \) (B-C\#-B\(^b\)) as the retrograde of the motive in measure 2. It is followed by the tritone B\(^b\)-E, which is doubled by another tritone G-C\#. In the left hand of measures 13-14, motive y at \( T_9 \) (B\(^b\)-C\#-B) appears along with the retrograde of motive y at \( T_0 \) (D-E-C\#), which is followed by motive y at \( T_0 \) (C\#-E-D)
Example 33. Litany, No. 2, mm. 11-22

Piu mosso

A tempo

Rapid
by sharing pc 1 (C#). Here, the returns of motives (013) and (016) are obscured by the active arpeggiated gestures in the right hand, which Takemitsu often employs in the contrasting sections of his works. In the arpeggiated gestures, three note motives overlap each other. Figure 44 illustrates the interwoven motivic structure in measures 11-14.

Figure 44. Motivic structure. Litany, No. 2, mm. 11-14

\[
\begin{align*}
\text{m 11} & \quad \text{m 12} & \quad \text{m 13} & \quad \text{m 14} \\
B\text{-C}\text{#}-B^b \ (013) & y & T_9 \text{ retrograde} & B^b\text{-C}\text{#}-B \ (013) & y & T_9 \\
B^b\text{-E} & & & D\text{-E-C}\text{#} \ (013) & y & T_0 \text{ retrograde} \\
G\text{-C}\# & & & B-B^b\text{-E} \ (016) & T_3 \\
\end{align*}
\]

In measure 15, (013) motive y recurs at T_7 (G#-B-A) with some rhythmic alteration. In measures 17-22, (013) motive x in the first movement, B^b-D^b-C (its ordered pitch intervals of +3 and -1) reappears at many levels of transposition, and these increase the intensity of the texture toward the end of B section. Figure 45 illustrates the motivic structure in measures 17-18.

Measures 21-22 is reharmonization of measure 17, and the (013) motives x and y, C#-D#-B# and C#-E-D# reappear.
Figure 45. (013) motives. Litany, No. 2, mm. 17-18

m 17
C#-D#-B# (013) y T11 retrograde F-A\textsuperscript{b}-G (013) x T7

m 18
D#-C#-E (013) y T5\text{I} retrograde G-B\textsuperscript{b}-A\textsuperscript{b} (013) y T6
\hspace{1cm} A\textsuperscript{b}-B\textsuperscript{b} (013) x T10

C#-E-D# (013) x T3

Takemitsu restates the motives in the oct\text{III} hexachord of measure 17 in the more complete oct\text{III} (septachord) of measures 21-22.

The first half of Section B' (mm. 23-24) shown in Example 34 has a similar texture (combination of the right hand arpeggio and the left hand block chords) with measures 11-14 in section B. In measure 23, a retrograde of motive (013) y recurs at T\text{9} (B-C#-B\textsuperscript{b}). The tritone descent B\textsuperscript{b}-E is doubled by another tritone A\textsuperscript{b}-D as in measures 11-12. Here, (013) motive y is in the left hand bass, while it was in the left hand top voice in measures 11-12. In the left hand of measure 24, (013) motive y is used exclusively and appears in stacked triple statements followed by the double statements of motive (016).

Throughout the movement, Takemitsu states (013) motive y in several different environments as shown in Figure 46. The right column of Figure 46 indicates the number of
Example 34. *Litany*, No. 2, mm. 23-28

Figure 46. Development of motive (013) y

<table>
<thead>
<tr>
<th>Measure</th>
<th>Diatonic Context</th>
<th># of Motive (013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-8</td>
<td>D diatonic context</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>octI septachord</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>octI septachord</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>octIII hexachord</td>
<td>2</td>
</tr>
<tr>
<td>21</td>
<td>octIII septachord</td>
<td>2</td>
</tr>
<tr>
<td>23</td>
<td>complete octI</td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td>complete octI</td>
<td>3</td>
</tr>
</tbody>
</table>
simultaneous statements of motive (013) y. There are three pairs of statements, which are immediately restated. In measures 13 and 24, Takemitsu restates the same materials in a texturally dense environment by increasing the number of simultaneous statements of the (013) motive. In measure 21, he restates the same materials in a more complete octatonic collection. In all his solo piano works, Takemitsu uses this technique of embellishing and developing recurrent materials. Textural and chromatic density often increases toward climactic points in his solo piano works.

In the right hand of measure 23, the surface motive $E-\text{E}_b-B$ (016) is nested in the large-scale motive $E-B-B$ (016). Note that the surface motive $E-B-B$ (016) has its ordered pitch intervals of +11 and -5, while the original (016) motive has -1 and -6. Figure 47 summarizes motivic structure in measures 23-24.

Figure 47. Motivic structure. Litany, No. 2, mm. 23-24

$$\begin{array}{c|c|c}
\text{m 23} & \text{m 24} \\
\hline
\text{Right} & \text{E - B}_b - B(016) & \text{E - B}_b - B (016) \\
& \text{T}_9 & \text{T}_9 \\
\hline
\text{E-B}_b-B (016) & \text{G-B-B}_b & \text{E-B}_b-B (016) \text{ G-B-B}_b \text{ F-D}_b \\
\text{Left} & \text{A}_b-B-A (013) y \text{T}_7 & \text{A}_b-B-D (016) \text{ T}_7 \\
& \text{E-G-F} (013) y \text{T}_3 & \\
& \text{B-C}_\#-B (013) y \text{T}_3 & \text{B}_b-C\#-B (013) y \text{T}_3 \\
& \text{B-B}_b-E (016) & \text{T}_9
\end{array}$$
In measure 24, Takemitsu extends the right hand pattern by a D\textsuperscript{b} major triad, which is derived from the first chord in the left hand of measure 23. D\textsuperscript{b}7 in the D\textsuperscript{b} major triad is the highest pitch in the movement or in the entire piece. In the first movement, the highest pitch C\#7 along with the lowest pitch C\textsubscript{b} emphasizes the focal pc 0 (C). In the second movement, D\textsuperscript{b}7 emphasizes the focal pc 2 (D), which appears as the lowest pitch of the movement at the final cadence (mm. 63-64).

In measures 25-28, motive (013) is nested in the large-scale statement of motive (013) as shown in Figure 48. Here, the (016) trichord C\#-G\#-D has its ordered pitch intervals (+7, -6).

Figure 48. Motivic structure. \textit{Litany}, No. 2, mm. 25-28

\begin{align*}
\text{m25} & \quad \text{m26} & \quad \text{m27} & \quad \text{m28} \\
\text{Right} & \quad E & \quad D & \quad C\# & \quad (013) & \quad z & \quad T_3I & \quad \text{retrograde} \\
& \quad E & \quad C\# & \quad D & \quad (013) & \quad x & \quad T_2I & \quad \text{D-E-C\#} & \quad (013) & \quad y & \quad T_0 & \quad \text{retrograde} \\
& \quad C\# & \quad G\# & \quad D & \quad (016) \\
\text{Left} & \quad E & \quad D & \quad F & \quad (013) & \quad y & \quad T_5I & \quad \text{retrograde} \\
& \quad E & \quad F & \quad D & \quad (013) & \quad x & \quad T_4 & \quad \text{retrograde} & \quad \text{D-E-F} & \quad (013) & \quad z & \quad T_3 & \quad \text{retrograde}
\end{align*}

As discussed before, section C is distinguished from sections A, B, and B' through the extensive use of the oct\text{III} collection. In terms of motivic activity, section C also delineates different materials from sections A, B, and B'.
Besides trichords (013) and (016), other trichords (014) and (015) are significant in this section. All trichords except (015) are subsets of the octatonic collection. Trichord (015) is a subset of the diatonic collection. Therefore, the use of trichord (015) in the octatonic section reinforces the connection to the diatonic section A.

Section C (mm. 37-51) consists of either exact repetitions or transpositions of the first four measures, which are shown in Example 35. The section starts with (013) motive y at T_{11}, C-E^{b}-D^{b}, followed by the two overlapped statements of motive (013) z in sixteenth notes. The same starting pitch (C) of the (013) motive y starts trichord C-E^{b}-E (014). Then set class (016), E^{b}-E-B^{b}, overlaps with it by sharing pc 3 (E^{b}) and pc 4 (E). The measure ends with another statement of trichord (014) E-C-E^{b}. Measure 37 is repeated in measure 43 and at T_{5} in measure 44. The next measure (m 38) starts with trichord F^{#}-A-F (014) in the right hand accompanied by trichord B-F^{#}-G (015) in the left hand. Then, trichord A-F-B^{b} (015) overlaps with trichord (014) in the right hand by sharing pc 9 (A) and pc 5 (F). In this measure, motive D-D^{b}-B (013) z is concealed in the inner voice. Also, trichord (016) is presented at the beginning of this measure. Measure 38 is repeated an octave lower in measure 41. In measure 39, the melody outlines an A major triad (037). Three trichords (016), E^{b}-A-E, B^{b}-E-A, and B^{b}-E-E^{b}, and two trichords (014), A-F^{#}-B^{b} and E-E^{b}-C, are
concealed. Measure 39 is repeated in measures 42 and 47. In measure 40, the retrograde motive \( (013) \ y \) at \( T_8 \) is emphasized by its appearance in the top melody. In the inner voice, trichord \( (014) \) appears overlapped with the inverted motive \( (013) \ y \ (T_{8I}) \). Measure 40 is repeated at \( T_9 \) in measure 45. Measures 48-51 is a repetition of measures 25-28 at \( T_{11} \) in section \( B' \). These measures link the upcoming return of section \( B' \).

Example 35. Litany, No. 2, mm. 37-40
In summary, Litany reflects some characteristics that are significantly different from Takemitsu's other solo piano works. The use of time signature, key signature, and the Japanese pentatonic scale in the first movement indicates the influence from Kiyose. In the second movement, use of the D diatonic collection distinguishes the piece from his other solo piano works, which are based on octatonic-whole-tone collections. The first movement is organized through the hemitonic pentatones and recurrent motives (016) and (015). Semitone dyads are emphasized through the motives (016) and (015). The focal pc 0 (C) is emphasized by its semitone D♭. In the second movement, both D diatonic and octatonic collections are generated through their common subsets (013) and (016). In both movements of Litany, recurrent motivic gestures and semitone-tritone intervals unify the entire piece. Since Litany is a recomposition of Takemitsu's first published solo piano piece, his frequent use of semitone-tritone relations in all his solo piano works can be derived from this piece.
CHAPTER V

ANALYSIS OF RAIN TREE SKETCH II (1992)

Rain Tree Sketch II (1992) is Takemitsu's most recent solo piano work, and was composed in memory of Olivier Messiaen. Although many of Takemitsu's compositional techniques, such as octatonic-whole-tone reference, contextually emphasized focal pcs, generative trichords and semitone relations, are all evident in Rain Tree Sketch II, there are some striking differences compared to his earlier piano works. The major difference is the recurrent linear motive (015), which is not a subset of either the octatonic or whole-tone collections.

In Les veux clos and Les veux clos II, the vertical trichord (015) appears where the octatonic-whole-tone reference is obscure, but it does not recur as a linear motive. In Litany, the linear trichord (015) appears as a distinct entity. In the first movement of Litany, vertical and linear trichords (015) serve as generative motives for hemitonic pentatones. In the second movement of Litany, the trichord (015) generates a D major diatonic collection. In Rain Tree Sketch, trichord (015) only appears on the surface level. For example, linear trichord (015) A-G#-E appears as
a opening motive of *Rain Tree Sketch*. In *Rain Tree Sketch II*, Takemitsu again employs the trichord (015) as one of generative motives for the D diatonic collection.

The other generative motive is trichord (037), which is a common subset for the octatonic and diatonic collections. A pair of linear motives (015) C#-A-G# and (037) A-D-F, which recurs nine times as a discrete entity throughout the piece, manifests the importance of these motives.

Whole-tone reference, which is a backbone in *Les yeux clos*, *Les yeux clos II*, and *Rain Tree Sketch* is limited in *Rain Tree Sketch II*. Trichord (026) in the lower register of *Rain Tree Sketch* is replaced by trichord (037) in *Rain Tree Sketch II*.

The focal pc 9 (A), which is emphasized by its semitone pc 10 (B♭) in *Rain Tree Sketch* continues to be emphasized by its semitone 8 (G#) in *Rain Tree Sketch II*. Another focal semitone that is prominent in *Rain Tree Sketch II* is C# / D. In *Rain Tree Sketch II*, Takemitsu builds the octatonic-diatonic referential structures through the linear motives (015), (037) and (014). The piece is unified through the transformations of the opening materials and the contextually emphasized focal pcs. In this chapter, I will demonstrate how the octatonic-diatonic texture is projected and how the focal pcs and motivic transformation holds the piece together.
As in Rain Tree Sketch, the structure of Rain Tree Sketch II can be described as ternary, since the first half of the first section (mm. 1-16) returns at the end of the piece. In the first section (mm. 1-34), focal pc 2 (D) is emphasized through the number of occurrences, the generative motive (015) and the bass note D1 in extreme register.

Example 36 shows the first half of the first section. The piece starts with the linear trichord (015) A-D-C# in the highest voice. This motive has the same contour <0,2,1> as the opening motive (015) A-G#-E in Rain Tree Sketch. In Rain Tree Sketch, the trichord (015) only appears as a surface motive, but in Rain Tree Sketch II, the trichord (015) has a significant role of generating larger collections of D diatonic.

The total pitch content in measures 1-2 (D, E, F#, G, A, B♭, C#) forms a D major scale with the lowered sixth scale degree pc 10 (B♭). B♭ emphasizes the focal pc 9 (A) through a semitone relation. The centricity of D is supported by the outer voices, which imply a tonic-dominant progression in D as shown in Figure 49.

Figure 49. Rain Tree Sketch II, mm. 1-3, outer voices
Example 36. *Rain Tree Sketch II, mm. 1-16*

Celesially Light
\( \text{\( \mathcal{J} \)} = 90 \text{ ca. (Tempo I)} \)

\[ \text{poco riten.} \]

---

in Tempo
\( \text{\( \mathcal{J} \)} = 72 \text{ ca. (Tempo II)} \)

\[ \text{poco meno mosso} \]

\[ \text{(L.H.)} \]

---

as echo

\[ \text{(013)} \]

\[ \text{(014)} \]

---

\[ \text{(015)} \]

\[ \text{(0148)} \]

---

\[ \text{(015)} \]

\[ \text{(015) \( T_{10I} \)} \]
The two most essential trichords of the piece, (015) and (037) are prominent in measures 1-5. The linear motive (037) recurs in the lower register and the motive (015), which appears both linearly and vertically, recurs in the upper register as shown in Figure 50.

Figure 50. Rain Tree Sketch II, mm. 1-5, Trichord (015) and (037)

In measure 2, the (015) motive A-D-C# expands to F# to form another trichord (015). Otherwise the same (015) and (037) trichords in measure 1 recur in measure 2. Measures 1-2 repeat at $T_9$ in measures 4-5, but the linear motive (015)
in the highest voice is modified to become (014), F#-B♭-A.
Because the transposition is not exact, the number of the
(015) trichords is reduced in measures 4-5.

The linear (015) motive, A-D-C♯ recurs in measures 9-
13, followed by the linear motive (014). In all the solo
piano works of Takemitsu, significant trichords usually
appear as unaccompanied distinct linear motives. In Rain
Tree Sketch II, besides the linear trichords (015) and (037),
the octatonic subset (014) appears unaccompanied. Since
trichord (015) is a diatonic subset and trichord (037) is a
common subset for both the octatonic and diatonic
collections, these three trichords (015), (014), and (037)
can possibly generate an octatonic-diatonic reference. This
is confirmed with the manifestation of complete octatonic
collections in the second half of the first section (mm. 17-
34) and the second section (mm. 35-55).

Trichord (014) appears extensively in the second half
of the first section (mm. 17-34) as shown in Example 37. In
measures 17-19, the semitone gesture C♯-D in the top voice is
a retrograde version of the gesture D-C♯ in the opening
measure. Association to the opening measure is also made by
the first vertical chord A-D-C♯-B♭ in measure 17, which
contains the vertical and linear trichord A-D-C♯ of the
opening measure. In measure 17, three members of set (014)
and one of set (026) appear vertically and two of the (014)
set and (026) set together project a complete octII
Example 37. *Rain Tree Sketch II*, mm. 17-34

Slightly slower

Tempo II

mm. 17-34

Poco riten.

Tempo I poco accel.

Tempo II

Slightly slower

Tempo I

Ped. ad lib.
collection. Non-octII pcs 1 (C#) and 10 (B♭) appear at the top in the octIII trichord (014) A-B♭-C#. The non-octII pitch C#6 highlights the focal pc 2 (D) through semitone relations with the highest and lowest pitches D6 and D1, while B♭5 highlights the focal pitch A5. In measure 17, four appearances of focal pc 2 (D) in four different registers (D1, D4, D5, and D6) ensure the importance of that pc in the piece. Both the focal pcs 2 (D) and 9 (A) are emphasized by their encircling semitones C#, E♭, G#, and B♭.

The total pitch content in measures 17-19 project all twelve pcs except pcs 4 (E) and 7 (G). Takemitsu builds a highly chromatic texture through semitone relations based on the octatonic subsets (014) and (026) as shown in Figure 51. Non-octII pcs 1 (C#) and 10 (B♭) can be explained as a further enhancement for the focal pc 2 (D) and 10 (A) through semitone relations.

Figure 51. **Rain Tree Sketch II**, mm. 17-19, trichord (014)
The gesture based on trichords (014) in measures 17-19 is followed by the gesture of linear trichords (015) and (037) from measure 15. Measures 17-21 come back in measures 30-34.

OctII referential materials continue to appear in measures 22-23. A vertical presentation of the opening motive A-D-C# starts measure 22. Non-octII pitches C#4 and C#5 again form a semitone relation with D3, D4, and D5. OctII complementary pcs 3 (E♭) and 5 (F) in measure 22 appear in the following measure to project a complete octII. In measures 22-23 and 25, Takemitsu emphasizes the importance of the generative motive (014) by the dotted line connecting A-C-G#, which forms a sub-surface statement of the (014) linear motive.

In measure 24, the linear motive (037), A-D-F of measure 15 expands to C#6, which forms tetrachord (0148) A-D-F-C# containing the opening motive (015) A-D-C#. The same tetrachord appears as a vertical chord in measure 10.

In all his piano works, Takemitsu often restates the opening gestures in chromatically dense textures throughout the piece. In the first section of Rain Tree Sketch II, the opening (015) linear motive A-D-C# appears in three levels of textural density. As shown in Figure 52, Takemitsu builds up highly chromatic textures through the process of adding semitones to the existing materials. In all three instances, the focal pcs 2 (D) and 9 (A) are emphasized by their
semitones. In the last one, the focal pc 9 (A) is further emphasized by the encircling semitones, G# and B♭.

Figure 52. Development of the (015) motive A-D-C# measure

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pitch Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C# D F# A B♭ (01458)</td>
</tr>
<tr>
<td>9-10, 12-13</td>
<td>C C# D F# A B♭ (012458)</td>
</tr>
<tr>
<td>27</td>
<td>C# D F F# G G# A B♭ (01234589)</td>
</tr>
</tbody>
</table>

Another pitch collection manifested in the first section is a complete wtII projected in measures 6-7. Non-wtII pitch B♭6 in measure 6 forms a vertical trichord (015) with A5 and F5. This wtII collection is complemented by the wtI subset (0248) in measures 25 and 28. Here, the non-wtI pitch A5 forms a semitone relation with the highest voice G#6. A similar contrast between wtII and wtI occurs between the first and second sections of Rain Tree Sketch. Unlike the explicit whole-tone reference in the lower register of Rain Tree Sketch, the whole-tone reference is evident only in measures 6-7 and 25-26 of Rain Tree Sketch II.

As in all Takemitsu's piano works, semitone relations around the contextually emphasized focal pcs have an important role of structuring the entire work. In Rain Tree Sketch II, semitone relations around contextually emphasized pcs 2 (D) and 9 (A) have a structural importance and recur
throughout the piece. Semitone relations C#/D and G#/A are emphasized through recurrence of the generative motives (015) A-D-C# and C#-A-G#. Moreover, all the discrete linear motives except the (037) motive contain at least one of focal pcs and its semitone relation as shown in Figure 53. The motive D-F-A (037), which does not contain a semitone, always appears with the motive C#-G#-A (015) to form a semitone relation C#/D. A pair of motives D-F-A (037) and C#-G#-A (015) appears nine times throughout the piece to manifest the centricity of D and A.

Figure 53. Discrete linear motives in Rain Tree Sketch II measure

<table>
<thead>
<tr>
<th>Measure</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C#</td>
<td>D</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>F#</td>
<td>A</td>
<td>Ab</td>
<td>Bb</td>
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<tr>
<td>10</td>
<td></td>
<td>Ab</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>C</td>
<td></td>
<td>G#</td>
<td>A</td>
</tr>
<tr>
<td>14</td>
<td>C#</td>
<td>D</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>14</td>
<td>D</td>
<td>F</td>
<td></td>
<td>A</td>
</tr>
</tbody>
</table>

The focal pcs 2 (D) and 9 (A) and their semitones are also emphasized through their occurrence in the outer voices. Figure 54 shows the linear motion of the focal semitones C#/D and G#/A throughout the piece. The semitone G#/A in the soprano is shown in the top staff. The semitone C#/D in the soprano is shown in the middle staff. In the top two staves, all the focal pcs and their semitones in the surface level
except some repetitions are shown. As shown in Figure 54, both the focal pcs 2 (D) and 9 (A) are emphasized through their semitones in the soprano. In the bass, D1 is emphasized by the encircling semitones, D#3 and C#3.

Figure 54. Focal pcs in the outer voices

Example 38 shows the second section where both the diatonic and octatonic references are clear. The second section (mm. 35-55), marked "Joyful," is contrasted to the first section marked "Celestially Light." The second section starts with a passage that suggests the key of G# minor. The canonic statement of an enharmonic diatonic minor melody G#-A#-B-Bb-C#-G is accompanied by a sustained chord G#m7sus4 (G#-B-C#-F#). When this passage returns in measure 41,
Example 38. *Rain Tree Sketch II*, mm. 35-56
Example 38 (continued)

Takemitsu completes a G# diatonic collection by adding the diatonic complement D#1 in the bass. The same additive process occurs at $T_{10}$ (F# minor) between measures 37 and 43. In the second section, surface octatonicism is more explicit than in the first section. In measure 39, a projection of $\text{octII}$ is completed by the highest voice G#4. Measure 39 repeats with some alterations in measures 45-46.
Takemitsu often highlights a pitch that completes larger collections, such as octatonic and diatonic collections. In measure 42, a complete octI is projected through four pairs of tritones. In measure 47, F7 appears in the highest voice to complete octII. In measure 49, before the reprise of the first section, Takemitsu reconfirms the priority of octII by the ascending octII scale. He expands it to the non-octII pitches E6 and B♭5. E6 forms a semitone relation with B♭6, which forms a semitone relation with the bass D1. Before and after the reprise of the first section (mm. 51, 54, and 74), a pair of motives C#-A-G♯ (015) and D-F-A (037) appears twice to summarize the whole piece as the primary generative motives.

The total pitch content of Rain Tree Sketch II can be summarized as a combination of octII and D major diatonic as shown in Figure 55. Pc 10 (B♭) has a significant role of articulating the focal pc 9 (A) by a semitone relation. OctII is more evident in the second section through its completion. The centricity of D is very strong throughout the piece because of the sustained low bass D1 and its semitones. Despite shifts between the diatonic and octatonic collections, which often reach chromatic saturation, the piece is unified through the contextually emphasized focal pcs 2 (D) and 9 (A).
Figure 55. Total pitch content in Rain Tree Sketch II

octII  D  Eb  F  F#  Ab  A  B  C
D diatonic  D  E  F#  G  A (Bb)  C#

In Rain Tree Sketch II, Takemitsu continues to pursue possibilities of the trichord (015), which generates hemitonic pentatones and diatonic collections in Litany. Along with two other primary trichords (037) and (014), Takemitsu generates an octatonic-diatonic referential structure. The entire piece is unified through recurrent materials based on trichord A-D-C# and the focal semitones C#/D and G#/A, which span the entire piece.
CHAPTER VI

CONCLUSION

This study demonstrated that in spite of the stylistic change of Takemitsu's solo piano works over the forty two years of his career, his fundamental techniques of composition have not changed. He projects large pitch collections from generative trichords, which are usually based on the intervals of the semitone and tritone. Vertical and linear structures are generated through an additive process of semitones. The total pitch content often exceeds the boundary of large referential collections especially at climactic points. For example, in measures 17-19 of Rain Tree Sketch II, the octatonic subsets (014) and (026) generate the total pitch content through semitone relations (see Figure 51, p 144). Note that all the (014) and (026) contain one of the focal pcs 2 (D) or 7 (A) of the piece. The generative motive often recurs in the chromatically dense context as the (015) motive in Rain Tree Sketch II (see Figure 52, p146). In measure 1 of Les yeux clos II four pairs of tritone dyads generate a complete octatonic collection (see Example 17, p 80). In all cases, small gestures generate the large structures of the piece. The
large-scale pitch structures in all these compositions form soundscapes that trace their origin to Takemitsu's interest in exploring timber derived.

Takemitsu made stylistic changes in texture, formal structure, and pitch content. He used a fragmented thin texture in the earlier works, Pause interrompue and Piano Distance, and shifted toward thick textures with rhythmic regularity in his later works. Formal structures evolved from free form to more conventional ABA ternary or rondo-like forms. The later works contain more exact repetitions of the opening sections, compared to the earlier works, in which repetitions are modified.

Figure 56 summarizes the shift in pitch organizations of Takemitsu's solo piano works. According to the referential pitch collections, Takemitsu's compositional style can be divided into three periods--octatonic, octatonic-whole-tone, and octatonic-diatonic. Before Takemitsu developed his octatonic based compositions, he employed the hemitonic pentatonic collection during his study with Kiyose. This is illustrated in the first movement of Litany (1950/1989), which is a recomposition of his first published piece Lento in Due Movimenti (1950). This is only time Takemitsu uses the traditional Japanese scale, and the conventional key and time signatures in his solo piano compositions. I speculate that the second movement of Litany was newly composed in 1989 because of the extensive use of
the octatonic collection and its thick texture, which characterize his later solo piano works. Moreover, the use of the D diatonic collection in this movement influenced the last solo piano piece *Rain Tree Sketch II* (1992).

Figure 56. Changes in pitch organizations of Takemitsu's solo piano works

<table>
<thead>
<tr>
<th>Work</th>
<th>Pitch Collections</th>
<th>Generative Triads</th>
<th>Focal Pcs</th>
<th>Highest Pitch</th>
<th>Lowest Pitch</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pause ininterrompu</em> (1960)</td>
<td>oct</td>
<td></td>
<td>E(^b)/E</td>
<td>E7</td>
<td>B0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C/C#</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Piano Distance</em> (1961)</td>
<td>oct</td>
<td>(014)</td>
<td>B F</td>
<td>F#7</td>
<td>C1</td>
</tr>
<tr>
<td><em>For Away</em> (1973)</td>
<td>octIII</td>
<td></td>
<td>E B(^b)</td>
<td>C3</td>
<td>g(^b)0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D</td>
</tr>
<tr>
<td><em>Les yeux clos</em> (1979)</td>
<td>oct, wtl</td>
<td>(026)</td>
<td>E B(^b)</td>
<td>E7</td>
<td>C1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td><em>Rain Tree Sketch</em> (1982)</td>
<td>oct, wt</td>
<td>(026)</td>
<td>A</td>
<td>B(^b)7</td>
<td>A0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(014)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Les yeux clos II</em> (1988)</td>
<td>octIII, wtlII</td>
<td>(025)</td>
<td>E(^b)A</td>
<td>A7</td>
<td>g(^b)0</td>
</tr>
<tr>
<td></td>
<td>wtl</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>E B(^b)</td>
</tr>
<tr>
<td><em>Litany</em> No.1 (1950/1989)</td>
<td>hemitonic hexatone</td>
<td>(015)</td>
<td>C/D(^b)</td>
<td>C(^b)7</td>
<td>C(^b)1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.2</td>
<td>D diatonic oct</td>
<td>(013)</td>
<td>D</td>
<td>D(^b)7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(015)</td>
<td></td>
<td>A0</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>(016)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(014)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Rain Tree Sketch II</em> (1992)</td>
<td>D diatonic oct</td>
<td>(015)</td>
<td>A/G#</td>
<td>F7</td>
<td>D1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(014)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(037)</td>
<td></td>
<td></td>
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</tbody>
</table>
In both *Pause ininterrompue* (1960) and *Piano Distance* (1961), which have sparse fragmented textures without rhythmic regularity, the octatonic reference is not explicit as in the later works, which have a thicker texture but exhibit rhythmic regularity.¹

In all Takemitsu's solo piano works except *Pause ininterrompue* and *For Away* (1973), the generative triad appears as an isolated linear motive. In *Pause ininterrompue* Takemitsu generated the pitch content based on the subsets of the octatonic septachord x (0134679). Although the use of octatonic collections is not as extensive as his later works, octatonic complements are still emphasized to delineate the significance of the collection. As in all his solo piano works, Takemitsu never uses a single pitch collection exclusively, but always combines them with non-scale tones, as in the case of non-oct subset y (023468) in *Pause ininterrompue*. This might be his symbolic expression of "bring noises into stream of sounds."

Certain pcs (focal pcs) are always contextually emphasized throughout all his piano pieces. In *Pause ininterrompue*, focal semitone dyads Eᵇ/E and C/C♯ are contextually emphasized through extremely long duration, extreme register, and octave doublings and triplings. They form linear motions, which span the entire piece. As shown

¹ Koozin, 285-286
in Figure 56, focal pcs are emphasized by appearing as the highest or lowest pitches. Sometimes the highest or lowest pitches emphasize the focal pcs by forming semitone relations with them.

Although focal pcs do not form long-term linear motion in Piano Distance, the piece is unified through the generative trichord (014), which is generated by combining (01) and (03). Both the vertical and linear structures of Piano Distance are built on an additive process of semitones based on the surface and sub-surface trichord (014). Takemitsu increases the number of (014) and non-oct pitches in vertical chords at the melodic peak. As in all his solo piano works, the textural density increases at climactic points through process of adding semitones.

In For Away, Takemitsu projects a complete octatonic collection in a dense texture, which characterizes his later works. A complete octatonic in the first two sections is reconfirmed in the last two sections after intervention of the chromatic third section. Both octatonic and chromatic collections are generated through semitone-tritone relations around the contextually emphasized focal tritones (C F#) and (E B⁰). Throughout the piece these focal tritones are contextually emphasized through their number of occurrences, duration, and extreme register to integrate the entire piece including the chromatic section. As in his later solo piano works, non-octatonic pitches form semitone relations with the
The pitches that complete a complete octIII are emphasized by appearing at the highest point of the phrase.

In *Les yeux clos* (1979), Takemitsu took new directions in pitch organization by employing the generative motive (026), which is a subset common to both the octatonic and whole-tone collections. The rhythmic regularity and the thick texture of the piece characterize his later solo piano piece. Takemitsu projects a highly chromatic texture, which does not conform to a single form of the octatonic or whole-tone collections. Yet, wtI is contextually emphasized through focal tritone dyads, long sustained whole-tone referential chords, and (026) melodic motives. In *Les yeux clos*, the focal tritone dyads (E B♭) and (C F#), together with the tritone dyad (D A♭), project a complete wtI. In *For Away*, the same tritone dyads (E B♭) and (C F#) generate a complete octIII.

In *Rain Tree Sketch* (1982), Takemitsu continues to explore the possibility of octatonic-whole-tone structure through the generative motive (026). In the upper part of *Rain Tree Sketch*, the generative trichord (014) of Piano Distance appears extensively in both surface and sub-surface levels superimposed on the motive (026) in the lower part. The focal pc 9 (A) is emphasized by its semitone relation A/B♭, which spans the entire work. In this piece, many
familiar materials return in more complete octatonic or whole-tone contexts.

In *Les yeux clos II* (1988), as in *Les yeux clos*, the pitch content features surface octatonicism superimposed upon the background whole-tone reference. In *Les yeux clos II*, two focal tritone dyads (E b A) of wtII and (B b E) of wtI divide the piece into two main sections. These tritone dyads also project octIII throughout the piece. In spite of the chromatically saturated surface structures, focal whole-tone pcs are contextually emphasized through extreme register, long sustained chords, linear motives, and doubling and tripling of pitch classes.

In the last two solo piano works *Litany* and *Rain Tree Sketch II*, Takemitsu explored new direction in pitch organization by using the diatonic collection. Shift of pitch content from octatonic to diatonic is accomplished through the use of the diatonic subset (015) as the generative motive. Since the trichord (015) is not a subset of either the octatonic or whole-tone collections, it appears where the octatonic-whole-tone reference is obscured in *Les yeux clos* and *Les yeux clos II*. In the first movement of *Litany*, vertical and linear trichords (015) generate hemitonic pentatones. In *Rain Tree Sketch II*, the linear motive (015) appears as one of the generative motive for the diatonic collection. Figure 57 summarizes possible pitch
collections, which can be generated from each generative trichord in all Takemitsu's solo piano works.

Figure 57. Possible pitch collections generated from each generative motive

<table>
<thead>
<tr>
<th>hemitonic pentatone</th>
<th>octatonic</th>
<th>whole-tone</th>
<th>diatonic²</th>
</tr>
</thead>
<tbody>
<tr>
<td>(013)</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>(014)</td>
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<td>(016)</td>
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<td>*</td>
<td></td>
</tr>
<tr>
<td>(026)</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>(037)</td>
<td>*</td>
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</tr>
</tbody>
</table>

Intervals of the semitone and tritone are the most prominent in Takemitsu's solo piano works. His affinity for the semitone can be derived from the descending semitone gestures in the traditional Japanese scale. A semitone relation is emphasized through his idiomatic techniques of cadential pattern, non-scale tones, generative motives, and additive process. At the major cadential points, semitone relations often appear in registral extreme. Non-scale tones often form semitone relations with the structurally important

² Note that harmonic minor scale can be generated through the trichord (014).
notes, usually the bass. All the generative trichords except (026) and (037) contain a semitone. The total pitch content is generated by semitone-tritone relation based on the generative motives. The total pitch content often exceeds the octatonic-whole-tone collections at climactic points through the process of adding semitones. The intensity of vertical chords or sections is controlled by the number of semitone-tritone relations involved. The same technique is applied to the motivic development in which familiar materials repeat in more complete octatonic or whole-tone context.

Semitone relations are also essential when Takemitsu obscures the centricity or priority of the whole-tone collections. In Les yeux clos II, wtI and wtII alternate to form the semitone motive (012). Materials built from wtI and wtII often appear together, also creating semitone relations. In Takemitsu's piano music, semitone relations seem to symbolize the subtle expression of the traditional Japanese music, in which the quick shifts among the different pitch collections through semitone relations imitate uncertainty and the ambiguity of pitches produced by Japanese instruments.

The background structure of the whole-tone collections superimposed by the foreground structure of the octatonic collections in Les yeux clos and Les yeux clos II seems to symbolize the Japanese concept of infinite and finite time.
Unrelated events separated by ma are associated through focal pcs which form large-scale linear motion and generative motives.

Analyses of Takemitsu's solo piano works revealed his compositional techniques of pitch organization, in which isolated events are connected and integrated as a whole. His solo piano works represent a true synthesis of East and West, in which Japanese aesthetics are expressed in Western musical language.


