CHAPTER I

THE PHILOSOPHICAL BACKGROUND

The main purpose of this paper is to elucidate the relationship between Heidegger's philosophy and my musical language; expose the possibility of an ontology of music based on Heidegger's philosophy; and discuss the psycho-acoustic aspect of my creative process. Some of these issues cannot be investigated in any way by Heidegger specialists or by music scholars at a later time. In order to focus on these issues, this dissertation has to take a different approach. Instead of discussing musical textures, pitch formation methods, harmony, melodic patterns, rhythmic patterns, tonal regions and formal designs in separate chapters, I discuss these issues as supporting materials to the central idea of the relationship of Heidegger's philosophy to my musical language. The analysis focuses on Heidegger's philosophy, my musical language and the psycho-acoustic relationship between philosophy and music. Many musical analyses of forms, textures, pitch organization and rhythmic patterns are presented as supporting materials in the discussion. The music analyses are distributed throughout the discussion, because they are essential to an understanding of the relationship between philosophy and music. Throughout the paper, I will constantly relate musical analysis with philosophical investigation.

In chapter one, I will make a brief introduction to Heidegger's philosophy and focus on the issues that are related to my music. Chapter two discusses orchestration.

Each chapter from chapter three to chapter seven focuses on a movement from The Heidegger Collection and discusses a musical idea and one of Heidegger's philosophical terms.

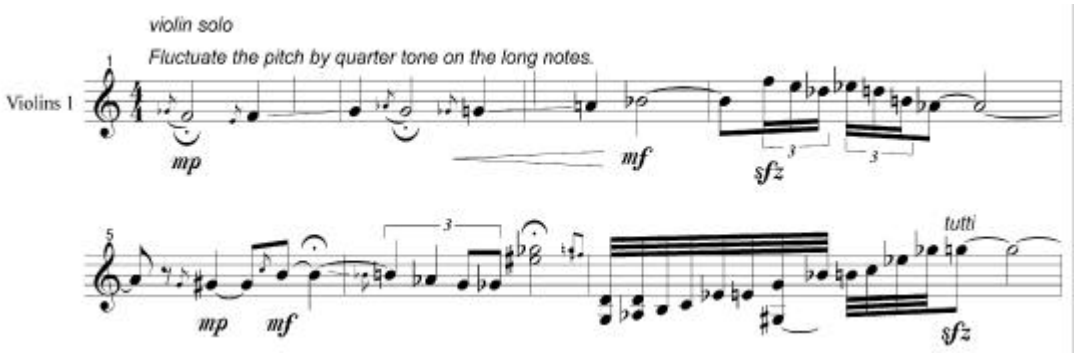
The Heidegger Collection has five movements. The title of each movement is derived from Being and Time, the major work by 20th-century German philosopher, Martin Heidegger. The titles of the five movements in order are State-of-Mind, Idle-Talk, Moment-of-Vision, Dread, and Being-towards-the-End. I chose these five key concepts as titles, because they can represent an overall perspective on Heidegger's thinking in Being and Time.

To understand the meanings of the titles, we need to examine some of Heidegger's basic concepts in Being and Time. Heidegger created many new words in his writings to precisely construct his philosophical ideas. In order to comprehend his writing in Being and Time, it is necessary to learn his unique language. Heidegger's main idea in Being and Time is *Dasein*[1], human's *Being*. *Dasein* is a new word Heidegger created for

---

[1] Heidegger's philosophy is a kind of ontology. Ontology is a 20th-century term for metaphysics. Heidegger's ontology is a science of Being. *Dasein* is Heidegger's central idea of ontology. *Dasein* literally means Here-Being or There-Being. "Da" in German means "here" or "there." "Sein" means "Being." The whole book of *Being and Time* focuses on the analysis of *Dasein*. *Dasein* is equal to *Being-in-the-world*. Heidegger uses *Dasein* to refer to both the concrete entity of human being, a person, and to its abstract metaphysical meaning of the *Being* of human. In general, *Dasein* is an ontological concept. *Dasein* is the ontological ground of the being of a person. In this case, *Dasein* is a collective term for the ontological structure of the human being. To explain the concept of *Dasein* in real life, this term is sometimes used to mean the *being* of a real person. However, Heidegger's goal is to establish the ontology of *Dasein*, based on the *being*s of people. *Dasein* has two aspects, the *ontological* aspect and the *ontical* aspect. These two aspects are always coexistent. The ontological aspect is the metaphysical side of *Dasein*; the ontical aspect is the everyday example of the real life. The ontological aspect of Being is the foundation of the ontical aspect of Being. The

analysis of humans' Being. *Dasein* has several of the highest metaphysical structures of humans' Being. *State-of-Mind*[2] is one of *Dasein's* highest Being Structures. The metaphysical structure of *State-of-Mind* is the foundation of mankind's everyday *mood*[3]. I chose State-of-Mind as my opening movement to set up a general mood for the entire collection. It is the basic mood I have while reading Heidegger's writings. The short opening violin solo opens the first movement and leads to the *discloseness*[4] of the basic mood.



Example 1. State-of-Mind, Opening solo on first violin, measures 1-7.

In the following movement, I chose Idle-Talk as the title. "Idle-Talk" is one of the dark sides of *Dasein*. It is a feature of *inauthentic Dasein*. Its unique phenomenon

---

uppercase "Being" is used as an ontological collective term; the lower case "being" refers to the real example of a person.

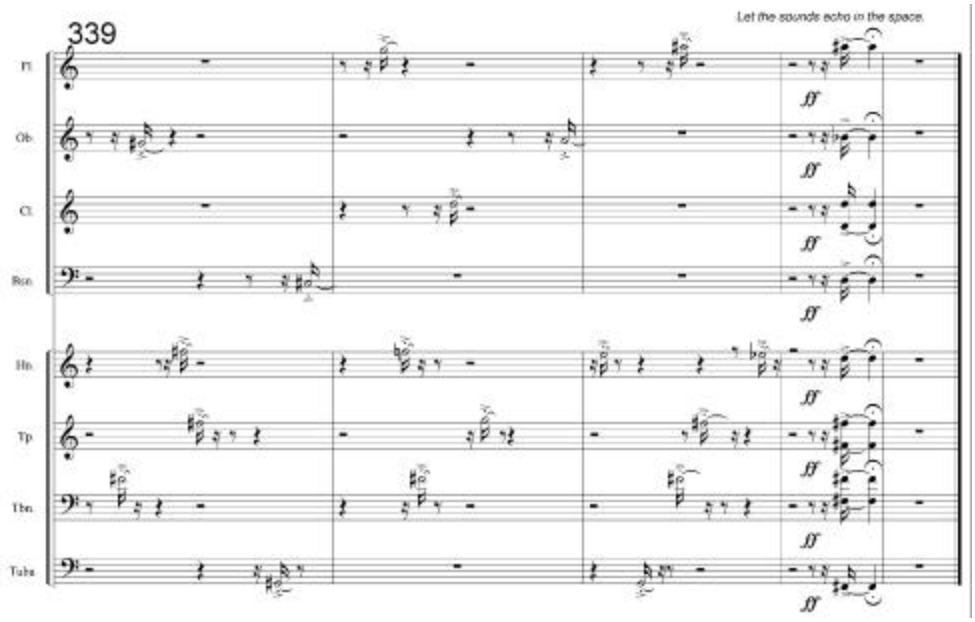
[2] *State-of-Mind* is an ontological (or metaphysical) term. *Dasein's* ontological structure of *State-of-Mind* makes the ontical (or everyday) possibility of *mood* possible.

[3] *Mood* is an ontical term for everyday usage. It is grounded on *State-of-Mind*.

[4] *Discloseness*, also known as unconcealment, means uncovering the truth of *Dasein's* world.

uncovers the truth of humans' everyday life and paves the road to the analysis of *Dasein*.

Dasein always falls between the two poles of *authentic* and *inauthentic* dimensions. One side is pure *authentic*; the other side is absolute *inauthentic*. *Dasein* is seldom 100% *authentic* or *inauthentic*. *Dasein's* structure constantly contains the two faces of *authentic* and *inauthentic* possibilities. *Authentic Dasein* means "*Dasein's Being* belongs to *Dasein* itself," or "one has total control of his own life." *Inauthentic Dasein* means "*Dasein's Being* does not belong to *Dasein* itself," or "one has no control of one's life or consciousness of one's life." "Idle-Talk" is the feature of *inauthentic Dasein*. The *ontological* aspect of *inauthentic Dasein* is called the "They"; the *ontical* aspect of *inauthentic Dasein* is called "Idle-Talk." The "They" is the foundation of the everyday phenomenon of "Idle-Talk." Example two, is the ending of the wind parts in the second movement. Each musical instrument in this movement represents a voice of the "They."



Example 2. Idle-Talk, Winds, measures 339-343.

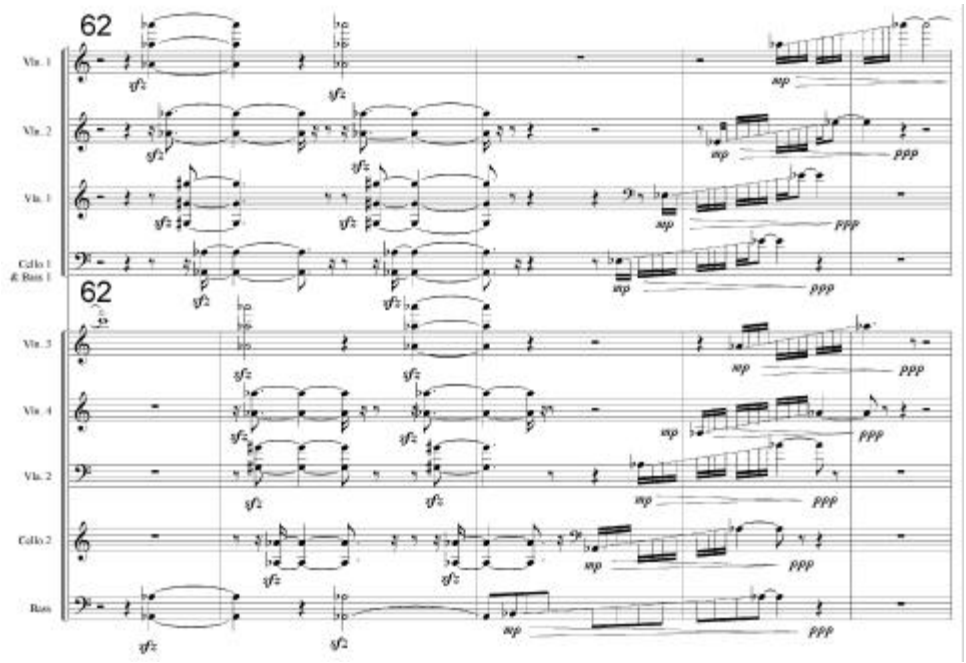
An everyday example of “Idle-Talk” is a person who is always asking someone else about how to do something, yet never speculates himself. In the process of asking, one will lose one’s identity. It is a process of alienation, in that the more one asks, the more one loses oneself. Finally one will fall into the world of the “They.” *Dasein's Being* will be covered up by various layers of information and become *inauthentic*. This process will never stop, because the more one loses one's identity, the more one wants to ask someone else about something to convince oneself. Finally, one's mind will be full of unjudged thoughtless information which becomes chaotic noise.

The title of the third movement is Moment-of-Vision (*Augenblick*). This has also sometimes been translated as “Visionary Moment.” “Moment-of-Vision” and the “They” are both important ontological structures of *Dasein*. “Moment-of-Vision” is the opposite idea of the “They” in terms of *authenticity*. “Moment-of-Vision” is the pure authentic state of Being; the “They” is the pure inauthentic state of Being.

Dasein’s temporality has three referents, the past, the present, and the future. These three states exist together at the same time as a whole, instead of in a linear sequence. “Moment-of Vision” is the authentic ontological structure of the present, that embraces all its history of life at this moment and looks forward to the future.

“Moment-of-Vision” is a state of silence. *Dasein* must keep silence, therefore *Dasein* can listen to someone else’s “calling” authentically with “understanding.” This kind of deep listening in silence is called “Hearken.” If *Dasein* is not listening to someone else’s *calling*, but listening to *Dasein’s* own voice, then it is called “Reticence.” “Moment-of-Vision” is in the mode of “Reticence.” At the moment-of-vision, *Dasein*

listens carefully in silence to its own *calling* from *Dasein's* own heart. There are no real sounds involved in the process. *Dasein* at this moment, *hearkens* to *Dasein*'s *calling* with no words, but sounds of silence. It is a *calling* from *Dasein*'s Being out of nothing into *Dasein*'s Being. It speaks with no words; sings with no sounds; and listens to one's *calling* of nothingness in silence. *Dasein* keeps silent[5] at its *Moment-of-Vision.* In a simple word, life is a tautology at the *Moment-of-Vision*. It might be considered as a loop in the shape of "Zero." Example three is an excerpt of the string part from measures 62-66 of this movement. It shows a musical moment of staircase layers. The shifting pitches, A flat, resemble the quick thinking process of sudden insight in human mind.



Example 3. Moment-of-Vision, Strings, measures 62-66.

[5] "Keep silent": This phrase is translated from "schweigen."

Dread[6] is the title of my fourth movement. I chose this title, because the idea of "Dread" is a perfect example to help understand *Dasein* and it is also an interesting typical Heideggerian concept. "Dread" is an extreme phenomenon of *Dasein*. By understanding the meaning of Dread, we can clearly tell authentic *Dasein* from inauthentic *Dasein*.

"Dread" is an essential structure of authentic *Dasein*. It is different from "fear." *Fear* falls more in the dimension of inauthentic *Dasein*. *Fear* is fear of something (ontically[7]) *present-at-hand*[8]. "Dread" is dread of something (ontologically[9]) *ready-to-*

---

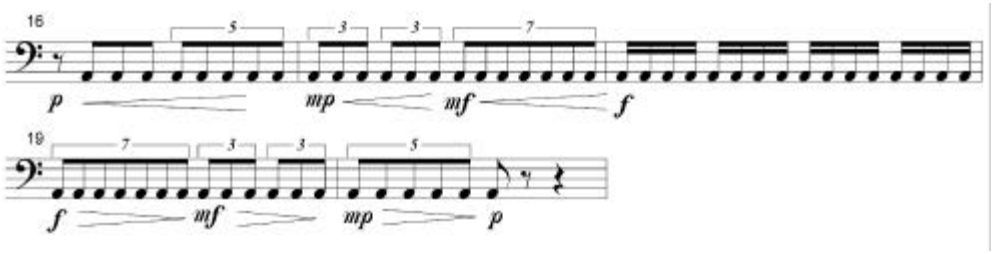
[6] "Dread" is also translated as "Anxiety" from the German word *Angst* by some scholars. The term "anxiety" is not strong enough to express the mood of *Angst* while *Dasein* is facing the nothingness.

[7] *The lower case* "fear" is usually associated with empirical "ontical" situation. The upper case "Fear" is the *ontological* structure of the *ontical* experience of the lower case "fear." "Ontical" is usually used in lower case. It refers to the empirical aspect of everyday *Dasein*.

[8] "Present-at-Hand" and "Ready-to-Hand" are two important aspects of *Dasein*. Both are ontological terms, but both can be used ontically. I would like to give a simple example to elucidate their meanings. Suppose I am sitting in front of my desk and I have the book of Heidegger's Being and Time on my desk. The book itself is a concrete ontical object. Therefore the book is *Present-at-Hand* to me. I can grasp the book right away and use the book. If I never read the book, the information in the book is not *Ready-to-Hand* to me, even though I can hold the book in my hand. If I had read the book thoroughly and I understand the content of the book so well, and even if the book is no longer available to me, the book is still *Ready-to-Hand* to me. (Heidegger seldom gave clear concrete examples for his ideas, because he was creating an ontology. It is impossible to explain any single concept clearly in a few words. I think this interpretation of mine is proper and makes it easy for the reader to follow his ideas.)

[9] The term "Dread," as with the term "Fear," is used both ontically and ontologically. "Dread" is usually used in the direction from the ontical experience of dread to the ontological idea (experience) in face of the structure of the "Nothingness." The experience of dread usually happens in *authentic Dasein* while *Dasein* is facing its *ontological* background of "Nothingness." "Nothingness" is the *ontological* foundation of

hand. “Fear” is fear of something concrete in front of us or facing us. *Dread* is dread of the emptiness of “nothingness[10].” Therefore, *authentic Dasein* never fears. *Authentic Dasein* can only be dread of the nothingness as *Dasein* is facing its end at death. Example four is the fear motive of the bassoon part in the fourth movement at measures 16-20.



Example 4. Dread, The Fear Motive, Bassoons, measures 16-20.

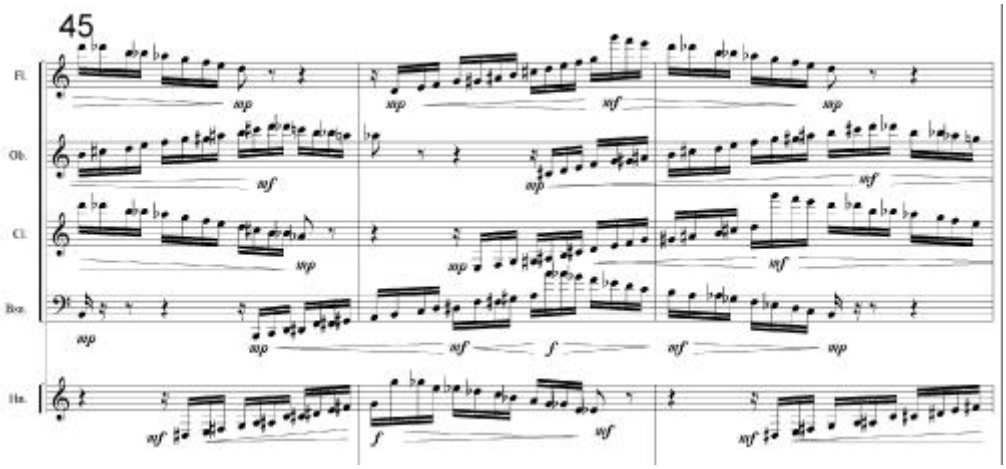
The last movement, “Being-towards-the-end” (*Sein zum Tode*) is related to the mood of “Dread.” In both cases, *Dasein* is facing the nothingness, *Dasein*’s ontological background.

“Being-towards-the-end” is a feature of *authentic Dasein*. One possibility for *Dasein* to be *authentic* is while *Dasein* is facing *Dasein's* end, the termination of life. *Authentic Dasein* is always dying. (“Dying” here does not refer to the physical death, but the mood of dying.) When *Dasein* faces *Dasein's* end, in the process of dying, *Dasein* can grasp *Dasein's* “*whole*” of life in mind without forgetting anything in the past. *Dasein's* past, present, and future will become as one. *Being-towards-the-end* is “Being-whole.”

Dasein. The “ontical” experience of “Dread,” leads us to understand the “ontological” possibility of Being.

[10] “*Nothingness*” is the foundation of *Dasein*.

The world grows at the same time, while *Dasein* is dying, and facing the *nothingness*. Example five shows a turbulent moment in the woodwind and horn parts from the fifth movement.



Example 5. Being-towards-the-End, Woodwinds and horns, measures 45-47.

There is no simple solution for me to express my thinking about Heidegger's Being and Time through music. What I can do is to express one instance out of many possibilities to convey through the psycho-acoustic aspect the moods of my world while reading Heidegger's writings. In the following chapters, I will discuss how I wrote the music of The Heidegger Collection.

CHAPTER II

ORCHESTRATION

The entire collection lasts for approximately 28 minutes. The duration of the first movement is 7 minutes ca.; the second movement is 3 minutes and 50 seconds ca.; the third movement is 8 minutes and 28 seconds ca.; the fourth movement is 5 minutes and 50 seconds ca.; and the fifth movement is 3 minutes and 6 seconds ca.

Each movement in The Heidegger Collection has its own unique instrumentation drawn from the full orchestral palette. The instrumentation for the entire piece requires three flutes (including one piccolo as specified), three oboes, three clarinets (including one bass clarinet), two bassoons, one contrabassoon (only in the first movement), four horns, three trumpets, three trombones, one tuba, percussion (six players), one piano, one harp (or two harps for doubling) and strings (preferably 16-16-12-10-8). In each movement, I emphasize different combinations of instruments depending on the nature of the music. Table One is a list of instrumentation.

Instrumentation of The Heidegger Collection					
Movements	**1**	**2**	**3**	**4**	**5**
Titles	**State-of-Mind**	**Idle Talk**	**Moment-of-Vision**	**Dread**	**Being-towards-the-End**
Tempo (♩=)	72	360	78	112	128
Duration	7' c.a.	3'50" c.a.	8'28" c.a.	6' c.a.	3'06" c.a.
Music Instruments	number	number	number	number	number
Piccolo	1		1 (or flute)	1 (or flute)	
Flutes	2	2	2	2	3
oboes	2	2	3	3	3
B flat Clarinet	2 **	2	3	3	3
Bass Clarinet	1				
Bassoons	2 **	1	2	2	2
Contrabassoon	1 **				
Horns	4	2	4	4	4
Trumpets in C	3	2	3	3	3
Tenor Trombones	3	2	3	3	3
Tuba	1	1	1	1	1
Timpani	4 (1 player)		4 (1 player)	4 (1 player)	4 (1 player)
Triangle				1	1
Tibetan Hand Bells			1 pairs		
Glass Wind Chimes			1		
Bamboo Wind Chimes				1 (by harpist)	
Suspended Cymbal			1	1	1
Cymbals			1	1	
Wood Blocks		4 (4 or 2 players)		5 (1 player)	
Snare Drum	1		1	1	1
Bass Drum	1		1	1	1
Gong	1		1	1	1
Big Thunder Sheet				1	1
Gong Drums				5 (1 player)	6 (1 player)
Taiko Drums		4 (4 or 2 players on Gong Drums)			
Glockenspiel	1				

Crotale				1	1
Vibraphone	1		1	1	1
Marimba	1		1	1	1
Tubular Bell	1				
Harp	1		1	1	
Piano	1		1	1	
Synthesizer	Optional			Optional	
First Violin	16*	8*	8*	16*	16*
Second Violin	16*	8*	8*	16*	16*
Third Violin		8*	8*		
Fourth Violin		8*	8*		
First Viola	12*	6*	6*	12*	12*
Second Viola		6*	6*		
First Cello	10*	5*	5*	10*	10*
Second Cello		5*	5*		
Double Bass	8*	8* (double the cellos)	8*	8*	8*

* Suggested
** Can be substituted by other music instruments in similar range or synthesizer (Kurzweil K2600 recommended)

Table One
Instrumentation

In the first movement, State-of-Mind, the bassoon, contrabassoon and bass clarinet can be substituted by other musical instruments such as the trombone, double bass or synthesizer. The Kurzweil K2600 is a recommended model for the synthesizer at the present time (2000). The synthesizer should use the sound that is similar to the musical instrument(s) for which it is substituted. The contrabassoon part can be transposed up an octave to fit the substituted instrument's range when necessary.

State-of-Mind has many microtonal passages. The spirit of the whole movement is based on the nuance of the unsettled state of pitch shifting. The performer should take the

transition of the tone as the central essence of the music, rather than focusing on the initial and ending pitches.

Six percussionists are recommended for the first movement. The synthesizer player can support the glockenspiel, vibraphone, marimba, or tubular bell parts, if there are not enough percussionists.

I frequently ask myself, "What is the essence of musical sound?" Though I do not have the answer in mind, I think the color of the sound itself is an important issue. Chinese musical instruments have richer colors and more individual characteristics, compared to western musical instruments in the orchestra. Western musical instruments are more homogenous in timbres; Chinese musical instruments are more diverse in sound qualities. Some Chinese instruments can create a complex timbre change over the course of the articulation of a single tone, such as "ch'in[11]," "zheng," "xiao" and "pipa." The small crash cymbals used in traditional Taiwanese funeral ceremony have a dense dissonant timbre. The Taiwanese singing bowl, a percussive instrument, used in Buddhist ceremony creates two pitches with a single stroke. "ba-wu," a free-reed flute, has a unique initial tone for each sound it plays. Various types of "hu-ch'in," a genre of string instrument, have their unique timbral flavors. My idea of orchestration is to express my feelings about such tones or sounds. I imagine the general characteristics of the rich of harmonic spectra of Chinese musical instruments and transform these sounds into the massed dissonant harmony in the entire orchestra. To achieve the goal of creating a blend

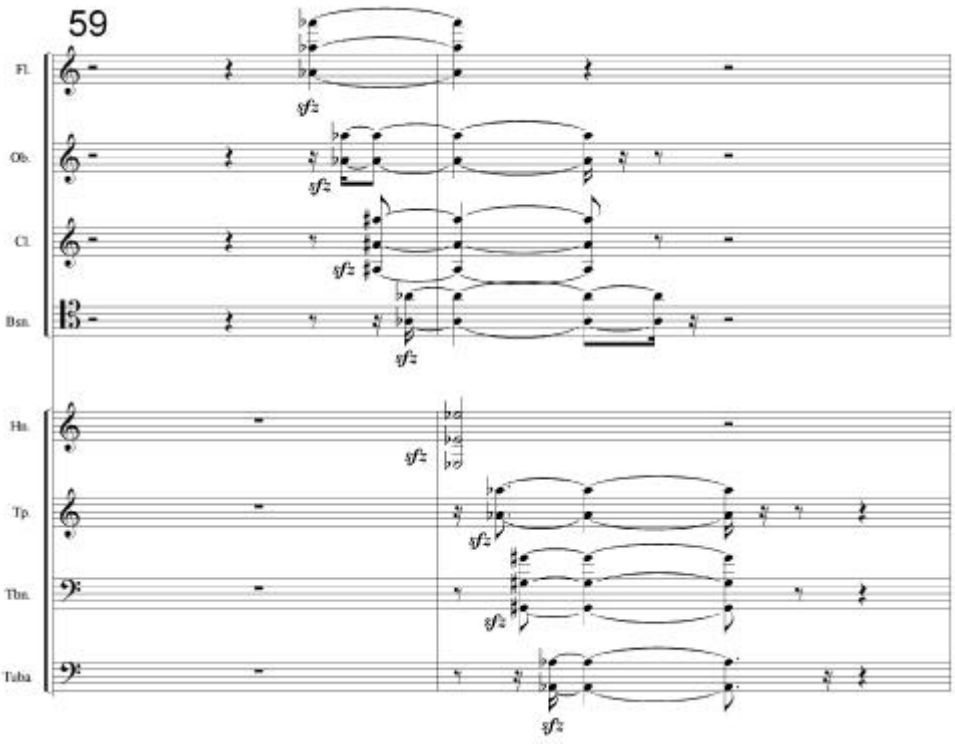
[11] For a single pitch, there are many choices of fingering positions to play the pitch and endless ways to articulate the contour and timbre of the pitch.

of rich harmonics, I often build dissonance from stacks of systematic consonant sonorities.

Another way to bring rich colors to the music of The Heidegger Collection is to use some oriental musical instruments. The special feature in the second movement, Idle-Talk, is the four taiko drums. Taiko drums are big Japanese drums. Each drum should be played by one percussionist, therefore the second movement requires four taiko drum players. The parts for the taiko drums can be substituted by gong drums or synthesizer. In this case, two percussionists or one synthesizer player should be able to accommodate the taiko drum part. The second movement also requires four wood blocks. As with the taiko drums, it would be more interesting to see the wood blocks performed by four percussionists. However, two percussionists can play the four wood blocks. In the string section, the violins are divided into four parts, the violas are divided into two parts, and the cellos are divided into two parts. The double basses should also be divided into two parts and double the cellos.

The notation of the second movement is non-traditional, though it is quite similar to traditional notation. The rhythm notates the attack points in sixteenth note flags with white note heads. Each note should be performed by all musical instruments in a way that is similar to the string sections' pizzicato effect. The conductor has great responsibility to keep a steady tempo and to keep the crescendi from mezzo forte to fortissimo throughout the entire piece. The bar lines are there only for reference. The performers should not give an impression of "down beats" with notes that happen on the first beats of the measures.

The longest movement in the entire collection is the third movement, State-of-Mind, which lasts for approximately eight minutes and twenty eight seconds. As is the case with the second movement, the third movement divides the string section into two groups. Therefore, the string section consists of four violin parts, two viola parts, two cello parts, and one double bass part. Though the string section has been split into two subdivisions, it is further subdivided into two or three divisi parts to achieve the essential feature of the music, a multi-layer effect. The woodwind and brass sections also break into two or three parts. Example six shows the woodwind and brass sections from measures 59-60 of the third movement.



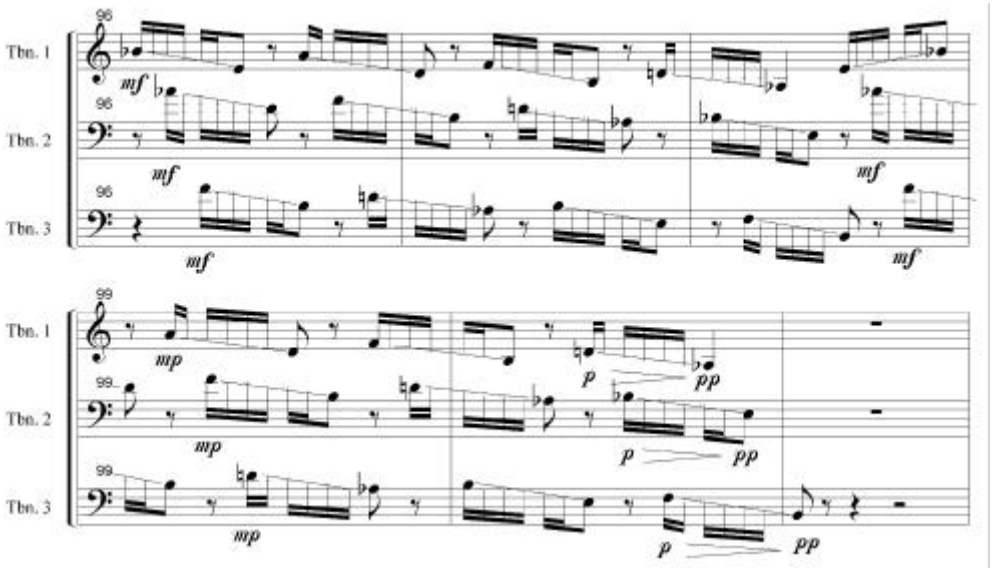
Example 6. Wind section, Third movement, measures 59-60.

The other essential instrumental features in the third movement are sul ponticello, harmonics and portamento string effects. These effects are necessary for carrying out the character of the musical ideas. The percussion part in this movement is not dense. Four percussionists including the timpanist can handle this movement easily.

The fourth movement, Dread, and the fifth movement, Being-towards-the-End, have heavier percussion parts. Though four percussionists can perform most of the essential percussion parts, the help of two more percussionists to handle the lighter percussion can make the percussionists' tasks easier. If not enough percussionists are available to play these two movements, the conductor can decide to leave out the triangle and suspended cymbal parts. The synthesizer is always an option to help out with the missing parts.

In the ending of the fourth movement (from measure 126), the pianist is required to play inside the piano with a pair of wooden sticks. Optionally, It can be doubled by a synthesizer performed by a percussionist (from measure 148). In this case, the synthesizer should choose a dreamlike sound with a touch of reverberation and continuous inner timbre motion. Playing on the piano strings with wooden sticks also appears in measures 47-68 and measures 84-121 of the first movement. I discovered this effect while I was improvising on a grand piano at Pittsburg State University in 1991. It became the basic material in my Five Fragments for piano solo No. 4, composed in 1992. This effect also became part of the central material in my tape piece, Mr. Cook in the Kitchen, composed in 1993.

The instrumental layouts of the fourth and fifth movements are similar. In both movements, the trombone section is divided into three staves and the string section is divided in the standard five staves: first violin, second violin, viola, cello and bass. The trombones occupy three staves because they need to play three layers of portamento material. Example seven shows the three layers of portamento in the trombones in measures 96-101 of the fourth movement.

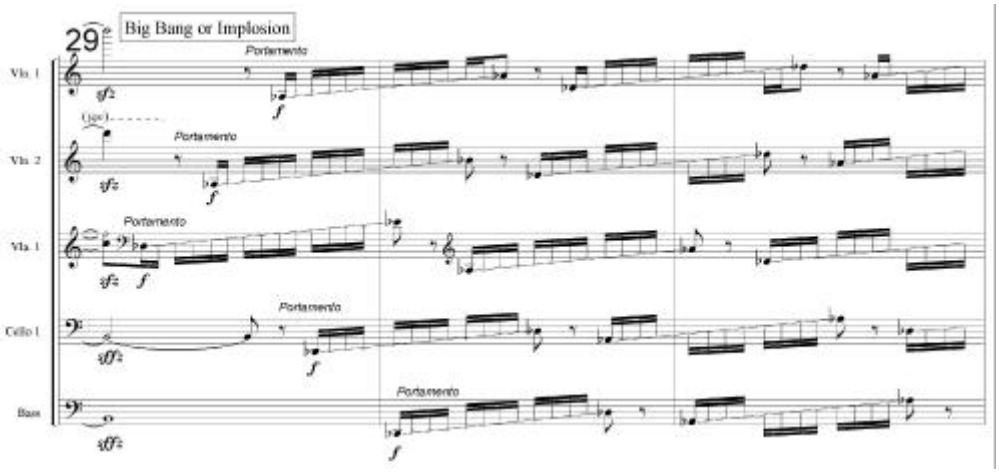


Example 7. Portamento in Fourth Movement, measure 96-101.

In the end of the fourth movement, from measures 126 to 134 and measures 146 to 164, the string section needs to fluctuate the pitch irregularly and slowly by a quarter tone; the pianist needs to change the speed and pressure of the wooden sticks slowly and irregularly; and the flutists need to let the effect of harmonics float in the air in a similar fashion. The ending of the fourth movement (from the second beat of measure 148) is

important, because the atmosphere carries out the important philosophical message, while *Dasein* is facing the *nothingness*.

One of the central ideas of the fifth movement, Being-towards-the-End, is the portamento effect in the string and trombone parts. The portamento effect, which is dominant in the first half of the movement, depicts the image of the whirling of a black hole. The energy of implosion or explosion is shown in the string section of measure 29-58. Example eight shows the beginning of the portamento in the string section from measure 29 to measure 31.



Example 8. Portamento in Fifth Movement, measures 29-31.

The second half of the fifth movement, like the second movement, has pointillistic effects. The conductor is responsible for controlling the acceleration. The precise attack points of each musical instrument carry out the important message of the interrelationship between chaos and order.

The instrumentation and musical materials in The Heidegger Collection are driven by the philosophical content. Each movement has its unique instrumentation and characteristic musical language. In the following chapters, I will discuss the psycho-acoustic aspects of The Heidegger Collection.

CHAPTER III

MICROTONE AND STATE-OF-MIND

All music touches humans by unfolding its unique moods. State-of Mind opens The Heidegger Collection with a fundamental *mood* which depicts the *worldhood*[12] I experienced while reading Heidegger's Being and Time. As the *Dasein* is grounded on *nothingness* or *silence*, the basic *mood* of this piece is calm. The *mood* in this movement also represents the basic *mood* of my everyday life.

The microtonal music idiom is related to my experience of Taiwanese culture. In Taiwan, the culture is a mixture of native tradition as well as influences from Japan, China, and western civilization.

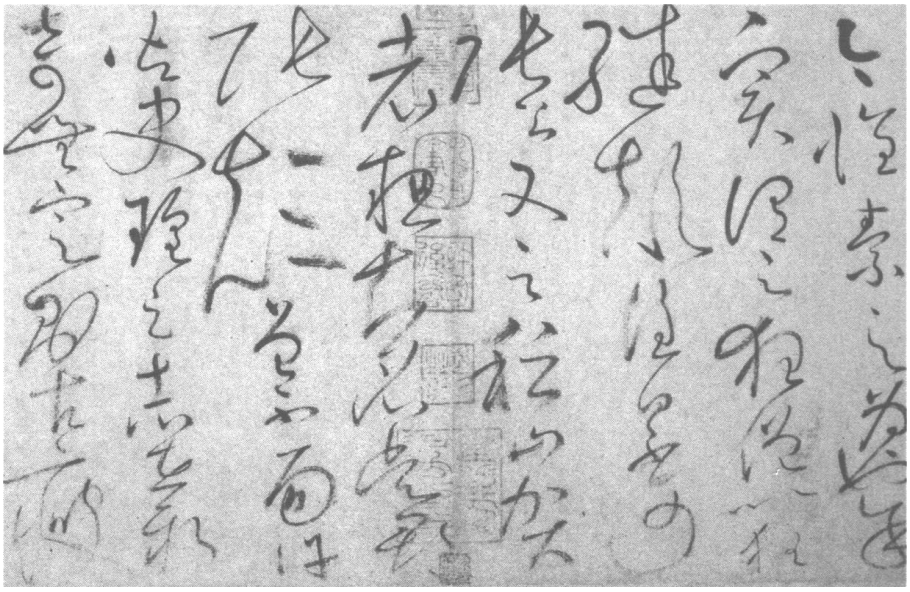
The music has some visual references to Chinese calligraphy, in terms of the inner energy, the "*Ch'i*," and the outer form of the writing[13]. In my childhood, I learned how to write Chinese calligraphy in elementary school. The pen is made of animal hairs. A single stroke of line in writing consists of hundreds of tiny lines contributed by every single hair. All the hairs that form the outer shape of a written stroke are supported by the inner energy of every single hair. We can see this effect especially when the brushstroke is not

---

[12] In Heidegger's phraseology, *worldhood* means the relationship between *Dasein* and the world which *Dasein* discloses.

[13] In Chinese calligraphy, the inner form is the spirit; the outer form is the shape of the body.

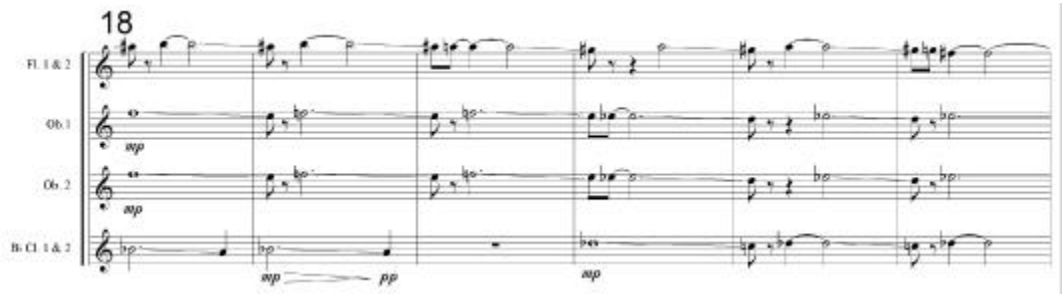
fully saturated with ink. The effect is similar to the musical idea of State-of-Mind. The nature of the hair is soft, therefore the hairs have to be bent for writing. Every single stroke of writing is made of hundreds of bending inner lines. The music reflects the image of the inner lines by use of microtones. The whole movement State-of-Mind to me is a single stroke of a long horizontal line which sets up the *horizon*[14] of *Dasein*'s *worldhood*. Example nine is an autobiographical passage by Huai-su (725?-785). The inner lines are clearly shown on some of the incompletely moisturized written strokes.



Example 9. Autobiography (excerpt), by Huai-Su.

Example ten shows the microtonal passage in the woodwinds (measures 18-23) that resembles the inner lines of a written stroke.

[14] *Horizon* means the context of the *worldhood*.

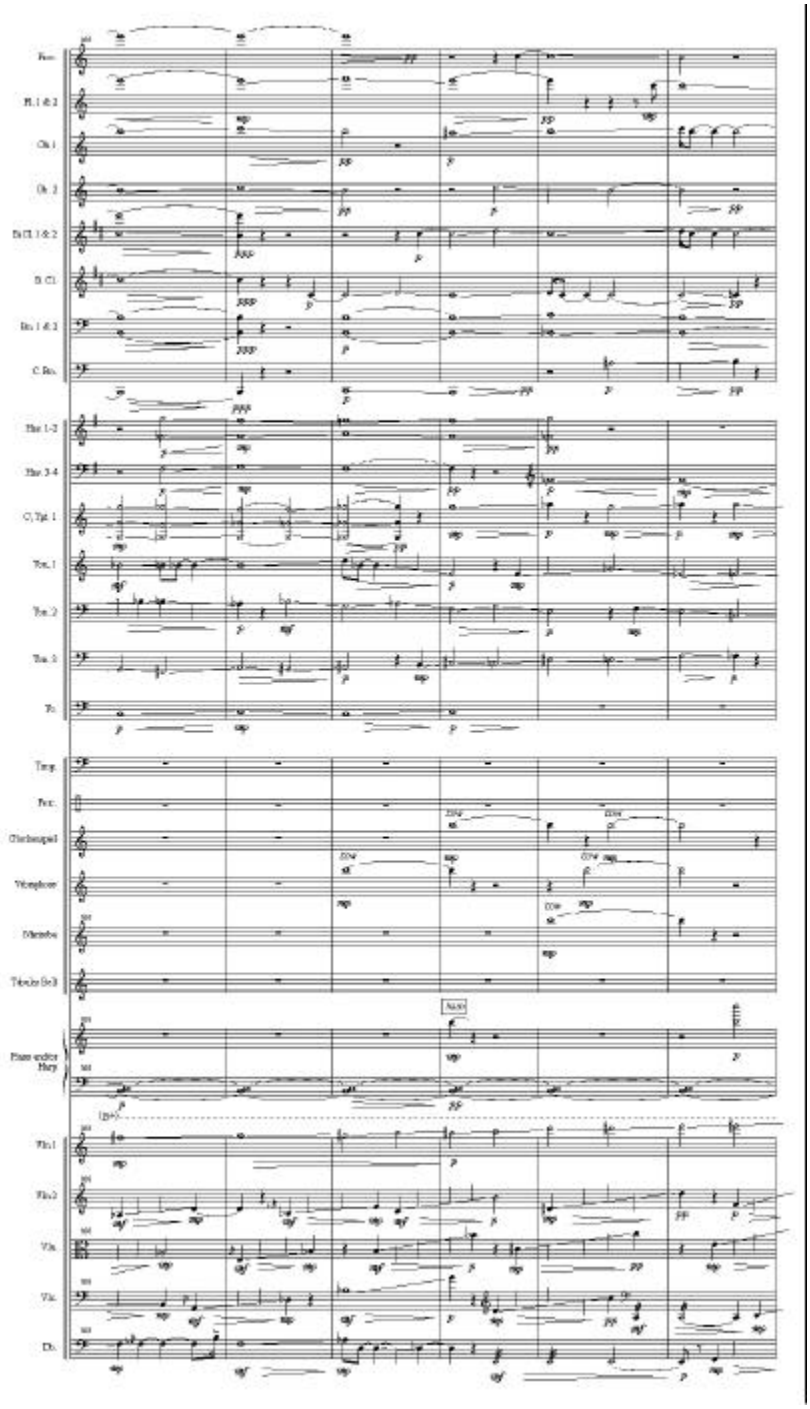


Example 10. State-of-Mind, measures 18-23.

Aurally, the musical idea is an expansion the playing of the "ch'in." The ch'in is both a seven-string zither and the ancient genre of Chinese music associated with it. The ch'in is a very personal solo instrument. Traditionally, it is only performed in a private occasion for the performer himself or close friend(s). The practice of the ch'in, Chinese calligraphy, painting, poetry and/or martial arts were often the common activities of a scholarly individual in the past. To hear the solo ch'in music through the medium of the orchestra is like viewing the path of the calligraphy through the microscope. There are lines within the lines of calligraphy. The inner lines which carry the spirit of the calligraphy are actually more important then the outer shape of the writing. This concept has a strong impact on my musical writing.

The influence of the music of the ch'in and of Chinese calligraphy shows up in my microtonal musical idiom in the first movement. Microtonality is the central spirit in State-of-Mind. Besides the Chinese influence, the tuning ritual is also a part of my inspirational resource for the first piece. I have always enjoyed the tuning ritual before a symphony concert. Some parts of the music represent a metamorphosis of the tuning process of the orchestra. The sound in the end of State-of-Mind from measures 108-123,

has an effect similar to that of the tuning ritual. Example eleven is the microtonal passage of the full score in measures 108-113.



Example 11. State-of-Mind, Full score, measures 108-113

A musical composition is, to me, not just a piece of music. I think a musical composition is an essay. The title of a piece is a partial or full thesis statement. I was constantly thinking "what is the essence of music?" while I was composing the first movement. Besides melody, rhythm, and harmony, what are the essential elements of music? By exploring the answers to such questions, I trusted my instinct and tried to compose a piece of music where traditional rhythmic patterns, recognizable melody, and functional harmony are not important features, and where, therefore, other important elements of music might stand out. I think our inner experience of time and of timbres might be two other important elements of music. I am interested in uncovering the essence of the sound itself through thinking and experimenting with the ideas in a true musical composition. The Heidegger Collection, in general, explores something else beyond the traditional sense of rhythm, melody and harmony.

The first movement is the most vague in terms of musical idea. It is similar to the first recognizable floating clouds of energy out of chaos in outer space. The texture of the first movement is thin and translucent. The time floats slowly and is almost still. The sounds drawn from the full orchestral palette are trying to achieve colorful timbres that resemble the harmonics–rich sonorities of Chinese musical instruments. To achieve the rich timbres of harmonics, I did not calculate the harmonics' structures mathematically, as with Tristan Murail's spectral composition Allegories for ensemble (1990). State-of-Mind has many simple block moments where all musical instruments sound together based on very simple notes with a few added consonant and dissonant pitches. For instance, the big block of sonority in the end of measure seven is based on the pitch "G" in all registers. A

few consonant intervals of the fifth, third and sixth were added in piano, harp, marimba, oboe, trombone, cello and double bass parts. Dissonant intervals of minor seconds are added in clarinet and horn parts. This large sonorous block then moves microtonally in measures 8-10 to achieve the nuance of timbral shifting. By using microtones and adding consonant and dissonant intervals to existing harmonic structures or to single tones, I create my imaginary world of musical sonority.

I very much cherish the rich colors and individual characteristics of many Chinese musical instruments, such as ch'in, er-hu, and funeral crash cymbals. The timbre of the small crash cymbals used in a traditional funeral ceremony in Taiwan has a complex spectrum. When I improvised on a pair of funeral crash cymbals, the colorful sounds produced by this particular instrument remind me of the spectral music by Tristan Murail. I used layers of microtonal lines to imitate the complex spectrum inspired by this instrument as well as other Chinese musical instruments, especially ch'in. The sonority of the microtonal passages are a way of expressing my feelings about the rich timbres from Chinese musical instruments.

The microtonal passages also take away the sense of rhythmic pulse in traditional music. Microtonal passages function as the inner energy that keeps the time going. Time floats with the microtonal lines, instead of with a measurable pulse.

The issues of time, timbre and microtonality also continue to be expanded and explored in the other movements of The Heidegger Collection. In the next movement, Idle-Talk, time is projected in multi-layers of steady pulses.

CHAPTER IV

ALGORITHM AND IDLE-TALK

The second movement, Idle-Talk, takes the very different approach of computer-assisted composition. The poly-rhythmic structure in this movement was generated by computer using the Visual Basic and Music Sculptor in PC. I used Visual Basic to write some simple codes, which generate the numerical data for each musical instrument, then used Music Sculptor to read the data, mix the data and output a midi file. Finally, I used notational software to compose the pitch lines.

I have taken two courses of algorithmic composition with Professor Phil Winsor at the University of North Texas. From the courses, I learned to compose music with the assistance of a computer. “Algorithmic composition” is a computer-assisted compositional procedure using the computer to calculate a custom-made formula. The reduction of the algorithm in the programming code of Basic is quite simple. The data for a single musical instrument can be generated from the following codes.

```
100 REM ************************************************************************
110 REM ***      The Heidegger Collection, Second Movement, Idle-Talk, flute part        ***
120 REM ***      Rhythmic sieve algorithm by using MOD and conditional functions       ***
130 REM ************************************************************************
150 REM ***       Output “flute” as file name with Music Sculptor’s Score File extension.
200 OPEN "flute.sc" FOR OUTPUT AS #1
210 PRINT #1, "File-ID : 2"
220 PRINT #1, "Format : 1"
250 REM ************************          Parameters          ************************
260 REM ***      NoteOn = Attack Point; Tics = clock units for midi file; SixteenthNote = 30 tics
270 REM ***       TicsPerMeasure = 480; NumbersOfMeasures = 20;
280 REM ***      PulseUnit = 5*4 = 20 Sixteenth Notes = Making an attack every 5 quarter notes
290 NoteOn = 0 : Tics = 0 : SixteenthNote = 30
```

```
300 TicsPerMeasure = 480 : NumbersOfMeasures = 20 : PulseUnit = 20
310 REM ************************      The Algorithm      ************************
320 REM *** If the condition meet the requirement, output a note with five parameters.
330 REM *** (1) Note On (attach point); (2) Pitch (60 = middle C); (3) Velocity (90 = forte); (4)
        Articulation Duration (120 tics = quarter note); (5) Channel (0 = midi channel 1; timbre)
333 REM ***************************************************************************
340     FOR Tics = 0 TO (NumbersOfMeasures * TicsPerMeasure)
350     IF Tics MOD (SixteenthNote * PulseUnit) = 0 THEN PRINT #1, NoteOn; 60; 90; 120; 0
360             NoteOn = NoteOn + 1
400     NEXT Tics
410 PRINT #1, 0; -1; 0; 0; 0
420 CLOSE #1
500 END
```

After execution of the code, a text file is generated with Music Sculptor's file extension called "flute.sc." This file can be read by Music Sculptor for further algorithmic operations in graphic interface. The output of the code is as follows:

```
File-ID : 2
Format : 1
 0  60  90  120  0
 600  60  90  120  0
 1200  60  90  120  0
 1800  60  90  120  0
 2400  60  90  120  0
 3000  60  90  120  0
 3600  60  90  120  0
 4200  60  90  120  0
 4800  60  90  120  0
 5400  60  90  120  0
 6000  60  90  120  0
 6600  60  90  120  0
 7200  60  90  120  0
 7800  60  90  120  0
 8400  60  90  120  0
 9000  60  90  120  0
 9600  60  90  120  0
 0 -1  0  0  0
```

Music Sculptor is an algorithmic compositional software developed by Professor Phil Winsor at University of North Texas. The algorithms of Music Sculptor are based on his ideas. The code is realized by the programmer, Chang, Kuo-Long. Music Sculptor can read two kinds of text files. One has one parameter of data with the file extension, "dat";

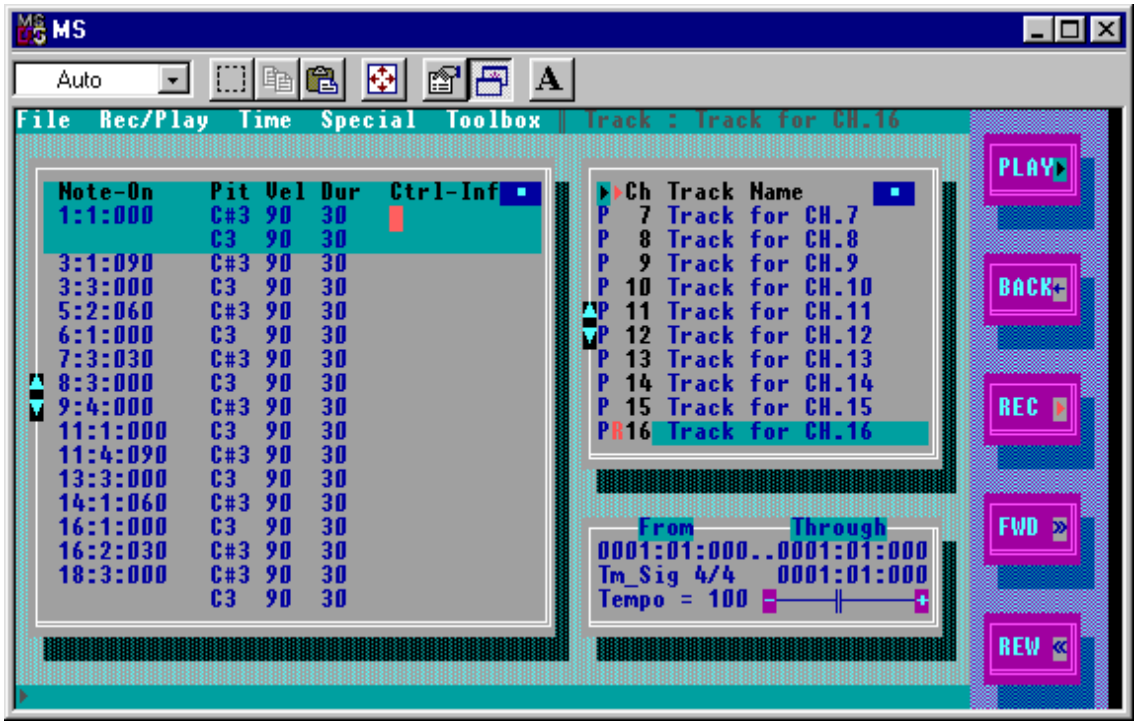
and the other has five parameters of data with the file extension, “sc.” In this case, the data has five parameters: note-on, pitch, velocity, articulation-duration and channel. A midi file can have 128 values from 0 to 127 for the parameters of pitch, velocity and channel. Note-on is the attack point of a note. Articulation-duration stands for the duration of a pitch. A whole note is equal to 480 tics.

By expanding the code from the flute part, the following code creates the raw material for the orchestral score of the second movement, Idle-Talk. In this setting, 24 orchestral parts are presented in 16 midi channels in 24 different pitches. After the running of the code, a file called “24parts.sc” for Music Sculptor is generated. This particular version of code was modified to generate 50 measures of music, due to the limitation of G.W. Basic. Current Visual Basic will be able to generate larger files.

```
100 REM ************************************************************************
110 REM ***     The Heidegger Collection, Second Movement, Idle-Talk, 24 parts        ***
120 REM ***     Rhythmic sieve algorithm by using MOD and conditional functions      ***
130 REM ************************************************************************
150 REM ***  Output “24parts” as file name with Music Sculptor’s Score File extension. ***
151 REM ************************************************************************
200 OPEN "24parts.sc" FOR OUTPUT AS #1
210 PRINT #1, "File-ID : 2"
220 PRINT #1, "Format : 1"
250 REM ************************     Parameters     ************************
260 REM ***     NoteOn = Attack Point; Tics = clock units for midi file               ***
261 REM ***     SixteenthNote = 30 tics                                               ***
262 REM ***     TicsPerMeasure = 480; NumbersOfMeasures = 50                          ***
263 REM ***     Sixteenth Notes = Making an attack every 5 quarter notes              ***
264 REM ***     FlutePulseUnit = 5*4 = 20; OboePulseUnit = 7*4 = 28                   ***
265 REM ***     ClarinetPulseUnit = 3*3*4 = 36; BassoonPulseUnit =11*4 = 44           ***
266 REM ***     HornPulseUnit = 13; TrumpetPulseUnit = 17; TrombonePulseUnit = 19 ***
267 REM ***     TubaPulseUnit = 23; Wood1PulseUnit = 29; Wood2PulseUnit = 31          ***
268 REM ***     Wood3PulseUnit = 37; Wood4PulseUnit = 41; Taiko1PulseUnit = 43        ***
269 REM ***     Taiko2PulseUnit = 47; Taiko3PulseUnit = 49; Taiko4PulseUnit = 53      ***
270 REM ***     Violin1PulseUnit = 59; Violin2PulseUnit = 61; Viola1PulseUnit = 67     ***
271 REM ***     Cello1PulseUnit = 71; Violin3PulseUnit = 5*5 = 25                     ***
272 REM ***     Violin4PulseUnit = 5*6 = 30; Viola2PulseUnit = 5*7 = 35               ***
273 REM ***     Cello2PulseUnit = 5*8 = 40                                            ***
275 REM ***     Based on Prime Numbers                                                ***
281 REM ************************************************************************
```

```
290 NoteOn = 0 : Tics = 0 : SixteenthNote = 30
295 TicsPerMeasure = 480 : NumbersOfMeasures = 50
296 REM ********************  Pulse Unit Assignment   ************************
301 Flute = 20 : Oboe = 28 : Clarinet = 36 : Bassoon = 44
302 Horn = 13 : Trumpet = 17 : Trombone = 19 : Tuba = 23
303 WoodBlock1 = 29 : WoodBlock2 = 31 : WoodBlock3 = 37 : WoodBlock4 = 41
304 Taiko1 = 43 : Taiko2 = 47 : Taiko3 = 49 : Taiko4 = 53
305 Violin1 = 59 : Violin2 = 61 : Viola1 = 67 : Cello1 = 71
306 Violin3 = 25 : Violin4 = 30 : Viola2 = 35 : Cello2 = 40
310 REM ************************     The Algorithm     ************************
320 REM ***  If the condition meet the requirement, output a note with five parameters.   ***
330 REM *** (1) Note On (attach point); (2) Pitch (60 = middle C)                          ***
331 REM *** (3) Velocity (90 = forte); (4) Articulation Duration (30 tics = sixteenth note) **
332 REM *** (5) Channel (0 = midi channel 1; 1 = midi channel 2; timbre)                   ***
333 REM ***************************************************************************
500 FOR Tics = 0 TO (NumbersOfMeasures * TicsPerMeasure)
600       IF Tics MOD (SixteenthNote * Flute) = 0 THEN PRINT #1, NoteOn; 83; 90; 30; 0
601       IF Tics MOD (SixteenthNote * Oboe) = 0 THEN PRINT #1, NoteOn; 82; 90; 30; 1
602       IF Tics MOD (SixteenthNote * Clarinet) = 0 THEN PRINT #1, NoteOn; 81; 90; 30; 2
603       IF Tics MOD (SixteenthNote * Bassoon) = 0 THEN PRINT #1, NoteOn; 80; 90; 30; 3
604       IF Tics MOD (SixteenthNote * Horn) = 0 THEN PRINT #1, NoteOn; 79; 90; 30; 4
605       IF Tics MOD (SixteenthNote * Trumpet) = 0 THEN PRINT #1, NoteOn; 78; 90; 30; 5
606       IF Tics MOD (SixteenthNote * Trombone) = 0 THEN PRINT #1, NoteOn; 77; 90; 30; 6
607       IF Tics MOD (SixteenthNote * Tuba) = 0 THEN PRINT #1, NoteOn; 76; 90; 30; 7
608       IF Tics MOD (SixteenthNote * WoodBlock1) = 0 THEN PRINT #1, NoteOn; 75; 90; 30;
          8
609       IF Tics MOD (SixteenthNote * WoodBlock2) = 0 THEN PRINT #1, NoteOn; 74; 90; 30;
          8
610       IF Tics MOD (SixteenthNote * WoodBlock3) = 0 THEN PRINT #1, NoteOn; 73; 90; 30;
          9
611       IF Tics MOD (SixteenthNote * WoodBlock4) = 0 THEN PRINT #1, NoteOn; 72; 90; 30;
          9
612       IF Tics MOD (SixteenthNote * Taiko1) = 0 THEN PRINT #1, NoteOn; 71; 90; 30; 10
613       IF Tics MOD (SixteenthNote * Taiko2) = 0 THEN PRINT #1, NoteOn; 70; 90; 30; 10
614       IF Tics MOD (SixteenthNote * Taiko3) = 0 THEN PRINT #1, NoteOn; 69; 90; 30; 11
615       IF Tics MOD (SixteenthNote * Taiko4) = 0 THEN PRINT #1, NoteOn; 68; 90; 30; 11
616       IF Tics MOD (SixteenthNote * Violin1) = 0 THEN PRINT #1, NoteOn; 67; 90; 30; 12
617       IF Tics MOD (SixteenthNote * Violin2) = 0 THEN PRINT #1, NoteOn; 66; 90; 30; 12
618       IF Tics MOD (SixteenthNote * Viola1) = 0 THEN PRINT #1, NoteOn; 65; 90; 30; 13
619       IF Tics MOD (SixteenthNote * Cello1) = 0 THEN PRINT #1, NoteOn; 64; 90; 30; 13
620       IF Tics MOD (SixteenthNote * Violin3) = 0 THEN PRINT #1, NoteOn; 63; 90; 30; 14
621       IF Tics MOD (SixteenthNote * Violin4) = 0 THEN PRINT #1, NoteOn; 62; 90; 30; 14
622       IF Tics MOD (SixteenthNote * Viola2) = 0 THEN PRINT #1, NoteOn; 61; 90; 30; 15
623       IF Tics MOD (SixteenthNote * Cello2) = 0 THEN PRINT #1, NoteOn; 60; 90; 30; 15
700               NoteOn = NoteOn + 1
800 NEXT Tics
910 PRINT #1, 0; -1; 0; 0; 0
920 CLOSE #1
999 END
```

After “24part.sc” was generated by G.W. Basic, the file was read in Music Sculptor. The following example is the interface of the DOS version of Music Sculptor. The data shown in Music Sculptor here is from the direct result of the above code.

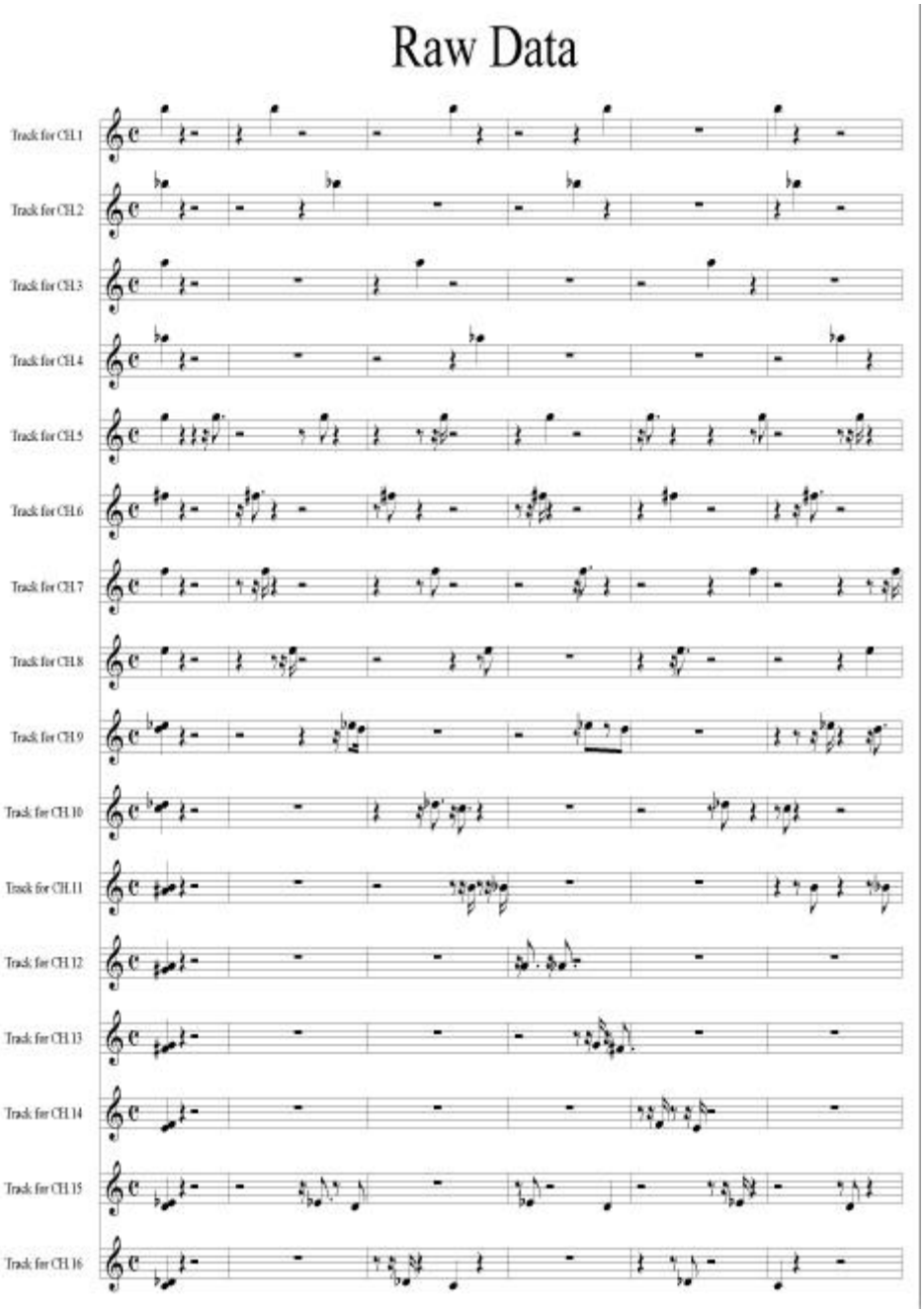


Example 12. Music Sculptor, DOS version.

In example twelve, channel 16 is highlighted on the right hand side of the graphics. It contains data for the second viola and second cello parts, as shown at the left hand side of the graphics. The cello part has the pitch middle C; the viola part has the pitch C sharp above middle C.

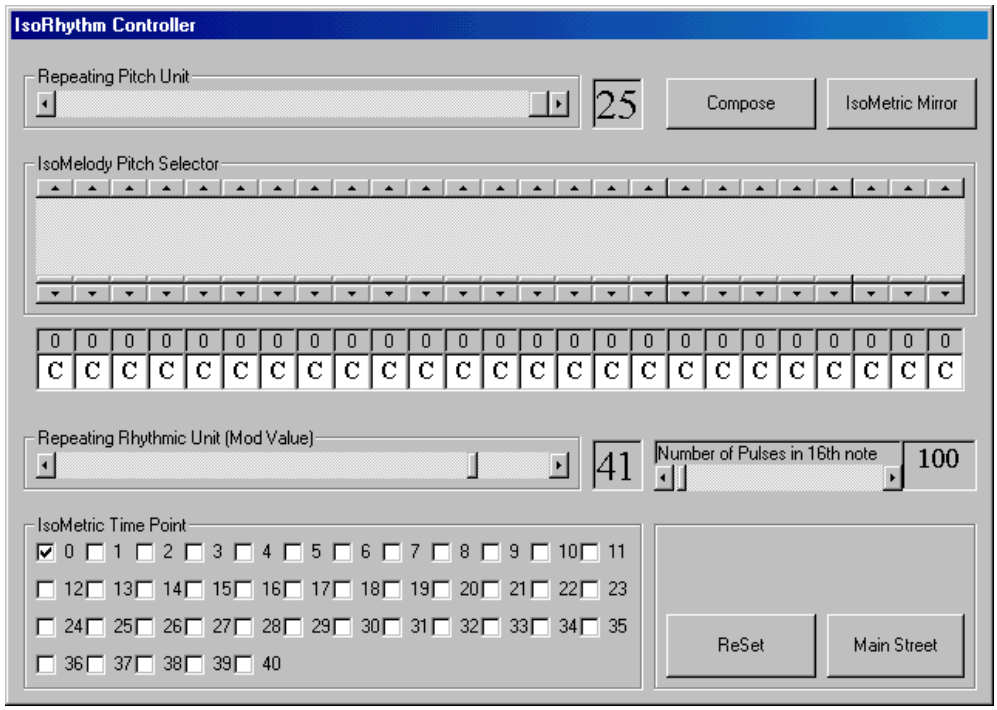
Music Sculptor can output a midi file for a sequencer or for notation software for further modification. The original file designated that all the pitches start together. The file was then imported into CakeWalk Pro, a multi-track software in the Windows

environment. The retrograde operation was applied to the original material, making all the pitches end together. Example thirteen illustrates the file before the retrograde operation.



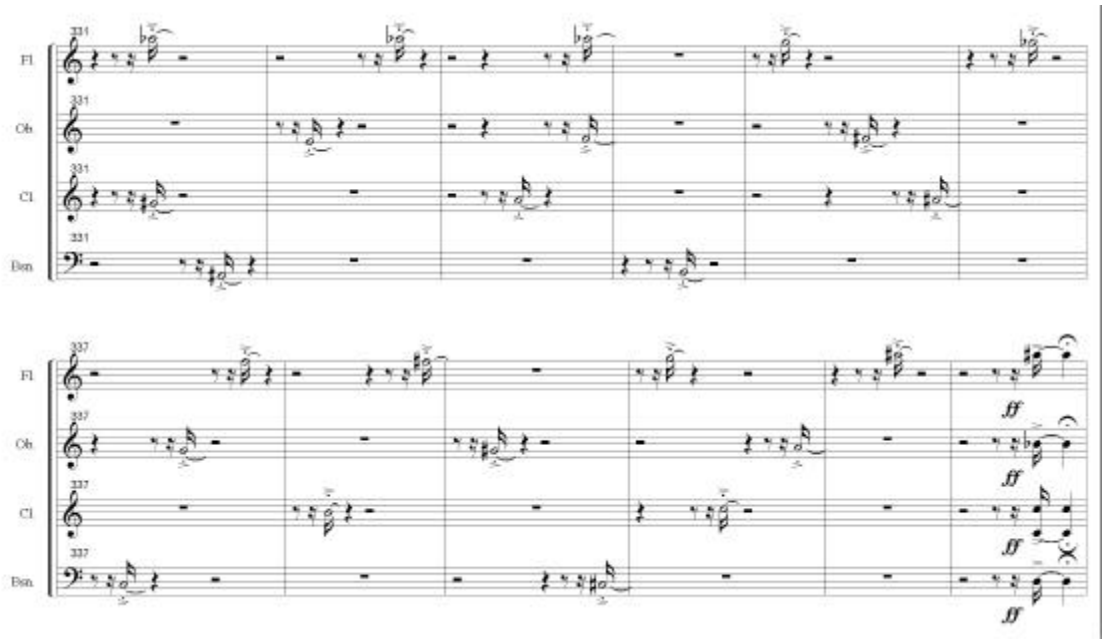
Example 13. Raw Material of 24 parts in 16 channels

The same raw data can also be generated by such software as Matrix or Music Sculptor. Matrix is a supporting application for Music Sculptor that I designed in Microsoft Visual Basic environment. It has a graphical interface, and can create twelve-tone music, twenty-four-tone music, isorhythmic music and interval sequence music. By adjusting several parameters in Matrix, native score files and data files for Music Sculptor may be generated for further editing. The same rhythmic data can be generated one by one by using the isorhythmic dialogue box in Matrix. The setting of the isorhythmic dialogue box of Matrix illustrated in example fourteen generated 100 attacks for the fourth woodblock part in the second movement. In this case, the adjustable twenty five repeating pitch sequence does not affect anything, because the isomelody parameter is set to the pitch C. In example fourteen, the number of attacks is set to one hundred; the duration of each attack is one sixteenth note long. The repeating rhythmic unit is set to the value 41, a prime number, and the first pitch of the time point is checked, which means the first of every forty-one sixteenth notes will have an attack.



Example 14. Isorhythmic Graphical Interface in Matrix

After the retrograde operation of the raw data in Cakewalk, the files are brought into Finale, a notational software, for modification of the pitches. For the instruments that can play precise pitches, I chose different initial pitches to assign to them. The first string section plays the pitch C in four registers; the second string section plays the pitch C sharp, also in four registers. The woodwind and brass have the pitches, C, D, F sharp, A flat, and B flat, which combine with the strings to form pitch set [0, 1, 2, 4, 6, 8] (D9). The set contain two sub-sets, the first is [0, 1, 2] with pitches C, C sharp, D, the other is [0, 2, 4] with pitches F sharp, A flat and B flat. The sonority of the six-note set is the combination of the three-note chromatic scale and the three-note whole tone scale a tritone apart.



Example 15. Woodwind, *Idle-Talk*, Measures 331-342.

These pitches do not continue for the entire piece. The pitches gradually shift chromatically near the end of the piece. From example fifteen, we can see the shifting process in the woodwind parts. All the musical instruments end together in one large sonorous block of sonority as shown in the woodwind part. The final chord is similar to the initial sonority which consists of the six note set [0,1,2,4,6,8] (D9) with the pitches, C, C sharp, D, F sharp, A flat and B flat, (except for the eight percussion parts).

The musical concept of the second movement is related to Jackson Pollock's action painting, and to chaos theory. Pollock's painting utilizes the procedure of chaos operation. His paintings look chaotic with heavy layers of irrational strokes. We might not be able to scientifically analyze the pattern of his creative process and sort out a meaningful formula behind his actions, because it looks random to us. Yet we might be

touched by seeing his paintings and imagining how his actions of painting follow his intuition. To me, the patterns lie in his intuitions; the paintings are just the traces of his intuition.

The concept of chaos theory is closely related to Jackson Pollock's action paintings. According to Larry S. Liebovitch's definition, chaos theory has four properties. First, a chaotic system is a deterministic system with complex behavior. It can be described by a small number of independent variables. Second, a chaotic system is a dynamic system. This means that the variables have some kind of relationship. Because the subsequent values of the variables can be computed from their previous values, the chaotic system has a deterministic relationship. Third, a chaotic system is sensitive to initial conditions, usually known as the butterfly effect. The antecedent value is critical to the consequent value. A small change in the antecedent value will have great impact on the consequent value. Fourth, the relationship of the variables can be represented in time; this is known as the phase space. A relationship which looks random can be transformed by calculus into a recognizable pattern. In short, the chaotic system usually looks random before calculus reduction, and it has a deterministic pattern which is sensitive to the initial conditions.

My second movement, Idle-Talk, like Pollock's paintings, appears to be random, and yet it contains patterns. Both are related to chaos theory. In Pollock's action paintings, the patterns lie at the moment of his continuous actions by charting his intuition. A starting stroke might have significant influence on the consequent strokes and cause unique deterministic results.

The sound of Idle-Talk also appears to be random. The rhythmic pattern, on the other hand, is quite the opposite. The polyrhythmic structure consists of twenty-four layers of different tempi structured as a fugue in a very pure primordial form. The starting points for each voice are deterministic to the final simultaneous stroke. Every tiny shift of pitch in the chromatic scale is decisive to the consequent pitches and contributes to the cumulated effect of the final stroke.

In Heidegger's language, *Idle-Talk* happens while human's being, *Dasein,* is in the inauthentic mode. In the inauthentic mode, *Dasein*'s life does not belong to itself. In this situation, *Dasein* does not do inner thinking, but is constantly seeking and checking other people's opinions. Different people on the other hand are providing contradictory answers to *Dasein*. The result is that *Dasein* will fall into the world of the "They." In this state, *Dasein*'s world is full of confusion, uncertainty and ambiguity. Many contradictory equivalent noises are sounding simultaneously in the surrounding environment.

I use twenty-four equivalent steady rhythmic pulses in the second movement to depict the situation caused by many opposing opinions. Each musical instrument plays a steady simple pulse in a unique tempo based on a prime number. The result is a twenty-four layer temporal fugue. Because it is impossible for a human to follow all the twenty-four rhythmic lines consciously, it creates chaos in the mind.

CHAPTER V

SILENCE, MOMENT AND MOMENT-OF-VISION

Silence and moment are important ideas in Chinese painting. Traditional Chinese paintings often have some unpainted white areas. Those silent white areas open up space for the imagination. Besides the silent white area, there are fragments of unique spaces. Each unique space has its own characteristics and represents a special spirited moment. The ideas are similar in Chinese gardens. While one is wandering through a Chinese garden, each tiny space has its unique scene of vision and carries out a special moment of mood in the architecture. Walking in the gardens, one will experience a series of unique scenes of wonder.

Example sixteen is a Chinese painting called Landscape (1948) by Binhong Huang (1864-1955). The style of Binhong Huang's Chinese paintings followed the art tradition of the Southern S'ung and Y'uang dynasty, though he was one of the early Chinese painters to master western brush and ink skill[15]. In this painting, the mountains and trees, outlined by darker lines and filled with saturated ink colors, showed the characteristics of paintings from Southern S'ung and Y'uang dynasty. The empty spaces

[15] Huang, Binhong placed the western brushwork and ink into five categories. Brush techniques include "flat, reserved, round, heavy and varied." Ink techniques include "heavy, light, splash, deposit and roasted." He avoided the western brushwork in his Chinese paintings.

could be the river, the mist, the clouds or the sky. The balance of the painted area and the unpainted area also represented the balance of the opposing forces, “Ying” and “Yang.”

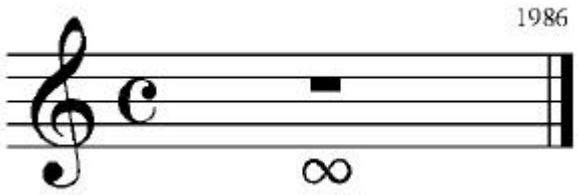
Example 16. Chinese landscape painting.

Similar to Chinese paintings and gardens, the music in the third movement, Moment-of-Vision, also presents a series of visionary moments. In this movement, there are not as many obvious empty spaces as in my Theory of Astronomy for brass quintet (1996). The silent space in the third movement is hidden in the background with a series of visionary moments floating in the foreground. I will discuss the third movement later.

I believe the ideas of silence and moment from Chinese or other oriental cultures have significantly influenced western music in the twentieth century. At the early stage of my involvement with contemporary music (1986), I was amazed by the fresh ideas of

silence transformed by John Cage. Before 1985, I didn't even know the existence of contemporary western art music. I knew the name of John Cage in 1986, but not his music. John Cage studied the philosophy of Zen and probably also the I-Ching with a Japanese philosopher, D. T. Suzuki at Columbia University in the late 1940's. Those oriental ideas had significant influences on Cage's musical creation. He composed his famous silent piece, 4' 33", in 1951 and 0'0" in 1962. Cage's early lectures and essays were collected and published under the title Silence in 1968. His Music of Changes for piano solo (1951) shows the direct influence of his early study of Chinese philosophy and of the oracle book, the I-Ching. These are the same topics I was interested in the late 1980's and 1990's. I was studying the philosophy of the I-Ching, Heidegger, and Existentialism in the late 1980's at the National Taiwan University at about the same time that I discovered contemporary western art music. At that time, there was not much information about contemporary western music available in Taiwan. I heard very little contemporary music before 1990. All I knew were the names of a few masters, such as Cage, Stockhausen, Berio, Nono and Ligeti. Though the information was limited, I instantly became very interested in the music of Cage, Berio and Stockhausen. I constantly searched all the record stores, book stores and libraries I knew in Taipei for information on these composers. The lack of information did not stop me from composing silent pieces. I started to compose a lot of conceptual music and text music in 1986. Composition no.1 in example seventeen is my first composition. It is a silent piece. The score is notated in the treble clef with only a rest sign and a infinite sign below the rest sign. The best interpretation of this piece is *Dasein*'s death. This piece raised a series

of related questions for me, concerning silence in the philosophy of Zen, absurdity and suicide in Existentialism and nothingness in Heidegger. I was constantly thinking of these issues. The lack of information on Cage's music did not stop me from creating more conceptual music. With silence in the background, my mind was full of vigorous energy and endless inspiration for composing conceptual music. The meeting point of silence from Chinese culture, the idea of death from Heidegger's Being and Time, and my experience of John Cage's music is clearly shown in Composition No. 1.



Example 17 Composition No. 1 by Tung-Lung Lin (1986).

The music of John Cage, the questions about the idea of silence, Heidegger's philosophy and the I-Ching continued to occupy my mind for a decade. In the late 1980's, I found a copy of John Cage's book, Silence. That was my greatest discovery about twentieth century music in the past fifteen years. I cherished the book as the holy bible and read in it from time to time. In the book, there are two famous quotes from the article "experimental music" that I liked to read very much. The first quote is related to the idea of silence and Zen. Cage thinks the sound should be a living entity by itself. Composers and the audience should listen to music in a new way and let the sounds be themselves.

> And what is the purpose of writing music? One is, of course, not dealing with purposes but dealing with sounds. Or the answer must take the form of paradox: a purposeful purposelessness or a purposeless play. This play, however, is an affirmation of life—not

> an attempt to bring order out of chaos nor to suggest improvements in creation, but simply a way of waking up to the very life we're living, which is so excellent once one gets one's mind and one's desires out of its way and lets it act of its own accord[16].

The second quote is about silence. Cage said that it is impossible for humans to live in a world of complete silence:

> There is no such thing as an empty space or an empty time. There is always something to see, something to hear. In fact, try as we may to make a silence, we cannot. For certain engineering purposes, it is desirable to have as silent a situation as possible. Such a room is called an anechoic chamber, its six walls made of special material, a room without echoes. I entered one at Harvard university several years ago and heard two sounds, one high and one low. When I described them to the engineer in charge, he informed me that the high one was my nervous system in operation, the low one my blood in circulation. Until I die there will be sounds. And they will continue following my death. One need not fear about the future of music[17].

I drew a simple diagram which summarized my thinking on such questions from my early journals in the late 1980's as follows. It also shows my primitive understanding of Heidegger's thinking.

Thrown into the world
Suddenly Being-There

not-yet-*Dasein*	*Dasein* or Life	no-longer-*Dasein*
Nothingness	Sound	Nothingness

Birth Death

Table 2. Sound and Nothingness.

---

[16] John Cage: "Experimental Music" from Silence, page 8.

[17] John Cage: "Experimental Music" from Silence, page 12.

"Silence" and "nothingness" are two important related issues in Heidegger's philosophy. The concept of "silence" falls between "nothingness" and "*Dasein*." I'd like to illustrate the concept of "nothingness" first before going to the details of "silence." In Heidegger's point of view, *nothingness* is the ontological background of *Dasein*. The possibility of Being arises from nothingness. "Without the original revelation of the nothingness, no selfhood and no freedom"[18] is possible. The possibility of Being is finite and bound by *nothingness*. While *Dasein* is facing its end in the mood of "dread," *Dasein* has the sense of *Being-Whole* and the sense of wholeness will be threatened by the *nothingness*. It is also at this moment that *Dasein* can be authentic and probably can transcend. Heidegger thinks the transcendence of *Dasein* points to the *nothingness*.[19] The mood of anxiety or dread happens while *Dasein* is facing its end, the *nothingness*. The mood of silence is associated with transcendence of *Dasein*. The moment of silence is "the transcendental horizon for the question of Being" (BT: page 39[20]). At the moment of silence, *Dasein* is able to reach out the edge of its potentiality for being into nothingness[21].

From my journal of the late 1980's, I drew a diagram about the relationship of

---

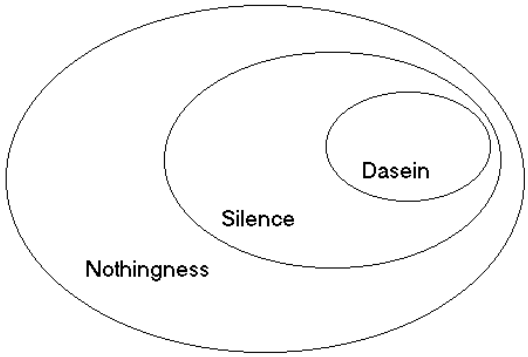
[18] From What is Metaphysics? by Martin Heidegger.

[19] Nothingness is discussed in Heidegger's later works in What is Metaphysics ? (1929) and Introduction to Metaphysics (1935).

[20] BT is the abbreviation of Being and Time. The numbers in this paper refer to the page numbers of the German edition.

[21] Based on Richard Polt's comment on Heidegger from the book, Heidegger. Page 41-42.

nothingness, silence and *Dasein*. Nothingness and silence are not necessarily larger than *Dasein* as shown in the diagram. Nothingness is the ontological background of *Dasein*. Silence, which is also in the background, is an authentic mood of *Dasein*. Nothingness and silence do not exist if *Dasein* is not being in the world. Example eighteen is the diagram that represents the relationship of nothingness, silence and *Dasein*.



Example 18. The Ontological Background of *Dasein*.

Another approach to looking at *nothingness* is Heidegger's methodology, hermeneutics[22]. Hermeneutics is a philosophical method that uses the strategy of repeated interpretations of the same subject matter with various perspectives to expand our understanding into a more meaningful context. The method itself goes beyond logic and appears to be tautology. For instance, Heidegger said "The nothingness itself nihilates" in What is Metaphysics? This means "nothing," the subject itself, "nothings," the verb. If nothing, the subject, is nothing, it does not exist, therefore it can not nothing because

[22] Hermeneutics is a philosophical method using various perspectives to form a web of belief around the same subject matter. It was first used to interpret the bible. Repeated interpretation makes our understanding of the subject matter deeper and more meaningful. In the process of repeated interpretations, *Dasein*'s worldhood is expanding .

there is not a subject of "nothing" to take the action of nihilation[23]. This statement sounds like a nihilism argument[24]. The true meaning lies beyond the contradictory logic. The "nothingness" is not pure nothing, since the concept of nothing only exits in *Dasein*'s worldhood. By various interpretations of nothingness, we start to understand nothingness in various contexts, such as the relationship of *Dread* and *Being* to nothingness, *Dasein*'s "thrownness[25]" into the world from nothingness and the expanding of *Dasein*'s worldhood out of nothingness. "Language is the house of Being." Our senses of hearing, seeing, touching, smelling and tasting are also modes of language. Language is not limited to written and/or spoken languages. This interpretation of Heidegger's concept of "language" is congruous with the ideas of the holy book, the Prajna Paramita Heart Sutra of Buddhism. In the Heart Sutra, it says "five senses, Skandhas, are empty." The five Skandhas are sex, perceptions, intentionality or thinking, deed and consciousness[26].

In logic, an argument can be equal to the sentence itself or equal to a series of arguments. By repeating the sentence or restating the sentence in different ways that have

---

[23] In Richard Polt's Heidegger, pages 121-130 include a good discussion on nothingness and logic.

[24] Heidegger's discussion of nothingness is different from Satre's. Heidegger's philosophy creates meanings and discloses the worldhood for Dasein based on the nothingness. Satre's discussion leads to nothingness by taking life out of its meaningful context into a state of absurdity.

[25] *Dasein* often confronts new situations suddenly as it were thrown into the world. For instance, such events as a wedding, the arrival of a baby, a car accident, awakening from a deep sleep and taking a test are the situations of "thrownness."

[26] This is my translation from the Chinese edition of the Heart Sutra. The Chinese edition of the Heart Sutra is translated from Sanskrit by Hsuan Tsang, a famous monk of the T'ang dynasty.

pure logical equivalence, the arguments of those sentences are identical. Beyond logic, by using hermeneutics, the reduction of an argument is not quite equal to the continuous reasoning or repetition of the same argument. For instance, understanding the reasoning process of Einstein's $E = mc^2$ is not necessarily equal for everyone to the understanding of the equation alone. *Dasein*'s world expands by experiences of synonyms. To be, therefore to be. I live, therefore I am. Life is a tautology that expands through time.

Between nothingness and *Dasein*, Heidegger touches the subject of silence while he is discussing the issues of care, calling, discourse, hearing, reticence and conscience in Being and Time. The following quotation is from pages 161- 165 of Being and Time.

> As an existential state in which *Dasein* is disclosed, discourse is constitutive for *Dasein*'s existence. Hearing and keeping silent are possibilities belonging to discursive speech. . . . (p. 161) Hearing is constitutive for discourse. . . Hearing constitutes the primary and authentic way in which *Dasein* is open for its ownmost potentiality-for-Being. . . (p. 163) Only where talking and hearing are existentially possible, can anyone hearken. The person who 'cannot hear' and 'must feel' may perhaps be one who is able to hearken very well . . . (p. 164) Keeping silent is another essential possibility of discourse, and it has the same existential foundation. In talking with one another, the person who keeps silent can 'make one understand'. . . (p. 164) To be able to keep silent, *Dasein* must have something to say—that is, it must have at its disposal an authentic and rich disclosedness of itself. In that case one's reticence makes something manifest, and does away with 'idle-talk' (p. 165).

The above quotation reveals that silence is in an authentic mode of *Dasein*. It is definitely the opposite of Idle-Talk. Discourse[27] is articulation of meanings. It makes language possible. Discourse does not necessarily involve dialogue with other people, inter-subjectivity. It can be *Dasein*'s own monologue. An authentic discourse is possible in the mood of silence or of anxiety. *Dasein* can only authentically listen to others' voice, oneself or music while *Dasein* is keeping silent. The person who is keeping silent in the mood of silence, knows how to hearken, how to listen authentically. Based on authentic discourse, conscience is *Dasein*'s hearkening to *Dasein*'s calling from itself to itself. The following quotations from page 273 and pages 277-278 of Being and Time unfold the issues of silence and conscience further:

> What does the conscience call to him to whom it appeals? Taken strictly, nothing. The call asserts nothing, gives no information about world-events, has nothing to tell. Least of all does it try to set going a 'soliloquy' in the Self to which it has appealed. 'Nothing' gets called to [zu-gerufen] this Self, but it has been summoned [aufgerufen] to itself—that is, to its ownmost potentiality-for-Being. . . Conscience discourses solely and constantly in the mode of keeping silent. In this way it not only loses none of its perceptibility, but forces the *Dasein* which has been appealed to and summoned, into the reticence of itself (p. 274).
>
> The call does not report events; it calls without uttering anything. The call discourses in the uncanny mode of keeping silent. And it does this only because, in calling the one to whom the appeal is made, it does not call him into the public idle talk of the "they", but calls him back from this into the reticence of his existent potentiality-for-Being. . . The

[27] Being and Time, German edition page 133. "State-of-Mind and understanding are characterized equiprimordially by discourse. . . which lies in understanding, and the interpretation."

> proposition that *Dasein* is at the same time both the caller and the one to whom the appeal is made, has now lost its empty formal character and its obviousness. Conscience manifests itself as the call of care: the caller is *Dasein*, which, in its thrownness (in its Being-already-in), is anxious about its potentiality-for-Being. . . The call of conscience—that is, conscience itself—has its ontological possibility in the fact that *Dasein*, in the very basis of its Being, is care (pp. 277-278).

From the quotation, it is very clear that "conscience" has several characters: (1) it is in authentic silent mood; (2) it is a tautology in circle, from the calling by *Dasein* itself to the hearkening of *Dasein* itself; (3) it does not necessarily carry any concrete message. It often carries nothing in the voice of calling, which is very similar to our experiences of listening to absolute music. From this point, Heidegger opens up a path to the possibility for unfolding the ontology of music which he never developed. The way Keith Jarrett, a jazz pianist, improvises in his solo music, is a real life example of authentic discourse of conscience in silence. The sound of the music itself carries no meanings–nothing in the message, but yet it is most meaningful because it discloses the possibility of *Being*, with silence in the background. It is close to the oriental thinking of Zen and John Cage's statement of "purposeful purposeless." A music improviser must call silently from himself or herself and hearken silently to himself or herself. In the process of silent calling and hearkening, the voice of music uncovers endless moments of visions, moment after moment.

Another concept which is related to silence is "moment-of-vision." "Moment-of-vision" is the special authentic moment with silence in the background. If there is no silence in the background, authentic *Dasein* will directly face its ontological foundation,

the nothingness, and will be in the mood of dread. Therefore, human's ontical experiences of "moment-of-vision" are essentially in the mood of silence. Zen meditation, deep thinking and deep listening are real life examples of such a moment. The moment has no beginning or ending as is the case in the telling of a story. At the very moment, the possibility of *Dasein*'s Being is un-concealed.

This concept is close to Karlheinz Stockhausen's idea of moment form. The first piece Stockhasuen composed in moment form is Kontakte (1959-60) for tape to be played alone or with the additions of piano and percussion. In moment form, the music is a representation of a series of moods. The music entity has its own world and life. The music that is to be presented consists only of samples drawn from the world of music entity, therefore, a piece of music has no beginning and no ending. Moment form often has the characteristics of the mobile form influenced by John Cage's chance music and Alexander Calder's mobile sculptures. Music in moment form might change the order of the presentation of sections of music. The length of each section also can be changed.

In moment form, music is a life entity, because it is *Dasein* that is listening to the sound of music. I always bore the idea of moment form in mind based on my understanding of Heidegger while I was composing The Heidegger Collection. The third movement, Moment-of-Vision, is an especially pure moment form, though the music is fixed as the traces of my creative process.

Before I come back to the music of the third movement, I'd like to elucidate more the concept of moment-of-vision by quoting Heidegger's words on pages 338 and 350 from Being and Time. The quotations also summarize many of Heidegger's key concepts.

> That Present which is held in authentic temporality and which thus is authentic itself, we call the "moment-of-vision". . . 'In the moment-of-vision' nothing can occur; but as an authentic Present or waiting-towards, the moment of vision permits us to encounter for the first time what can be 'in a time' as ready-to-hand or present-at-hand (p. 338). Understanding is grounded primarily in the future (whether in anticipation or in awaiting). States-of-mind temporalize themselves primarily in having been (whether in repetition or in having forgotten). Falling has its temporal roots primarily in the Present (whether in making-present or in the moment-of-vision). . . Thus we can see that in every ecstasis, temporality temporalizes itself as a whole; and this means that in the ecstatical unity with which temporality has fully temporalized itself currently, is grounded the totality of the structural whole of existence, facticity, and falling—that is, the unity of the care-structure. Temporalizing does not signify that ecstases come in a 'succession'. The future is not later than having been, and having been is not earlier than the Present. Temporality temporalized itself as a future which makes present in the process of having been (p. 350).

Moment-of-vision is the very moment authentic *Dasein* discloses its own uttermost potentiality for being a whole. The past, the present, and the future are disclosed in succession and temporalized not in any particular fixed order.

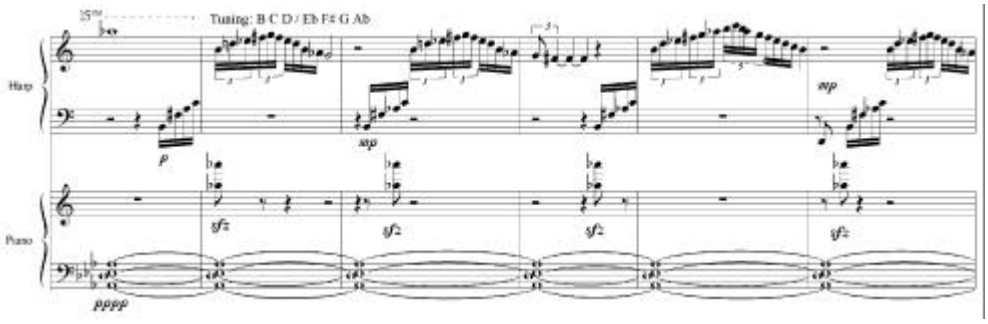
The third movement, Moment-of-Vision, consists of a series of musical moments with silence in the background. This movement can be roughly divided into four sections for convenient discussion (table 3).

Moment-of-Vison from The Heidegger Collection				
Sections	A	B	C	D
Measures	1-58	59-85	86-122	123-166
Features	wave motive; hammer strokes	shifting motive	wave motive; layers of scales	interval cycles of fifths

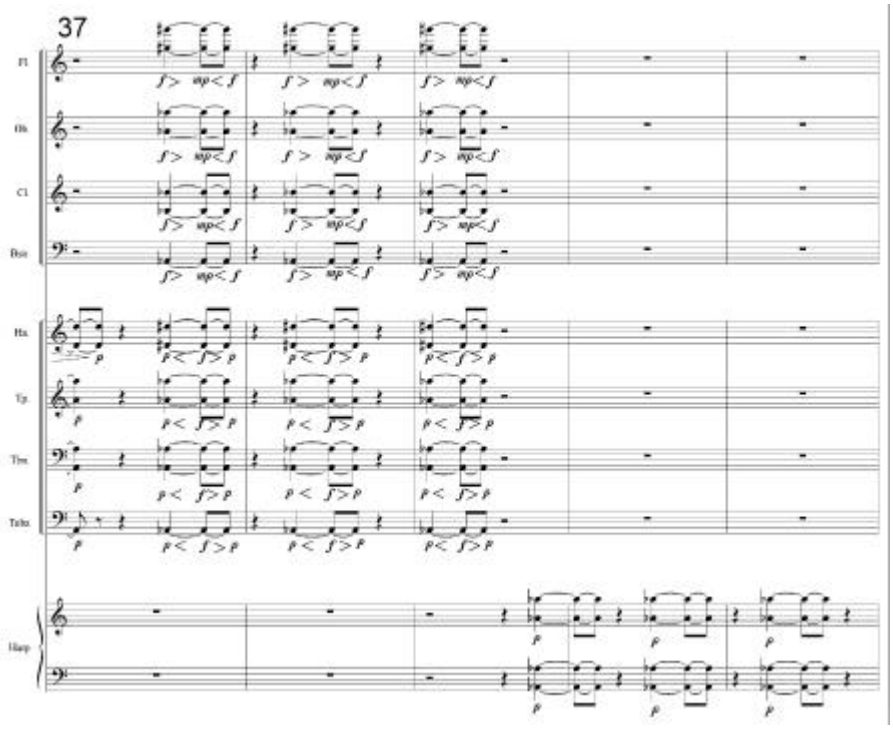
Table 3. Moment-of-Vision.

In this movement, the music arises from silence and falls back into silence. In the beginning from measure one to measure fourteen, there is a long crescendo created by adding instruments softly one by one. The crescendo reaches a loud moment at measure fifteen which opens up with the shining sun rising out of the horizon of silence. It is followed by a gentle shimmering color in the harp part in measures eighteen to twenty-eight with four hammer strokes on the piano part in measures nineteen to twenty-three. The hammer strokes symbolize the sound of the heavenly bell calling from the high mountain at dawn. The sounds of the bell awaken the life in the world. It also symbolizes the visionary moment of enlightenment of wisdom. The continuous thin and ever-changing sustaining pitches in the string, brass and woodwind parts gradually grow from a faint resonance in measure eighteen into the piercing and undulating waves of sunlight in measures twenty-nine to thirty-nine. The sound of sunshine is then transformed into the sound of a bell that strikes three times (performed by most of the instruments) from the end of measure thirty-seven to the beginning of measure thirty-nine. Softer echoes of the bell sound then follow in the harp part from the ending of measure thirty-nine to the

middle of measure forty-one. After the soft echoes of the harp, the world sinks back into silence, and the A section ends in measure 58[28].



Example 19 Hammer strokes on piano, measures 18-23.

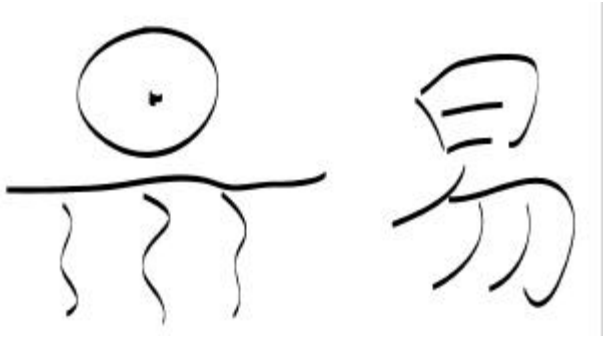


Example 20. Hammer strokes excerpt (tutti), measures 37-41.

[28] This description of sunrise is subjective, and should not impose on the listening experience of the audience. This is absolute music.

The sunrise and sunset hold great meaning for Chinese people. The Asian continent faces the ocean and sunrise to the east. The ancient form of the calligraphy of the title of “I-Ching” reflects the meaning of sunrise and sundown, especially the sunrise. The promising circle of sunrise and sundown is the primordial meaning of the word, “I” from the “I-Ching”[29]. It has the shape of sunrise and sunset and symbolizes the endless continuation of life and of the universe. It also symbolizes the shifting, ever-changing states of the world.

On the left-hand side of example twenty-one is the ancient writing of the word, “I”; on the right-hand side is the modern form which is preserved in Taiwan[30].



Example 21. The traditional Chinese characters of “I”

Beside the meanings of “sunrise and sundown”, “endless continuous circle of life and the universe”, I’d like to refine the third meaning, “change,” which should be noted is

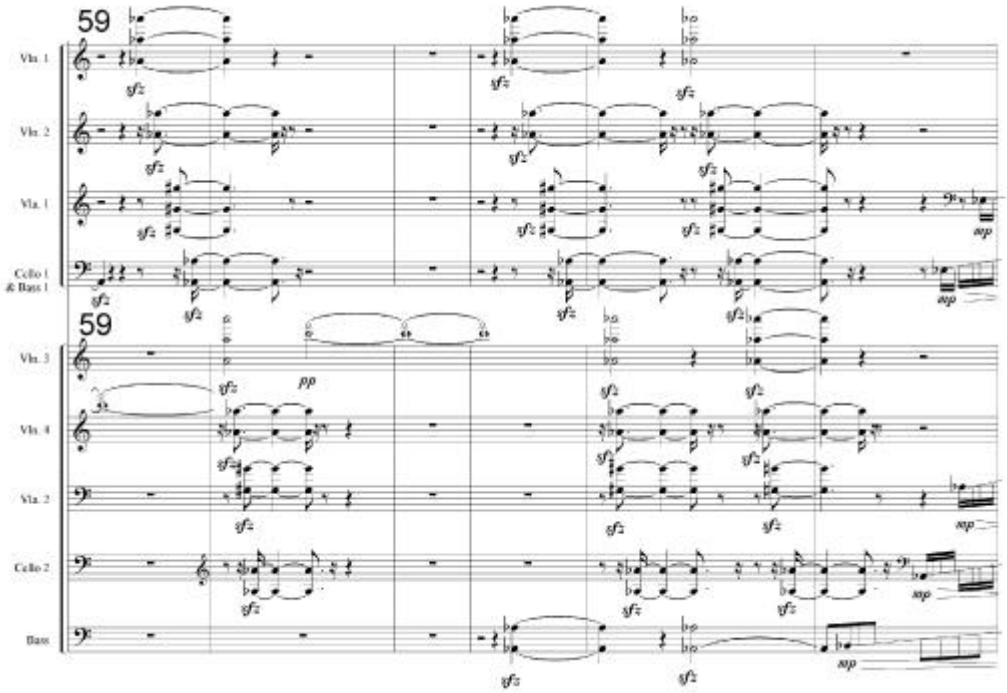
[29] “I” means sunrise, change, or continuation of life and universe; “Ching” means book.

[30] The People’s Republic of China changed the traditional Chinese characters into a simplified version in the mid-twentieth century. Taiwan, a democratic country, still preserves the authentic Chinese written form of the language from previous dynasties of China, preventing the distortion of its beauty.

continuous. The change is more like a metamorphosis rather than a complete change of material. In the changing process, the world will preserve certain properties and change other properties. No matter how the it changes, the world is constantly there and running in an ever-changing and never-ending life circle.

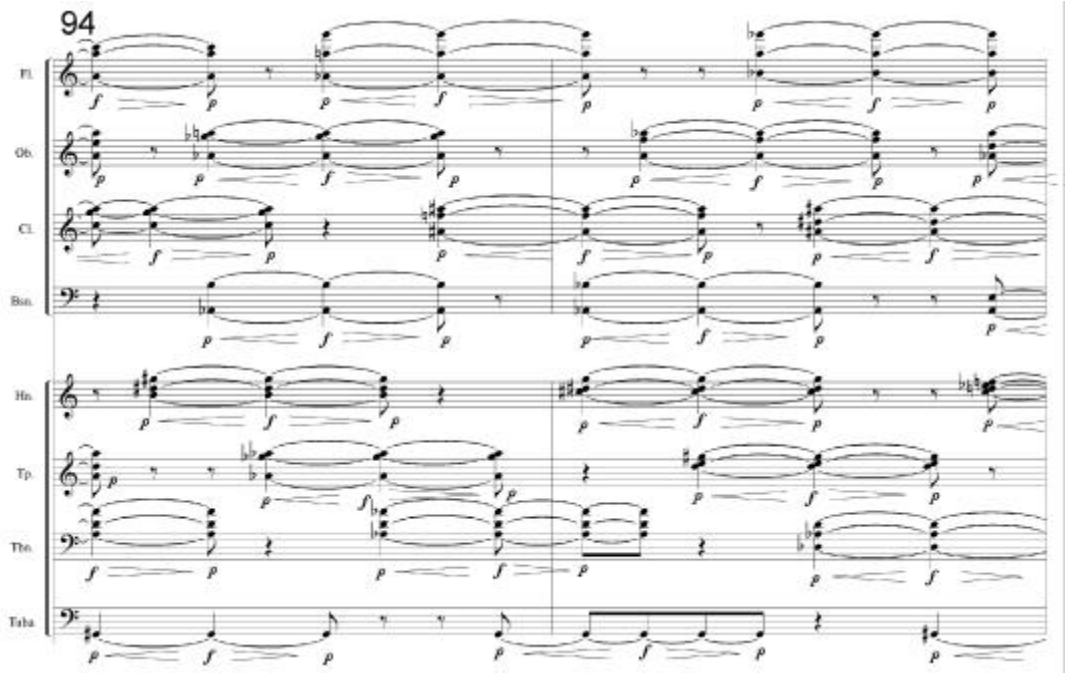
In Heidegger's philosophy, *Dasein*'s Being-in-the-World is facing the dark testimony of the nothingness. The philosophy of "I-Ching" reveals a different insight to circumspect Heidegger's terror and violence of the "nothingness": life and the universe will go on. Time is not important if we see the universe in a bigger picture. Life will exist in similar form and start another circle in another dimension of time and space.

After the light hammer-stroke motive in the harp part, the sound returns to silence. The sustaining harmonics in the string parts last for eighteen measures, from the end of measure forty-one to the beginning of measure fifty-nine. The silence is interrupted by a sporadic shifting motive that starts on the fourth beat of measure fifty-nine.
This shifting motive represents another visionary moment. The sounds can be visually analogous to the northern lights.



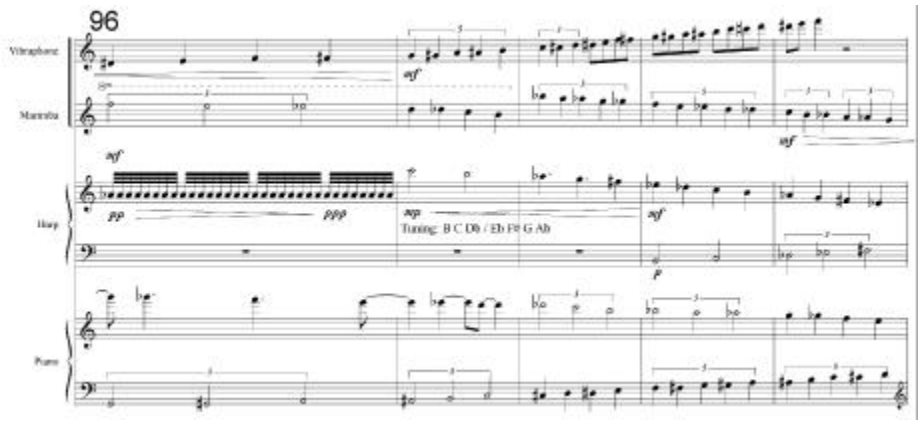
Example 22. Shifting motive.

The shifting motive occurs three times in the woodwind, brass and string parts, from measure fifty-nine to sixty-four, and resembles the earlier hammer strokes. After another brief moment of silence, the shifting motive reappears in combination with fragments in the strings from measure sixty-four to measure seventy-five. The shifting motive is then overtaken by continuous shifting in the vibraphone, marimba, harp and piano parts on a smaller scale, which gradually dies away from measure seventy-nine to measure ninety-six. The shifting motive is reduced into a single fast repeating pitch in the harp from the end of measure eighty-nine to measure ninety. All of these layers of events overlap and continue in similar fashion in the following sections.



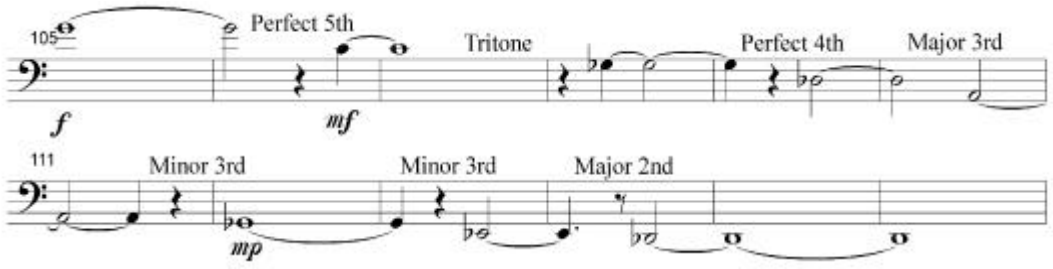
Example 23 Wave motive, measures 94-95.

The wave-like motive from section A reappears in measures 90-97 in woodwinds and brass. It gradually mutates into the ascending and descending scale motives of the C section. The scale motives are the basic material that form the next visionary moment. Example twenty-three is an excerpt of wave motives in measures 94-95 in the woodwind and brass parts. Example twenty-four is an excerpt of the scale motives in measures 96-98.



Example 24. Ascending and descending scales, measures 96-98.

Section C consists of many layers of descending and ascending scales. Example twenty-four shows the vibraphone, marimba, harp and piano parts in descending and ascending chromatic scales. The woodwinds, brass and strings have freely composed scales with larger intervals. Sometimes the successive intervals in the wind instruments are gradually diminished, as shown in example twenty-five, where the intervals of the bassoon part decrease incrementally by half step from perfect fifth to major second in measures 105-116.



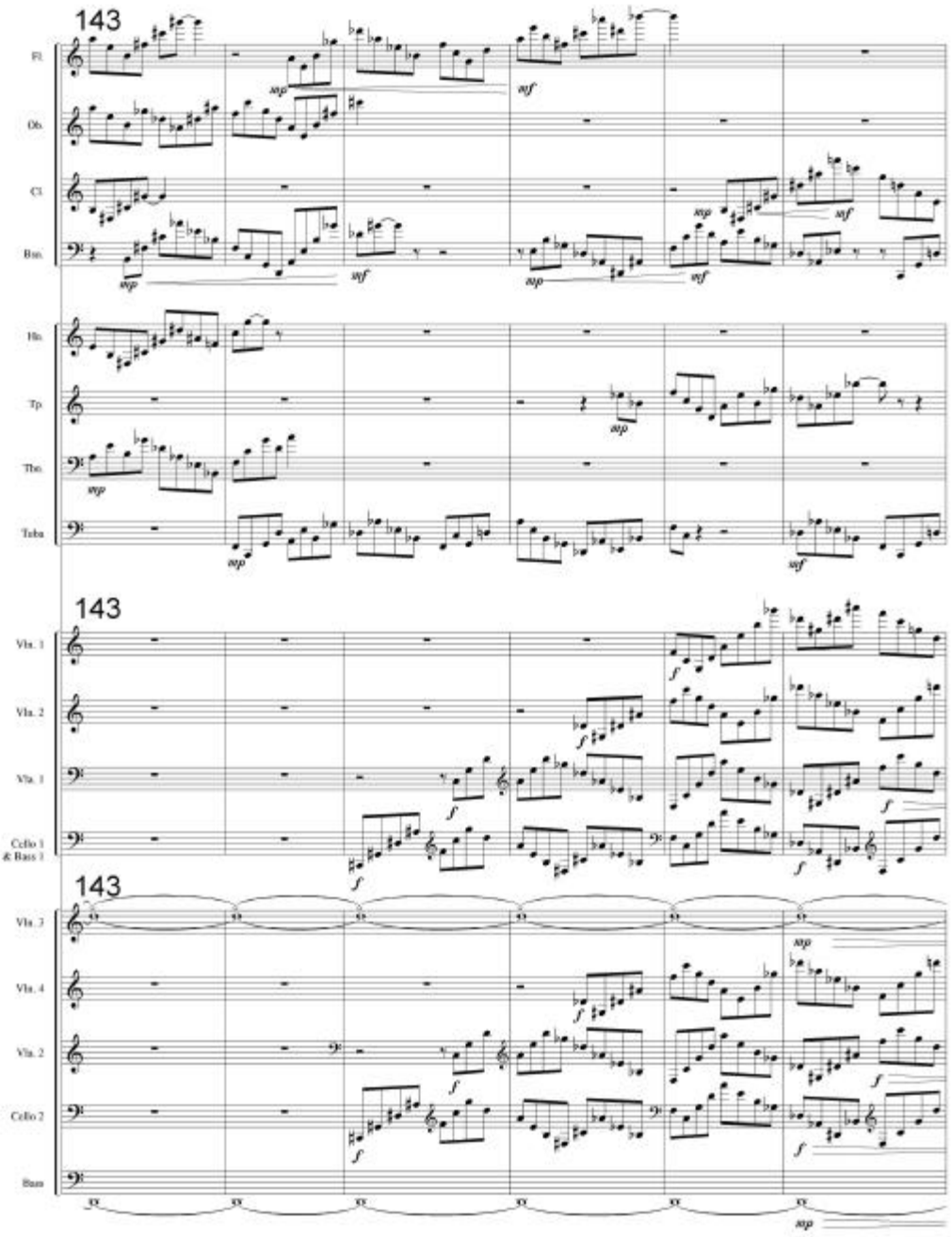
Example 25. Diminution of scale in Bassoon part, measures 105-116.

The descending and ascending scales create spectacular effects. Each musical line of scale is simple and audibly apparent. When many simple lines sound together by

speeding up and slowing down, it give an impression of the ungraspable moments of life. All visionary moments pass suddenly as another pattern of northern lights. In these particular moments from the C section, the world is full of unspoken meanings that are almost too rich for a human being to receive. In a short moment the wisdom is suddenly granted to us fully.

In the D section, the main musical idea is based on the interval cycle of the fifth. Every instrument ascends and descends to the limit of its own mechanical register. To achieve unison with every musical instrument, the cycle follows the pattern of up by fifths in the ascending lines, and down by fourths in the descending lines. Similar to the main motives in the B and C sections, the musical material is made of simple, basic motive. It is the quantity and the context of the basic material that make the music expand into a meaningful character.

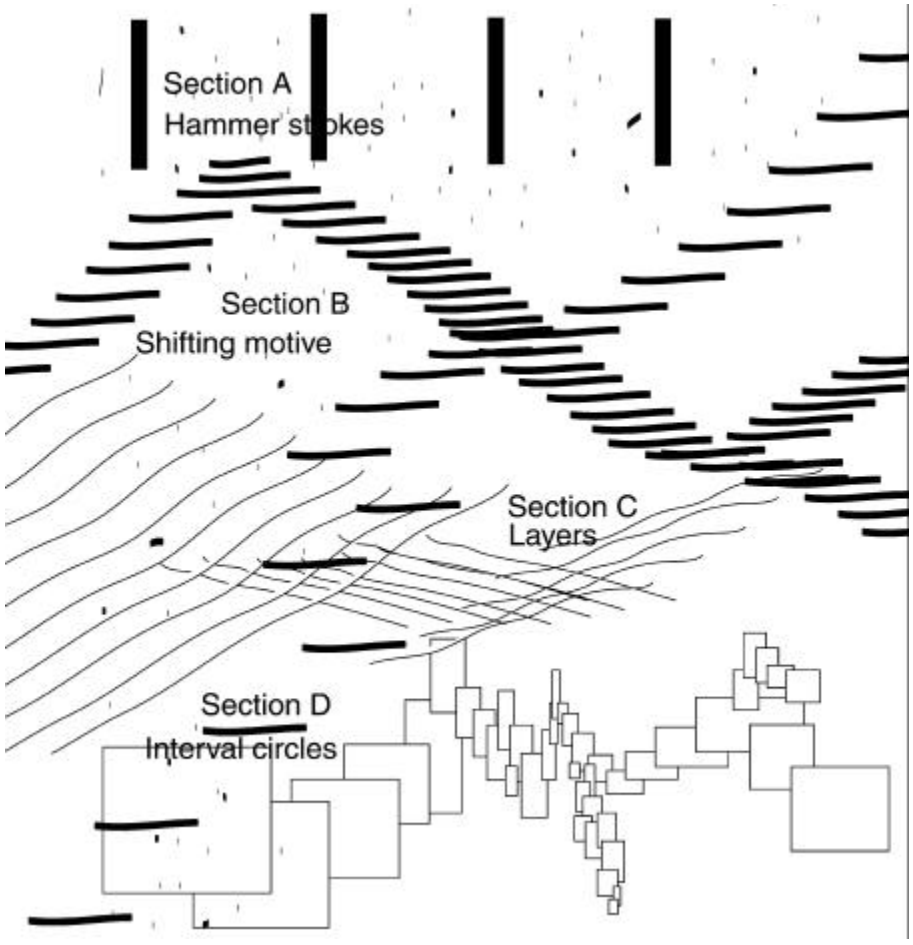
The musical line of the cycle of fifths begins in the tuba part in measure 129. The flute joins the pattern in measure 131, and then the trombone in measure 133. The texture of the patterns grows thicker and thicker when more instruments join the pattern. From measure 140 onward, the pattern of the circle of fifths starts to dominate the music. The wind and string instruments then form two rising and falling groups of clouds. This idea of clouds is similar to that of some of Ligeti's music which also builds complexity from simplicity. The clouds (made of the circle of fifths) then disappear gradually into silence, with the violin playing harmonics. Example twenty-six is from measures 145-148. In the example, we can see that the upward and downward motions of the "circle of fifths," which were freely chosen.



Example 26. Circle of fifths and clouds.

I had corresponding visual images in mind while composing the main musical material for each section. In section A, I drew four blocks to represent the hammer stroke motive. In sections B, C and D, I was imagining some light patterns from skies of the northern pole that are similar to the musical patterns of shifting layers, crossing lines, and clouds of the circle of fifths.

I often sketched the musical ideas in my journals graphically before I composed the music. Example twenty-seven is similar to the sketches for the third movement in my journals. The drawings reflect the light and sound patterns that I imagined.



Example 27. Graphics Sketch of Moment-of-Vision.

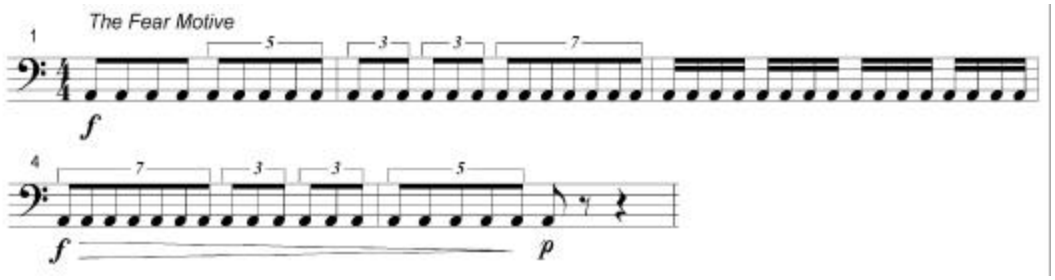
The drawing, the sounds and the momentary visions of northern light happen out of nothing. This nothingness is the very phenomenon that the mood of dread is going to encounter in the next movement.

CHAPTER VI

REPETITION AND DREAD

The best way to convey “dread” through music is to compose a silent piece with the whole orchestra not playing any notes for more then ten minutes. In this case, I would need to write an essay instead of music. Although the essay might be understandable, the concept will not be ideologically acceptable to the majority of the public or practical in a concert hall setting. It would require a new way of listening to the sound event. In a silent piece, it would be unacceptable to convey the idea of “dread” to the audience through music, therefore I decided to use sounds instead of the bare nothingness of silence in this movement. I think that, for most audiences, the idea of “dread” can be understood more easily through sound than through pure silence.

The music starts with a fear motive. The fear motive is made of very simple rhythmic elements. It has repeating pitches that represent the reaction of the trembling body of one confronting a specific terrifying experience. The repeating pitches of the fear motive start mostly in longer durations, then speed up gradually to the middle part, and slow down gradually afterward until finally the longer durations return. Example twenty-eight is the fear motive that starts the movement, in the bassoon part.



Example 28. The Fear Motive.

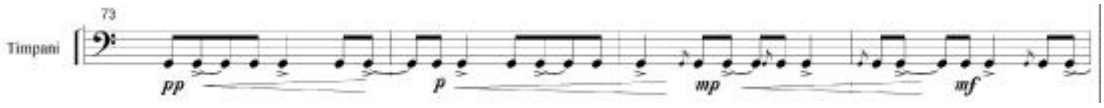
Fear and dread are similar moods in Heidegger's philosophy. They differ according to the entities which *Dasein* confronts. The entities which *Dasein* confronts in the mood of fear are concrete within *Dasein*'s worldhood, such as a man taking a hammer and trying to kill you. The entity could be something present-at-hand or ready-to-hand, though the previous one is usually the case. On the other hand, the entity which *Dasein* confronts in the mood of dread is *Dasein*'s ontological ground, the nothingness. The nothingness is always ready-to-hand rather than something present-at-hand for authentic *Dasein*. Dread happens while *Dasein* is facing its end. Though *Dasein*'s ownmost[31] possibility of being a whole is unconcealed at this very moment, this wholeness is threatened by the nothingness. I personally often experience this moment of dread. The mood of dread is much more terrifying than the mood of fear. To me, it is the end of everything that is greater than our universe. It is a state of no-longer-*Dasein*. No one, not even God, exists there to trace its creation.

The fear motive dominates the texture in the multiple layers of the motivic variations throughout the movement. Because the variations of the fear motive might

[31] "Ownmost": This is the standard English translation of "eigenst."

have different lengths and do not appear in unison in all voices, they create a shifting effect which is similar to the techniques in Steve Reich's Music for Eighteen Musicians.

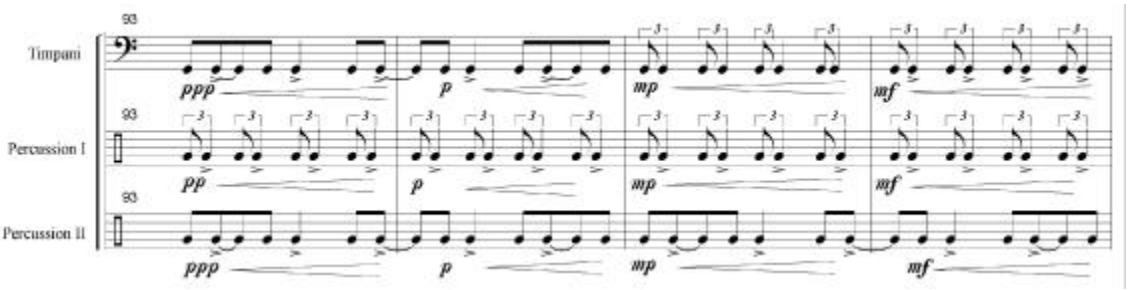
Another important motive that is present in the background is the "heartbeat motive." The heartbeat motive consists of the basic steady pattern of alternating eighth-notes and quarter-notes. In some passages, grace notes are added to the main heartbeat motive to signal the irregularity of the beat pattern caused by fear or dread. The tempo of the heart beat is slightly faster than the regular heartbeat of 72 beats per minute. The duration of the heart beat motive is a dotted quarter note which is the sum of an eighth note and a quarter note. The tempo of every dotted quarter note in this piece is equal to 74 2/3 beats per second. I chose this tempo on purpose, because the tempo is slightly unsynchronized with the average human heartbeat. It might create an unconscious interference with our feeling. Example twenty-nine is an excerpt of the heartbeat motive from measure seventy-three to measure seventy-six.



Example 29. Heartbeat motive.

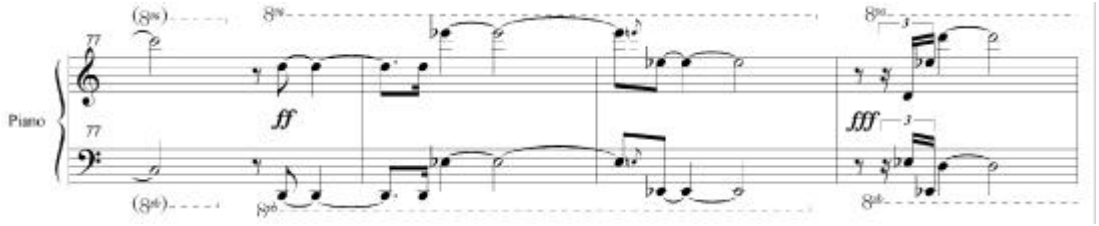
Sometimes, the heartbeat motive is accelerated into triplets to increase the tension. Example thirty shows the transformation of the heartbeat motive in measures 93-96 from a dotted-quarter-note per unit to quarter-note per unit, in triplet subdivisions in the timpani, gong drum and bass drum. The same "speeding up" transition also happens in measures 129-130 in the gong drums. The triplet figures of the gong drums are then

transformed into the repeating fear motive in sixteenth notes in measures 131-134. In measures 123-125, the heartbeat motive in dotted-quarter-note units and in quarter-note units (with triplet subdivisions) coexist in the gong drums and in the bass drum parts to create a moment of great tension.



Example 30. Speeding up of the heartbeat motive.

In the middle section there is a piano part that adds another layer to the shifting fear motive from measure 66 to measure 91. The piano part, which represents anxiety, uses both hands playing mostly in unison, four or five octaves apart (Example thirty-one).



Example 31. The Anxiety Motive.

In measures 102-112, the music reaches the state of dread. There is not much momentum at this moment. The flutes play soft harmonics in irregular floating pitch patterns. The violins and the viola parts play soft clusters of harmonics in high registers.

The bass part softly plays the open E string near the bridge. This is the moment of pure silence with fear and anxiety echoing loudly in the mind. Following the state of dread, a two measures grand pause (of nothingness) occurs in measures 113-114. The grand pause signifies the moment of pure dread while authentic *Dasein* is facing its ontological ground, the nothingness. In measure 115, a loud string and flute sound breaks the moment of nothingness and carries the music to the final moment of tension. After the return of the fear motive, the piece ends softly in measures 148-165. The seventeen long measures of silence represent the pure mood of dread. The flutes play an irregular, floating pattern of harmonics. The piano plays inside the piano with two wooden mallets sliding irregularly in unsynchronized movements over the low strings. The harp, viola, cello and bass parts are suspended softly in lower registers. This silent ending does not carry much musical momentum, but it creates great psychological tension with the previous experience of uneasy sounds still echoing in the mind. Nothing is more terrifying than a long-lasting moment of nothingness. Without the experience of the past and the vision of the future, this moment of the present would not be so terrifying. It is the experience of the music before the silent ending that makes the last moment of dread so meaningful. This kind of listening experience is related to Heidegger's discussion of "Temporality[32]" and "History."

The musical material of the fourth movement is dominated by the "fear motive" in repetition. "Repetition" has a special meaning in Heidegger's Temporality, the ontology

---

[32] Temporality is an ontological term for time, therefore it must be capitalized. Its verb form is "to temporize." It has three parameters, the past, the present and the future. For ontical usage, it will be in lower case in the sentence.

of time. Heidegger differentiated time into authentic temporality and inauthentic temporality. The authentic modes of temporality for the past, the present and the future are repetition, moment-of-vision and anticipation. The inauthentic modes of temporality for the past, the present and the future are forgetting, making-present and awaiting, as indicated in Table four.

Temporality			
	Past (having-been)	Present	Future
Authentic Mode	Repetition	Moment-of-Vision	Anticipation
Inauthentic Mode	Forgetting	Making-Present	Awaiting
Types of Temporality	State-of-Mind	Falling / Disclosing	Understanding

Table 4. Temporality.

There are several types of temporality in Heidegger's analysis of time, such as State-of-Mind, Falling and Understanding. These three structures are disclosed and manipulated by "Discourse," another dimension of time. I'd like to quote an important passage which summarizes the subjects of Temporality that can function as the foundation for the Ontology of Music.

> Understanding is grounded primarily in the future (whether in anticipation or in awaiting). States-of-mind temporalize themselves primarily in having been (whether in repetition or in having forgotten). Falling has its temporal roots primarily in the Present (whether in making-present or in the moment of vision). . . Thus we can see that in every ecstasis, temporality temporalizes itself as a whole; and this means that in the ecstatical unity with which temporality has fully temporalized itself currently, is grounded the totality of the structural whole of existence, facticity, and falling—that is, the unity of the care-structure.

> Temporalizing does not signify that ecstases come in a 'succession." The future is not later than having been, and having been is not earlier than the Present. Temporality temporalizes itself as a future which makes present in the process of having been (p. 350).

From the quotation, we know Heidegger's notion of time is not linear. Repetition is the authentic mode of Temporality of the past (having-been). This idea is closely related to human listening experiences of music. For instance, in J.S. Bach's Brandenburg Concertos, the music is in ritornello form and the principal formal event is the alternation of the recurring main theme in various keys with modulating solo passages. Our listening experience of the recurring musical material is grounded on the "having-been." If we notice that the music material repeats while we are listening, then we are probably listening carefully to the music. In this phenomenon of repetition, sometimes the musical material reappears in different keys; sometimes the musical material reappears in different fashions of variations or development; sometimes the musical material simply repeats itself. The reappearing musical material is meaningful because it is grounded in the past history of having-been, or authentic repetition. The music always repeats in different meaningful contexts. This meaningful historical context of life, Heidegger calls "horizon" (p. 365). This idea influenced the development of Hermeneutics.

The phenomenon of repetition is not limited to the recurring musical material in sonata, rondo, variation, fugue or any other type of music. It also applies to our experience of repeated listening to the same piece of music in different situations of our lives. It might be just a simple melody that we associate with significant events of our life. For instance, I have been listening to King Crimson's song, Epitaph, for more than

twenty-five years. When I was young, I didn't quite understand the meaning of the lyrics. However, I felt the mood of deep thought. Every time I listen to this piece of music again, the sound strikes me with old and new feelings and I have new insights into the text of the lyrics. From this example, we know that music does not live only in the past, it is the experience of "having-been." Because I have listened to the music so many times, I do not have to physically listen to the music to recall my memory of the music. I can have a visionary moment of the music in my mind and listen to it silently from my heart. This experience of deep listening is certainly inseparable with my continuous "anticipation" of such a mood in the following listening moments while I am listening and with my "anticipation" to listen to the music again in the future with more "understanding." Every time I listen to the music again, I have old and new "understanding" of the music in a fresh context of life, a new horizon. If there is no history in the past that repeats itself in a new context that looks into the future, the music itself will not be so strong and meaningful. The sounds of music that disappeared in the past do not die away forever, they live through "repetition" with metamorphosis in new horizons into the "future." The temporality of "repetition" for authentic *Dasein* can never be separated from "moment-of-vision" and "anticipation."

The repetition of the fear motive, the heartbeat motive, the anxiety motive and even the silence in this movement, are truly grounded in Heidegger's philosophy of Temporality. Every moment is a new horizon for the repeating musical materials.

The title of the following final movement explores the same similar situation of life from a different angle, from death. It is the moment that *Dasein* is facing its end and nothingness in the mood of dread.

CHAPTER VII

INTERVAL CYCLES AND BEING-TOWARDS-THE-END

"Death" and related topics are discussed profoundly in sections 46-53 of Being and Time. Heidegger said: "Death, as the end of *Dasein*, is *Dasein*'s ownmost possibility– non-relational, certain and as such indefinite, not to be outstripped" (pp. 258-259). By facing *Dasein*'s death, *Dasein* has the potentiality to be a whole, therefore dying is an experience of authentic *Dasein*. Other people's death is not related to *Dasein*'s dying experience. It is certain that one will die some day, but it is not certain when one will die and "no one can take the Other's dying away from him" (p. 240). The experience of dying, is often in the mood of dread or anxiety.

The experience of dying reveals the evidence for the analysis of ontology and the testimony of temporality, as in the following quotations from Being and Time.

> The phenomenon of the "not-yet" (dead) has been taken over from the "ahead-of-itself"; no more than the care-structure in general, can it serve as a higher court which would rule against the possibility of an existent Being-a-whole; indeed this "ahead-of-itself" is what first of all makes such a Being-towards-the-end possible (p. 259).
>
> . . . whether the anticipation of [zum] death, which we have hitherto projected only in its ontological possibility, has an essential connection with that authentic potentiality-for-Being which has been attested (p. 267).

Heidegger distinguishes death into three categories, Table five.

Death	
Authentic *Dasein*	Dying
Inauthentic *Dasein*	Demise
Animal	Perishing

Table 5. Death.

The situation while authentic *Dasein* confronting the death is “dying.” “Demise” is the ontical usage for inauthentic *Dasein*. “Perishing” refers to the death for animals.

The experience of dying does not refer to the last moment of *Dasein*’s death. It refers to authentic *Dasein*’s unconcealment of the possibility of no-longer-*Dasein*. It is the moment when one lives his life as his last day.

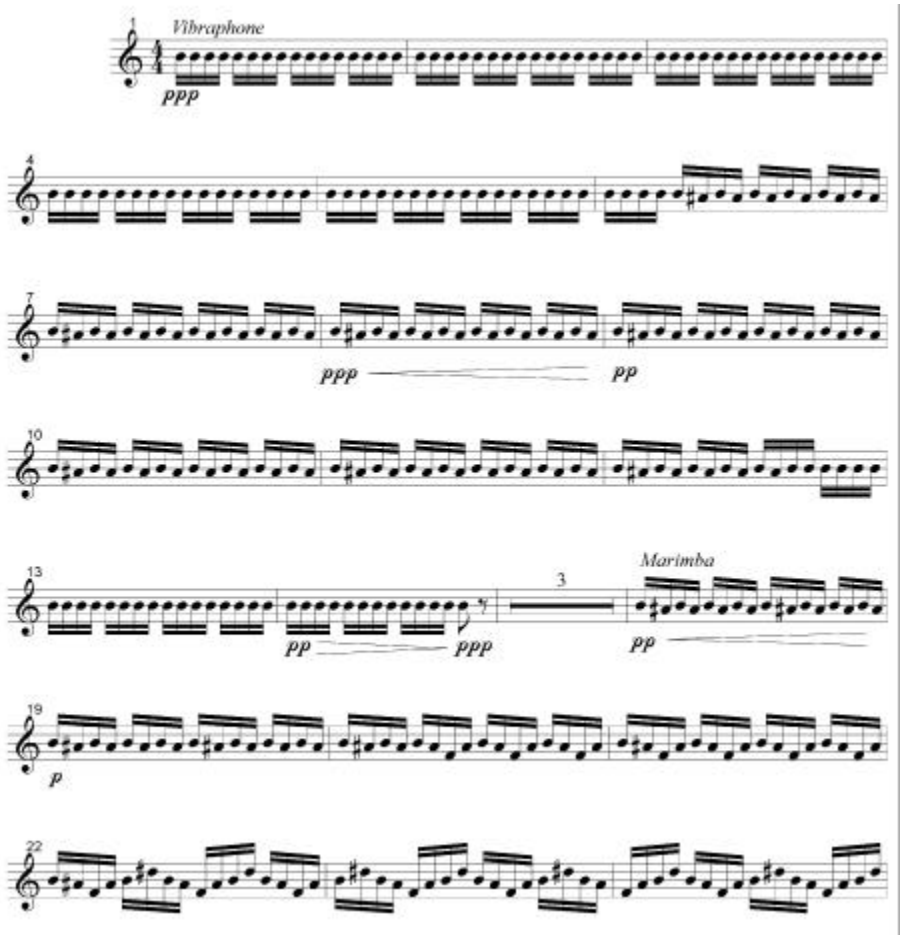
I’d like to divide the music of the fifth movement into three parts for convenience of discussion, Table six.

The Fifth Movement: Being-towards-the-End			
Sections	A	B	C
Measures	1-28	29-55	56-123
Description	Sound arises from silence.	Whirling effect by portamenti.	Polyrhythm and interval cycles.

Table 6. Being-towards-the-End.

The A section is a long crescendo. The music starts with the vibraphone playing pianississimo on a repeating pitch. The harp and the piano then gradually join in measure seven and measure twelve. Then, the vibraphone is replaced by the marimba in measure eighteen. The repeating pitch is expanded into repeating patterns by adding pitches

gradually. The fully unfolded repeating pattern is the pentatonic minor scale, E flat, F, G flat, B flat, C flat (spelled enharmonically). After reaching the high point in measure 29, the process is reversed by dropping pitches. This idea is similar to Ligeti's compositional idioms in his Continuum for harpsichord (1968) and Coulée for organ (1969). While two or more instruments are playing similar unsynchronized repeating patterns, a quasi-hocket effect is created. The unison is similar to a rest in the hocket effect; the other pitches stand out as shadow melodies above and below the unison. Example thirty-two illustrates this expanding of the pitch pattern.

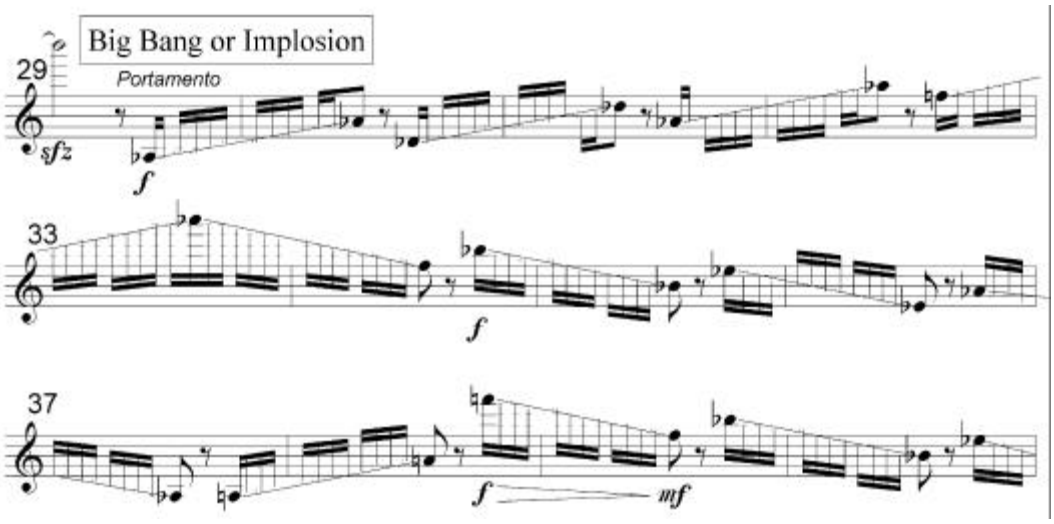


Example 32. Repeating Pitch Pattern.

The beginning of the fifth movement resembles the “implosion” of a black hole. This A section is similar to the process of scattered energies being gradually gathered towards the black hole. The energies then reach the threshold of gravity in the beginning of section B in measure twenty-nine. A speeding, cycling turmoil of massed ascending and descending chromatic lines and sliding notes continues throughout the entire B section.

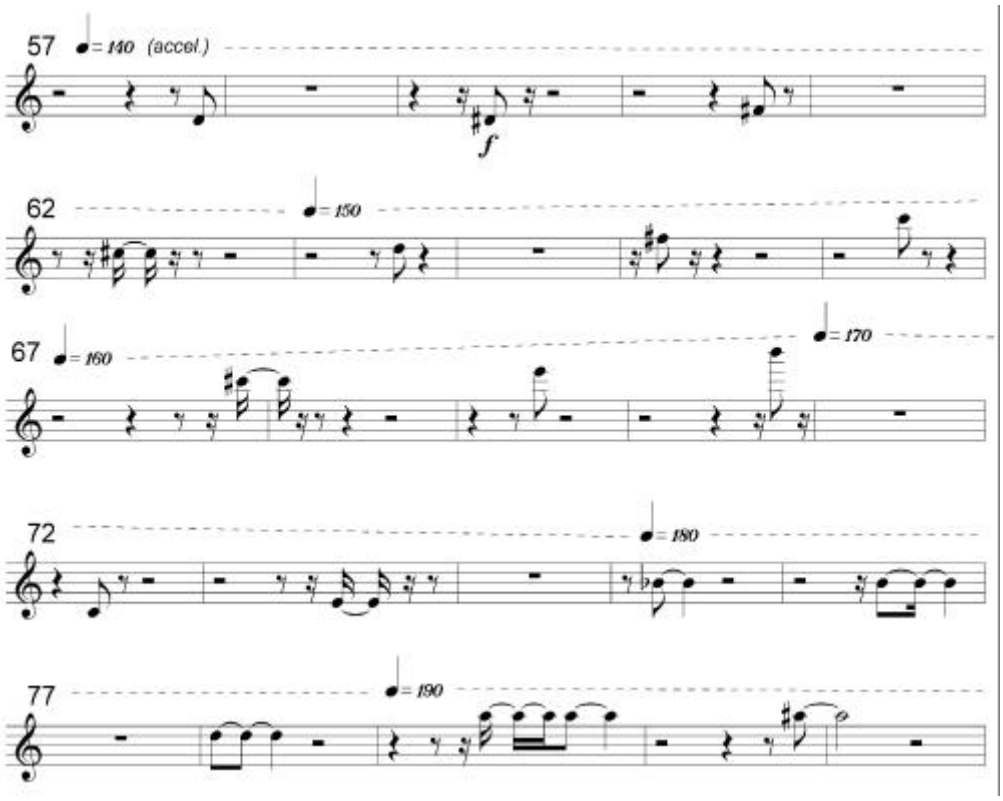
The music, however, is not rigidly descriptive. The beginning of the cycling turmoil can also be explained as the moment of the “big bang” that sends all the energies outwards.

The wind and keyboard instruments run their own scale cycles based on their range limitations. The sliding pitch patterns in the string and trombone parts are more systematically confined to the musical instruments’ physical structures and form the scales based on the physical interval cycles of the instruments. For instance, the violin has four strings arranged in the cycle of fifths, therefore I chose four sliding patterns over the range of an octave for each of the four strings, either upwards or downwards, in the cycle of fifths. The three trombones on the other hand, are confined to the harmonic series. Each pitch on the harmonic series can have a sliding pattern a tritone away from the natural tone. The upward and downward cycles of sliding patterns are based on the physical harmonic series of the trombone. The changing upward and downward directions of the cyclic patterns in the string and trombone parts in the B section are quite free. Example thirty-three shows the sliding patterns based on the circle of fifths.



Example 33. Sliding pitch pattern in circle of fifths in violin part.

The cyclic patterns in the C section are more rigorous. The pitch cycles in the C section are based on the "interval cycle" of 1-3-7-1-4-6 semi-tones in the winds, strings, piano, marimba and harp. The interval cycle in each musical instrument goes either upwards or downwards to the physical limit of its range. The rhythmic pattern is similar to that of the second movement, where each instrument plays a steady pulse of its own. When the pitch pattern combines with the rhythmic pattern, each instrumental line is similar to a lonely wave form that is traveling in the universe long after the big bang. Example thirty-four shows the interval cycle in the flute parts.



Example 34. Interval Cycle.

The image of the C section also resembles the state of timelessness. After the gravitational force is pushed up to the limit of implosion, the speed of energies reaches beyond the speed of light, and all the particles slow down in a timeless state of their own.

The whole C section is also a constant accelerando from measure 53 (quarter note = 128) to measure 99 (quarter note = 240). Near the end, from measure 89 to measure109, the string and percussion parts form a brief explosive coda. In the beginning of measure 105, the music sounds like a big crash from the sky. Along with the string and percussion parts, the lines of the interval cycle continue to the very end. At the very end of measures 110-123, the texture of the wave lines grows thinner and thinner. The last pitch is

sounded in the flute part alone. The ending has a very thin, pointillistic texture. The endless nothingness arises gradually and the life of the pitches is ungraspable.

The three sections in the fifth movement were composed according to their own formation patterns. The sounds calculated by systematic orders appear chaotic to our listening experience, especially in the C section. The order and chaos to me is a good depiction of *Dasein*'s end.

Heidegger's idea of Being-towards-the-End is to face the nothingness beyond the end. The nothingness is the also the end of Heidegger's philosophy. The nothingness resembles Husserl's idea of "epoché[33]" after the "reduction" of all *Dasein*'s "intentionalities." If Heidegger's Being-towards-the-End is analogous to the end of a cosmic cycle, *Dasein*'s world will not end in nothingness. Another cycle will begin. From the sixty four hexagrams of the I-Ching, the sixty-third hexagram means "the end of the universe"; the sixty-fourth hexagram means "the beginning of the universe." In the I-Ching, the world will go on, cycle by cycle, though Heidegger's pure knowledge of the "nothingness" does not extend beyond the "nothingness." His thinking is most deep and respectable to me.

---

[33] Husserl was Heidegger's teacher. Husserl defined his phenomenology as a rigorous science of pure knowledge. "Epoché" is the result of "reduction" in Husserl's phenomenology. "Reduction" is the process of putting uncertain subjective ideas aside in parenthesis. The rest will be pure absolute objective knowledge in the state of "epoché." The opposite of the process of "reduction" is "intentionality." I think there will be "nothing" left in the state of "epoché" for pure knowledge after the rigorous process of reduction. Heidegger answered Husserl's problem with his ontology, an approach having the knowledge of Being.

CONCLUSION

My musical language in The Heidegger Collection discloses the ideas of time shifting, interval cycles, silence, moment form, microtones and computer-assisted algorithms. It has been a very long process for me to develop my musical language. These ideas are closely related with my life of oriental and western interrelationship.

Heidegger's thinking generates many repercussions in philosophy and art in the second half of the twentieth century. Sartre's Being and Nothingness, Godamer's Truth and Method, Habermas' communication theories, Barthes' pluralism approach and discussion of death, Derrida's deconstruction of language into nothingness and Baudrillard's discussion of simulacra and death are strongly inspired or influenced by Heidegger's philosophy. In architecture, the Jewish Museum[34] designed by Daniel Libeskind in Berlin and the houses designed by Charles Moore[35] are probably influenced by the idea of "spirited space[36]," a theory that applies Heidegger's ideas of space, equipment and worldhood. The film Never Ending Story touches on the subjects of "nothingness," "worldhood" and "care." The meaning of "matrix" in the film Matrix is similar to the meaning of "*Dasein.*" The numerous quotations in Berio's Sinfonia reflect

[34] URL: http://www.hagalil.com/juedisches-museum/libeskind.htm

[35] URL: http://www.moorefoundation.org/

[36] Genius Loci : Towards a Phenomenology of Architecture by Christian Norberg-Schulz

Heidegger's idea of authentic repetition and the value of history. Heidegger's thinking is reflected in the superstructures and substructures of our society.

Though there are many cultural phenomena that reflect Heidegger's philosophy, there are not many music theories or compositions that have direct discourse with Heidegger's central concepts from Being and Time. I hope that my composition, The Heidegger Collection, can bridge the gap between musical composition and Heidegger's philosophy, and that my essay can bridge the gap between music theory and Heidegger's philosophy[37]. The music of The Heidegger Collection has touched the central issues of "state-of-mind," "idle-talk," "moment-of-vision," "dread" and "Being-towards-the-end" of Dasein. From the essay, I also disclose *Dasein*'s temporality and nothingness, and its relationship with oriental thinking. I hope that my essay and music can uncover our understanding of *Dasein* and pave the road for an ontology of music.

[37] Articles on Heidegger and Music: http://www.webcom.com/~paf/musiclinks.html