A MUSICAL ANALYSIS OF THE FIVE-MOVEMENT COMPOSITION WITH TWELVE-TONE ROW SYSTEM IN KEKEBYARAN STYLE FOR PIANO, FLUTE AND KENDANG

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Music composition is understood by many as a result of one’s intellectual and emotional process. Five-Movement Composition with Twelve-Tone Row System in Kekebyaran Style for Piano, Flute and Kendang in some sense might also be considered as a product of the author’s intellect and emotion. On one hand, the twelve-tone row system is considered 100 percent mathematical, while the Gong Kebyar style is truly emotional. Combining these two extremely different traditions into a composition might be regarded by some as an obscene, vulgar, or even offensive effort.

In order to give a clear explanation to its readers, this writing aims to analyze the musical structure and the philosophical concept behind this composition.

Keywords: twelve-tone row system, Gong Kebyar, inversion, retrograde, retrograde-inversion, spiegelbild

A. Introduction

“Music is an art, and he who plies it successfully has the power of creative imagination.”

There are two elements that affect humankind’s decision making process: emotion and intellect. Composing a musical work is a clear example of the synthesis of these two elements. The composer considers the composing process by first looking into his or her personal emotions and intellect. The motivation for beginning any composition may come from both internal or external factors. In short, the creation of a musical composition requires a strong motivation that may be influenced by several factors, but the realization of the final composition is the result of the composer’s emotions and intellect.

When considering the two foundational aspects of composing: intellect and emotion, one can see that the composer’s musical fantasy has a much larger territory to conquer and to manage. In considering the works of two famous Classical composers, Mozart and Beethoven were Mozart and Beethoven in the most modest form. Mozart’s simple chorus: “Ave Verum” is music that is just as pure, just as transfigured and just as beautiful as his opera “Magic Flute”;

and Beethoven’s shortest “Bagatelle” is swelled with his bold imagination equally as much as each of his symphonies.²

When reviewing the music history of the last century, this might seem astonishing, since works written in this twelve-tone row system have failed to gain proper understanding and recognition. Thus, one should not forget that contemporaries do not have the final judgement and are sometimes overruled by future generations. Some may consider the twelve-tone row system doomed. If the casual listener finds this music challenging, he or she will comfort themselves by quickly faulting the composer for composing such an obscure piece.

Musical conception is one of the important aspects that cannot be ignored in the process of creating a work. It is the moment in which unconscious music figures break through and are seized by conscious activity of the composer’s mind.³ In composing the five movements, the composer chooses to create two motives based on the two English words: D-E-A-F and F-A-C-E. These two words along with the dance music concept are the soul of this composition.

The word D-E-A-F is defined as “unable to hear” and the word F-A-C-E refers to the front part of the head. choose to use the word F-A-C-E to symbolize the facade of the twelve-tone row series technique as well as the relatively new art-form, the dance Kebyar. The word D-E-A-F is used to represent a loss of understanding. The listener who is accustomed to conventional music may very well consider himself or herself “D-E-A-F” to the sounds of the twelve-tone row music. An atonal work can create feelings of confusion and a loss of imagination for the listener. There are two solutions to these problems: One can choose to not listen to twelve-tone row music. Second, listen to compositions that use techniques that are even more difficult to understand. When following the first suggestion, the listener will be free from the burden of forced appreciation, and by following the second suggestion, the listener will be able to put the twelve-tone row music into proper perspective.

Balinese Dance music results from Balinese traditional society; a society in which music and dance are two undivided dimensions. According to an essay by Sanger, it is almost impossible that live Balinese music is performed without a dance. This solid relationship between music and dance allows for three possibilities to take place. First, music is subordinate to the dance itself (as in most of the older performing arts such as Jauk). Second, the dance is subordinate to the music (though uncommon, the dance drama Gambuh Kraton is considered to

³ Ibid., p. 308.
be a perfect example). Third, the dance and the music are equally important (this can be seen in the recent compositions Kebyar and Tari Lepas Kreasi Baru.)

The Gong Kebyar is a new phenomenon in Balinese music and dance tradition. In its infancy (although the time of its origin is unknown; it is thought that the first Gong Kebyar festival was held in Buleleng in 1915) it quickly became popular to the Balinese. It requires the musicians in the Gong Kebyar gamelan group, maintain a high level of skill, great energy and strong stamina to be able to play in lengthy durations.

When considering the relationship between Balinese music and dance, musician and dancer are at different levels. The dance and the dancer are regarded as more prestigious positions than that of the music and musician. As a relatively new art form in Balinese music’s and dance’s deep-rooted tradition, the Gong Kebyar has introduced a fresh breath. One can anticipate that the Gong Kebyar’s popularity will continue on to the future.

The composer is choosing to adopt the style of the Gong Kebyar in the composition for several reasons: dynamism, freedom in form, balance between music and dance, flexibility, virtuosity, and structure.

B. MUSICAL FORM AND STRUCTURE ANALYSIS

As previously stated, both of the twelve tone row systems in this composition are formed by two word motives F-A-C-E and D-E-A-F. Each series is a twelve tone row. Within each twelve tone row there are four patterns, each containing three notes. Each three-note pattern begins with the letters from the said word patterns: F for the first 3-note pattern, the second uses A, and so forth.

The techniques of retrograde, inversion, and retrograde inversion have been applied to every detail of this composition. After the original row is stated, the eleven rows that complete the matrix are all transposed versions of the original theme. In short, the D-E-A-F matrix and F-A-C-E matrix provide the composer with 24 themes to use in his composition.

In rhythmic development, the composer applies rhythmic serial principles with flexibility and freedom. The dynamics play an important role in accentuating each fragment. The composer endeavors to create a composition by experimenting with several ideas. The composer begins his experiment by taking the first 3 notes of the original row series and retrograding them to form the

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5 Interview with Mr. I Wayan Madra Aryasa, M.A. on Januari 23, 1992 in Denpasar.
6 Annette Sanger, op. cit., p. 60.
second three-note series. This formulated six-note series is then retrograded to complete a twelve-tone row. This process is called subtle refection. The second facet of this experiment is to compare and contrast two different art forms, the modern style and the Balinese traditional style of dance music. The final component is to compose using both the F-A-C-E theme and the D-E-A-F theme.

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Retrograde-inversion
This composition uses the technique of perpetual development as its basic principle thereby requiring the form of theme and variations. Most of the fragments in this composition use antecedent phrases and consequent phrases, developed through *spiegelbild* or the use of mirroring technique. The coda is the half-part retrograde of the consequent phrase. Since dance music is also applied in this composition, this work is a descriptive work and falls in the category of program music.

Three instruments support this composition; the piano functions as the lead instrument, the flute interlocks with the piano, and *kendang* (traditional drum made of cow-skin with membranes on two sides) functions as the rhythm keeper. The *Kendang lanang* (male drum) and *wadon* (female drum) patterns are used with freedom. Moreover, the players have freedom to interpret the music freely in a style similar to *aleatory* music. The idea of this subjectivity is an idea that composers such as Stravinsky argued against. Stravinsky asked: “Who can guarantee that a player can reflect the composer’s vision without being distorted?”

Concerning the music phrase there are some points to make:

1) The melodic structure of a statement, the phrase or the theme is made up of several short “motives”. A musical sentence consists of two phrases, the antecedent phrase and the consequent phrase and is often followed by a *codetta*. This complete sentence may then become the theme of a composition.

2) All the chords that the composer uses in this piece are chords that have been formed from the exact order of the given tone row. When arranging the tones into chords, the composer considers both of the interval and the technical ability of the performer. Since each instrument’s melody is from its own tone row, chords are created when the melodic lines unintentionally meet.

3) When the rhythm patterns that are layered in traditional polyphonic music produced are combined, a new rhythmic sound is produced. However, in his composition, the rhythm is composed for the sake of itself. Each rhythmic pattern has its own individual voice.

**Geginaman**

The first movement of this composition is a light solo part. It is well-known in Bali as *kawitan* and as *buka* in Javanese *karawitan* (a set of traditional Javanese instruments). *Buka* refers to a short introduction played only with *kendang*. *Kendang* opens the composition with

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thirteen rhythmic patterns that are progressing in both dynamics and intensity. The note values range from quarter notes to sixteen notes (bars 1-16).

These rhythmic patterns are used throughout the whole composition in different variations.

In bar 14 the flute enters and introduces the atmosphere of this composition. After the beginning of bar 14, there is a change in meter and when the *a tempo* marking is introduced, the forward momentum of the movement relaxes and a calm atmosphere is created.

The tone-row form used are 0, (bars 14-16) and R, (bars 17-19) which are taken from Matrix A; 0, (bars 20-21) and R, (bars 22-23) are taken from Matrix B.

The dancer, I Mario, sits in silence while concentrating. A piece of long brocade fabric is twisted around his waist and one of the fabric tips touches the ground. A sash is around his shoulders. He slips a jasmine and a magnolia in his headband, while a golden flattened curled-up hibiscus is placed on his left ear. He is waiting with his right hand holding the brocade fan in silence for the *kendang* and flute to finish the opening part.

**Pengungkab**

The second movement, *pengungkab*, is a fast, expressive and loud *tutti* section. In this part, the piano, flute and *kendang* play rhythmically with dynamic energy. The *byaaarr* effect is accentuated and jolts the audience as if awakening them from a deep sleep. The first sentence consists of an antecedent phrase (bars 1-4), a consequent phrase (bars 5-6/1), and a *codetta* (bars 6/3-4).
Bagian II (Pengungkab)

Presto ma non troppo

Flute

Piano

Kendang

Flute

Piano

Kendang

Flute

Piano

Kendang
The first sentence uses the row-form $0_6, 0_8, R_6, R_8, I_2$ and $I_4$ for piano and $0_{11}, R_{11}$ and $I_1$ for flute. In this part, the kendang gives emphasis to the whole performance. The first sentence starts from bar 7 and ends with bar 12. Similar to the first sentence, the second sentence is also divided into two phrases with a codetta. The antecedent phrase starts from bar 7 and continues until bar 10, while consequent phrase is located in bar 11/2 and continues to bar 12. The codetta closes this part in the third and forth beat of bar 12.
The second sentence uses the *row-form*: $0_{11}$, $0_{12}$, $R_{11}$, $R_{12}$, $I_1$ and $I_6$ for piano and also $0_8$, $R_8$ and $I_2$ for the flute. The *Pengunakab* movement uses the rhythmic material from bars 5-9 and bar 12; all of which are taken from the first movement.

I Mario straightens his body like a surprised and stretching cobra. He seems anxious. He holds his fan firmly above his head, covering his eyes from the bright light. The fast and energetic opening theme causes I Mario to dance while moving his fan energetically. His eyes move from one side to another as if looking at his enemy.

**Solo Reyong**

The *Reyong* is one of the instruments of the *Gong Kebyar gambelan*. It is a set of *gongs* arranged in a row that usually plays melodic figurations. Even though it is uncommon to find groups who still use the reyong in *gambelan Angklung* formation, it is possible to find some ensembles that use *reyong* consisting of two small *gongs* which are attached freely on a crossbar and are placed on the player’s lap. From two pairs of *reyong*, four different pitches are produced. One can view a painting of this *reyong* on the wall of the 14th century Panataran temple in East Java. In the 1930’s, the *Kebyar* style developed. The *reyong* first began as a series of two small gongs. Later, six more gongs were added for a total of eight gongs. The *reyong* continued to develop until it reached a total of ten gongs.8

The third movement begins in the time signature $3/16$ and with the tempo marking *andante espressivo*. The piano begins this movement with a short motive in right hand which is later imitated by the left hand. The suspended tones gives the impression a composition without meter.

**Bagian III (Solo Reyong)**

![Musical notation](image)

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The sentences A and B are used in a sort of quasi form of ‘antecedent’ and ‘consequent.’ The ‘antecedent’ phrase (bars 1 – 8) opens the beginning sub-section and is answered by the ‘consequent’ phrase (bars 9 – 11), and a codetta in (bars 11/3 - 13) closes sentence A. The row-form in this sentence consists of 0₂, 0₁, and R₂. It is worth noticing that the codetta in sentence A takes the six last tones from the transposed antecedent phrase. Sentence B consists of the ‘antecedent’ phrase (bars 14 - 17), ‘consequent’ phrase (bars 18 – 19/2) and ends with a codetta in (bars 19/3 - 20). Sentence B uses 0₂, 0₉, and R₂. Two special features in this sentence is that the ‘consequent’ phrase is a retrograde form of the ‘antecedent’ phrase but is different in tone quantity. In addition, the codetta takes the beginning sub-section of the consequent phrase (the first six notes) but in its transposed form.

The *Solo Reyong* is a melodious and quiet movement in which the dancer becomes calm and dances elegantly along with the *reyong*’s melody. The dancer’s facial expression is softened in a way that makes the movements look rather weak.

**Pengawak**

In the Indonesian language, the word *Pengawak* comes from the word ‘awak’ which means body. The *Pengawak* becomes the body of the composition. It is a single-lined canon between flute and piano with the first sentence A, (bars 1 - 9) played in the time signature 2/4 and with a *moderato grandioso e sempre staccato* tempo. While sentence B, (bars 20 – 26) starts in the time signature 6/8 with *leggiero* expression. The flute and piano play in contrasting styles when the melody of the piano rises and the melody of the flute descends. This contrasting relationship also takes place in the dynamic levels of these two instruments. This contrasting style between the piano and flute is an implementation of arsis and thesis form. Sentence A carries out the theme and variation form. Theme A begins in bars 1 – 12 and the variation follows in bars 13 – 19.
There is an exception when applying spiegelbild technique (bars 7 – 12). The R₃ which was formally assigned to the flute, is now played by the piano. And the R₉ which which was formally assigned to the piano, is now played by the flute. In the variation of sentence A (bars 13 - 19) I apply the double-canon technique between the piano and flute. This variation introduces a new combination technique: the first note of the right hand of the piano is taken from I₆ while the second note is taken from RI₁₀ and so forth until it forms a new twenty four-tone series. The same procedure is applied to the flute. Moreover, sentence A uses 0₃, 0₉, R₃, R₉, I₆, I₁₀, RI₆ and RI₁₀.

Different from sentence A, sentence B forms a single-canon between the piano and flute which is not too different from sentence A. The motive in sentence A (part A) consists of two notes, whereas the motive in sentence B (part B) consists of three notes that structure a unique rhythmic pattern.
Similar with sub-section A, sub-section B uses the form theme and variation. Theme B begins with bars 20 – 23 and the variation begins in bars 14 – 16. The right hand plays at a louder dynamic level while the left hand and flute play softer. This creates somewhat of an echo effect. The right hand plays bitone, a combination of $0_3$ and $R_{10}$, while the left hand and flute play a bitone combination of $0_{10}$ and $R_3$. The revealing of 0 and R especially $0_3$ and $R_3$, $0_{10}$ and $R_{10}$ all occur simultaneously. The row-form used in part B consists of $0_3$, $0_{10}$, $R_3$, $R_{10}$, $I_3$, $I_{10}$, $I_{12}$, $RI_2$, $RI_3$, $RI_{10}$.

I Mario throws his gaze to one side and does a twisting jump with both legs crossed in undulating movement.

**Pengecet**

*Pengecet* is the longest and most complex part of this composition because the theme is developed through value comparison, imitation, change of tempo, time signature, and harmonization. *Pengecet* is also the closing part of this five-movement composition. The *polymetric* system is applied. It consists of the time signatures 2/4, 3/4, and 4/4. A short introduction that consists of three bars of *kendang* opens part V.
Bagian V (*Pengecet*)

There is a change of time signature from 2/4 to 3/4 in bar 4. However, the quantity of notes in each instrument is different. The implementation of different note numbers in geometric progression and arithmetic progression takes place in almost all parts of this composition.

The composer finds *spiegelbild* technique an efficient way to elongate this composition. Sub-section I in this composition begins from bar 3 and continues to bar 35 while sub-section II begins in bar 36 and extends to bar 47. A four-bar coda closes the entire composition. In movements 1-4 the rhythmic pulse feels rather obscure but in this final movement, the impression of the pulse is clear and strong.
From bars 10-11 the tempo changes from *allegro* to *tardamente*.

A gradual change of tempo from *allegro* to *agitato* happens in bars 12 – 14. In bars 16, a *canon* between the piano and flute occurs but in bar 17 the piano solos in a moment of acceleration before returning to the previous tempo in bar 18.
There is an undulating piano passage which is followed by the flute in bar 19.

The retrograde form begins on the third beat of bar 19 and continues to bar 34.

Sub-section B begins with a change in time signature in bar 35 and continues to bar 46. I use theme B in creative ways to form many different variations. Both the value comparison system and spiegelbild system are also implemented in this movement.
The retrograde form occurs from bars 41 – 46 with a short, rising melodic passage that is played by the left hand of the pianist and retrograded directly through descending melodic movement.

*Kendang* closes movement V after the tempo changes from *allegro* to *largo* beginning in bar 47.

Sub-section A uses a *row-form* that consists of 0₄, 0₁₀, R₄ and R₁₀, while sub-section B uses 0₄, 0₆, R₄, I₈ and RI₈.

I Mario moves pleasantly and affectionately toward the players with a smile on his lips. He shakes his head back and forth. Finally, he is impressed with the *kendang* player. In a very remarkable performance, the *kendang* player plays his instrument while following Mario’s aggressive gestures. A loud strike played simultaneously by the three instrumentalists ends this work. I Mario bows and leaves a confused audience. It is possible that the audience will feel a bit puzzled due to the abrupt ending of the show.

**References:**

1. Dorian, Frederic.  
2. Graf, Max  
3. Kartomi, Margareth J.  
   1985 *Musical Instruments of Indonesia*, Indonesian Arts Society: Melbourne
1989 Music and Musicians, Dance and Dancer: Socio-musical Interrelationship in Balinese Performance (in Yearbook of Traditional Music)

5. Seashore, Carl. E.