Composers who create music always make use of certain ideas as their main points of reference. In other words, the composer works by creating a certain foundation in his mind. Music is an expression of thoughts contained in the composer’s ideas of sound. The composer who thinks about certain topics for his musical composition generally comes up with cognizing certain objects of thought, for example, certain unusual or unique values understood and favored by him, so that he feels the need to express them. The objects of thought targeted by composers are those that suit their personal tastes and interests. Epistemologically the process of creating music departs from verbal discourse and produces musical discourse. The latter occurs in the epistemology of the creation of music in general, and may be perceived in various musical genres, including that of gamelan music. The complexity of the discourse, on which composers’ thinking is oriented, is the paradigm of all music composition. This paradigm is comprised of eight important elements, which include two interesting components, namely, the model and concept. This article makes the attempt to comprehend the elements of models and concepts in music composition. Models can be present in an auditive, visual or conceptual form present in the imagination of the composer. Composers consciously choose to present this element in the form of musical works as an empirical and symbolic reality. The concept is an explanation of the models existing in the composer’s imagination. The explanation is related to the function and meaning of the model. The two elements of the paradigm are the minimum requirements that must be developed in the mind of the composer before he sets down to compose music.

Keywords: epistemology, composing music, paradigm, model, concept.

соответствуют их вкусам и интересам. Гносеологически процесс создания музыки отходит от дискурса и порождает музыкальный дискурс. Данный дискурс наблюдается в гносеологии создания музыки в целом, в различных музыкальных жанрах, включая гамelan. Сложность дискурса, выступающего ориентиром мышления композиторов, является парадигмой создания музыки. Восемь основных элементов составляют парадигму. Среди наиболее существенных есть два интересных элемента, а именно, модель и концепция. В этой статье автор пытается разобрать элементы моделей и концепций в создании музыки. Модели могут присутствовать в слуховой, визуальной или концептуальной форме. Композиторы сознательно выбирают представление музыки как эмпирической и символической реальности. Концепция интерпретирует модели, существующие в воображении композитора. Объяснение связано с функцией и значением модели. Два элемента парадигмы – это минимальные требования, необходимые для композитора, прежде чем он начнёт создавать музыку.

Ключевые слова: теория познания, создание музыки, парадигма, модель, концепт.

Introduction

Musical creativity is in need of epistemological research, since up to the present day there has never been any in-depth elaboration on the nature of knowledge, belief, justification, and rationality associated with the process of musical creativity. During this time, the activity of composing music was devoid of adequate explanation in the form of explicit knowledge. Many phenomena of musical composition which are present creatively in the middle of our musical lives. However, they exist not as explicit knowledge but as a manifestation of the composer’s implicit cognition present in creating music. Explicit knowledge is rational and objective, and it can provide a theoretical approach, whether problem-solving, or manual [1; 6; 7].

In this, implicit knowledge is the type still embedded in the form of one’s experience and contains factors which are not objective, such as personal beliefs, perspectives, and principles [3; 4; 9]. Generally, the person endowed with this knowledge never states it verbally, systematically, rationally, and objectively, so that other people can verify it. Composers can also generate explicit knowledge in the epistemological field. Unfortunately, this explicit knowledge does not reach the listener, because there is no adequate elaboration and no attention to the epistemological problem of musical creativity.

This phenomenon does not mean to assert that every composer creating music has no epistemological foundation. The accumulation of knowledge is always present underlying the activities of composers in the creation of music. The term for accumulating knowledge in this context is the paradigm of musical creativity [13].

The process of thinking directs the composer’s reasoning to achieve the choice of an epistemological orientation. This directedness of thought demonstrates that composers create music with the help of paradigms. The paradigm in the creation of music consists of elements which form a unified paradigm-related concept. The elements forming the paradigm as mentioned above include: (1) values, (2) fundamental beliefs, (3) the desire to produce work of music, (4) the model, (5) concepts, (6) method and procedure, (7) the result of applying values, fundamental beliefs, the desire to compose a musical
work, model and concepts, as well as (8) music composition as a result [14].

In developing his paradigm, the composer must at least develop his thinking in regard to three things, – namely, artistic values, artistic forms, and artistic techniques. Thoughts about artistic values tend to possess philosophical tendencies. Thoughts about artistic forms and artistic techniques tend to be instrumental, acting as working ideas in producing new music. Composers derive those thoughts from experience in various life phenomena. They can acquire thoughts about techniques and artistic forms from their experience of the life of art and various pragmatic artistic theories. They can develop their thoughts about artistic values from life experience in general and in the world of art. This stage of thinking is indispensable, because every composer cannot possibly write music haphazardly, without the presence of influences which stimulate them. There always exists a stimulus which compels the composer to start composing the music, since *ex nihilo nihil fit*, or “that which comes from nothing is nothing” [2; 10].

Composers write music based on their values as the first element of the paradigm of musical creativity. Then they perceive and comprehend the artistic forms and techniques as the basic material needed to develop the second element of their paradigm, namely fundamental belief. The latter is essentially an inner concordance between intellect and emotions that each moment of a musical composition is endowed with certain qualities related to beauty, kindness, and truth without any prior vindication. Intellectual and emotional approval are attitudes regarding ideas that have the potential pragmatic possibility to be developed into musical compositions.

The composer develops the will to create music (the third element) after understanding and trusting potential values (the first element) and fundamental beliefs (the second element). It is not possible for a composer to develop the will to compose music if previously he did not have any awareness of his values and fundamental beliefs. It is impossible to separate between values and fundamental beliefs from the moment of composing music as an object of creativity that is the focus of the composer’s attention. The moment of composing music contains (1) the “quality” of the composer’s appreciation which feels, wants, and is useful, so that the composer would be interested in working on and has (2) “features” by means of which the composer considers and evaluates objects as a moment of composing music as good, so that it stimulates the composer to express himself through music.

The will to compose music shows the composer’s intention to present the moment of music creation. This moment covers the form of musical qualities as an object of the composer’s creativity. Musicality is the quality of something musical, which can only be captured based on sensitivity, knowledge and virtuosity. Musicality was present as a model before composers started to create music. This model is the fourth paradigm of music creation. The form of the model is the original perspective of musical form or construction in the composer’s imagination that is intended to be worked on and realized into music.

The musical quality present in the model has not yet become a perspective of music with absolute understanding. Only musical forms are perceived in the composer’s imagination. Musical qualities in the model will become a portrait or perspective of music with complete understanding if supported by the concept. The concept is the fifth element of the paradigm. The nature of the concept provides an explanation of the
elements involved in the musicality present in the model.

Music is empirical sound that is arranged with combinations and temporal relationships to produce a unity of musical meaning. Composers in producing musical sounds must operate the methods and procedures (the sixth element) in applying values, fundamental belief, the desire to create a musical composition, model, and concepts while creating music. Without the support of precise methods and procedures composers can never produce music. The application of appropriate methods and procedures (the seventh element) as an effort to apply or manage most of the elements of the paradigm will produce empirical realities of musical works in the form of musical composition (the eight-element of the paradigm) which allows various people to enjoy.

Every element in the paradigm of music composition becomes a requirement for composers in thinking about realizing the music. Composers in their thinking have a systemic reasoning construction, the elements of which are always present with a relative absence [15]. All intellectual requirements for creating music are abstract. Only models can be presented by composers into empirical reality and, hence, into music. Only the fourth element can be presented empirically for the cause. Thus, the element directly related to the eighth element (musical composition) is the model as the fourth element.

The purpose of writing this article is to show that every composer is a developer of the paradigm of music composition. It follows that there is explicit knowledge available developing in the composer’s mind when he writes music. Anyone can articulate, organize, access and expound explicit knowledge verbally [11]. This article demonstrates a small part of the paradigm which has been developed in the minds of composers. The focus of attention is on the elements of the model and concept because this makes it possible for the writer to articulate by giving examples. It falls outside the scope of this article to discuss composers’ performance in processing other elements such as values, fundamental beliefs, the desire to compose musical works, the methods, the result of applying values, fundamental beliefs, and the desire to produce models, concepts, and music composition as a result.

Many composers have composed musical works. It means that many phenomena of musical creativity can form the object of this article. However, writing about all phenomena is impossible. For this reason, the authors chose the phenomenon of creativity which is relatively unique, has character and has been the subject of discussion by specialists in contemporary music, namely the work of composer Aloysius Suwardi.

The Concept of Creating Music

The concept referred to here is the formulation of ideas to be manifested into a musical composition. Denotations of the concept include composers’ understanding of (1) the immaterial objects of their work on composing music, (2) beliefs that form the basis of creativity, as a result of composers meeting immaterial objects, and (3) models of musical construction patterns meant to be presented as a musical composition. The concept becomes a generative force for the creation of new music. It appears in the middle of the process of thought after the composer produces a musical model that develops in his imagination.

The model, as exemplified in Suwardi’s work above, has not produced any music yet. Creative discourse in the form of concepts will provide support for the
model so that the presence of music in the composer’s imagination truly exists in reality. The model provides an imaginative reality about the empirical phenomenon of music that is the object of creation, while the concept is an explanation of various empirical elements of the model which the composer will realize into empirical form. In this case, the model imagined in the creation of the Gamelan Gentha is Gamelan Genthana. Imagination about physical form is not enough to compose music, because there is no formulation of the music form. Therefore, to realize the concept of new music, there must be a formulation and explanation of the elements of music that composers will create in the future.

By using the ensemble of Gamelan Gentha, Suwardi applied the concept of making gêndhing in the music he composed. The Gêndhing is a Javanese gamelan music composition, manifested by the balungan gêndhing. Musicians process the balungan gêndhing by using three types of instruments, namely, the balungan, elaborated, and structural instruments. The Balungan gêndhing is the core of gamelan composition, which Hood called the nucleus of the musical theme or principal melody [5]. The balungan is the basic melodic foundation for musical composition, which forms the centre of the musician’s attention to express their music. The formation of the balungan always rests on grouping the arrangement in a frame of gatra, which is the smallest unit of gamelan music composition [16]. Musicians can express their feelings after interpreting the Balungan. Without interpretation of balungan, music would not exist.

Textures in musical sounds of the gêndhing tend to be homophonic. In the gêndhing, there is a combination of one chief melody as a result of the presentation of the balungan instrument with several other melodies from the sound of the elaboration/treatment of the instrument. This principal melody is called the balungan gêndhing, and another melody is called the garap melody. The garap melody is the interpretation result of the main melody by the garap instrument. This melody has functioned as a decorative sound and supporting accompaniment. As Sumarsam once revealed, the problem of the essence, position and existence of this melody is quite complicated [12].

To realize the concept of the gêndhing, Suwardi positioned the Klonthung instrument as a balungan instrument. The function of the Klonthung instrument exclusively reveals the melody of the balungan. This role is vital because the melody presented is the essential elements of the gêndhing. The instruments of klonthang, klonthong, and klinthing are positioned as the elaborative instruments. These instruments are given the task of developing the melodic ideas which originate from interpretations of the balungan gêndhing. The musician playing the klonthang, klonthong, and klinthing instruments creates new melodies similar to the balungan gêndhing which exist as ornamental melodies.

There is only one structural instrument in this category, the gong. The concept of the gêndhing version of Suwardi is different from the traditional gêndhing, because generally in traditional gêndhing, there are four kinds of structural instruments, namely, the kêthuk, kêmpyang, kênong, kêmpul, and the gong. Each structural instrument has its duties and functions. In his processing of the gêndhing in the Gamelan Gentha Ensemble Suwardi eliminates the use of the instruments of kêthuk, kêmpyang, kênong and kêmpul. The gong is the only structural instrument whose function is to place the greatest stress on each of the heaviest melodies, as well as the sign of rotation or repetition in the gêndhing presentation.
The Model of Musical Creativity

The formation of the paradigm of musical creativity stems from the values that are held by composers. From the beginning, values in music have had a united relationship with the moment of musical creativity, and values are present as material objects for musical creativity. Values are manifestations of the “imagined quality” of meaningful, significant, relevant, and attractive objects which the composers like, want, and expect to appear. Composers believe in values such as kindness and compassion. The values appreciated by composers can be instrumental in their potentials. Instrumental values provide the form, principles and rules of music that become a reference or guide for composers in their creation of music. Instrumental values cannot be entirely meaningful, if they do not possess clear and concrete formulas. Therefore, instrumental values contain the formulas of musical forms imaginatively, as if they were concrete.

In constructing models, composers can imagine the form of instruments, musical sounds, musical phrases, melodic phrases, instrument playing techniques, methods, concepts or whatever, which they can pragmatically translate into music. In the case of Suwardi, before he thought of the form of musical sounds, melodic phrases, and instrument playing techniques, he imagined a certain instrument as the main reference for generating new music. Suwardi has a tendency which has become a habit that when creating new music, he must base it on new instruments which he created first. Such a new instrument for Suwardi will become a vehicle for the music he will compose. Therefore, the initial activity for Suwardi in composing new music is to create new instruments.
While studying the history of gamelan in Surakarta Palace, Suwardi learned that during the reign of Paku Buwono X, in the Palace of Surakarta, there was a unique set of gamelan, called the Gamelan Genthana. The information he acquired was that all instruments have a gentha-like shape on each of the Gamelan Genthana. The gentha is (1) an instrument made of brass metal in the form of a flattened cup, with a bat hanging in the middle of the central shaft in an upside-down cup, (2) a large bell usually mounted on a church tower; (3) the bell is mounted on the cow’s neck. The composer imagined that in the Palace of Surakarta there was a set of gamelan in which elements of the instrument consisted of many bells, such as the one mounted on a cow’s neck, as shown in (Fig. 1).

Suwardi was not discouraged from building a new version of the Gamelan Genthana. He began to make gamelan instruments based on his understanding of the information he received about them. He understood that the Gamelan Genthana was a set of instruments with the shape of a gentha. Herewith, he was able to make a set of gamelan instruments in which all of them were built in the shapes of gentha, just like the Gamelan Genthana he imagined. Then he endowed the new gamelan instruments he created with the name of Gamelan Gentha.

The story of the Gamelan Genthana for Suwardi as a composer and gamelan instrument maker was always disturbing to his mind. Based on this information, he had the wish to create a new version of the Gamelan Genthana. Therefore, at that time he tried to learn to see the original form of this gamelan. Unfortunately, for ordinary people it is not easy to enter the Surakarta Palace. In the end, the composer failed to see the pure form of the Gamelan Genthana.
Gamelan Genthana were different from the traditional variety of gamelan instruments. Only one of the instruments created in Suwardi’s imagination, the gong instrument, was more traditional in its conception, as may be seen in (Fig. 2).

The shape of the Gamelan Genthana instruments resembles the Kepel fruit. This fruit is the flora identity of Surakarta, with the Latin name *Stelechocarpus burahol*. This physical semblance of the Gamelan Genthana may be perceived as illustrated in (Fig. 3), (Fig. 4), and (Fig. 5).

When creating the Gamelan Gentha as another version of Gamelan Genthana, Suwardi failed to perceive the set of Gamelan Genthana directly. Therefore, the composer still believes up to now that the Gamelan Genthana instruments are gentha-shaped, as a bell mounted on a cow’s neck. On June 13, 2007, Suwardi performed the Gamelan Gentha, presenting a public demonstration of his work, which he intended as another version of Gamelan Genthana. All the forms of each instrument in this gamelan resemble the gentha. He constructed at least 5 (five) types of instruments, each of which he gave the name: (1) *klunthung*, (2) *klonthang*, (3) *klonthong*, (4) *klinthing*, (5) *gong*.

The Klunthung instrument consists of twelve gentha lined up and hung as strings. Each gentha consists of regular tones, following a sequential arrangement, so that it can function as a balungan instrument, similarly to the instruments of the Javanes e gamelan. Within the musical system of the Javanese gamelan there are three types of instrumental functions which act as vehicles for expressing the musical composition performed. They are (1) the balungan instruments, (2) the elaborative treatment instruments, and (3) the structural instruments [8].
There is a resonance in each of the gentha meant to produce a long, loud humming sound. The resonance settings allow each resonant hole to vibrate the sound of each gentha following the desired tone. (Fig. 6) presents a portrait of the Kluntung instrument.

The Klinthing instrument is a small assembly of gentha. The musicians play it by vibrating, just as the angklung is played. The angklung is a multi-tonal instrument made of bamboo material, which is played by shaking (the sound arises because there is a collision of the bamboo pipe body) so that it produces sound vibrations for each instrument moving and vibrating.

Klinthing instruments consist of two types. The way to play one set is by sitting, and the other set – by standing. Each instrument consists of fourteen pairs, and each of those consists of two gentha. In each tube, Suwardi placed the tube wall hitter inside the tube, so that every movement of the tube always produced a tinkling sound. The fourteen pairs of gentha are arranged from left to right, from the lowest to the highest notes. The Klinthing instrument functions as a melody generator, which is distinctively different from the melodic system in traditional gamelan. The physical appearance of the Klunthung and the Klinthing instruments is shown in (Fig. 7). The low-assembled Klinthing instrument, which is played sitting down is demonstrated in (Fig. 8). The Klinthing instrument which plays by standing is shown in (Fig. 9).

The Klonthang instrument is a collection of nine gentha, arranged in sequential order, each provided with a pole stick, so that each musician may hit the edges of the gentha to produce a loud sound. This arrangement allows the musician to play with two small mallets in a seated position quickly. This instrument can function as a balungan (framework) and as one that outlines the balungan. Each gentha is set in a particular pitch, sorted by settings. The Klonthang instrument has a smaller octave scale than the Klunthung instrument. The former has no resonance, since, with its position and organological construction it
produces lengthy, loud humming sounds. The *Gamelan Gentha* involves three rafts of *Klonthang* instruments. (Fig. 10) demonstrates the physical form of the *Klonthang* instrument.

Another instrument as part of the *Gamelan Gentha* is the *Klonthong*. This instrument is similar to the *Klonthang* instrument, but with a larger number of gentha. The *Klonthang* has only nine gentha, while the *Klonthong* instrument has twelve. (Fig. 11) demonstrates the shape of the *Klonthong* instrument.

The *Gong* instrument in the *Gamelan Gentha* is the only structural instrument in the assembly. Its function is to emphasize the concept of musical form and structure. The affirmation can be seen in its placement so that it can be an empirical characteristic of the grouping of shapes and structures of a musical composition. (Fig.12) is the physical form of the Gong instrument in gamelan gentha, while (Fig. 13) is a combination of all instruments in the *Gamelan Gentha* ensemble.

**Conclusion**

Based on the previous description, the writer arrives at the conclusion that epistemologically the process of creating music is endowed with certain principles. They use a certain type of reasoning. Eight elements form the principles of musical creativity, namely, the paradigm of musical creativity, which consists of eight elements.

Models and concepts are two elements of a very significant paradigm, because without them, musical compositions do not exist at all. The elaboration of examples of models and concepts in the previous description shows that this element is very important; therefore, every composer must think of these two elements prior to anything else before creating music. Although the elaboration of the model in this article constitutes an empirical object, basically models are not always empirical. Composers can direct their attention to both empirical and non-empirical objects, for example, theoretical thinking about the technical idea behind the music.

**REFERENCES**


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