

Semiotics Of Shape Of Block Notation As Icon Of Planetary Orbit

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Notasi balok mempunyai bentuk yang istimewa namun eksistensi dan fungsi bentuknya tidak disadari, tenggelam oleh fungsi sebagai simbol nilai ketukan. Secara umum, bentuk dasar notasi balok adalah elips yang memiliki kemiripan dengan bentuk lintasan planet sehingga fokus penelitian adalah mendeskripsikan bentuk elips notasi balok sebagai ikon lintasan planet.

Penelitian menggunakan metodologi kualitatif fenomenologi untuk menginterpretasikan makna bentuk dasar notasi balok sebagai ikon lintasan planet. Pengumpulan data menggunakan studi pustaka dan wawancara terarah sedangkan Analisis data menggunakan proses semiosis yaitu analisis teks tahap I berdasarkan struktur bentuk dan analisa teks tahap II secara heuristik

Hasil penelitian menunjukkan bahwa bentuk elips notasi balok merupakan sebuah ikon lintasan planet yang mengalami perubahan fungsi dari fungsi manifes ke fungsi laten karena penggunaannya sebagai fungsi nilai ketukan.

Block notation has a specific shape; however, its existence and the function of its shape are not recognized and are made to be intangible by its function as a symbol of tapping sound. In general, the basic shape of the block notation looks like an ellipse and is similar to the planetary orbit. Therefore, this present study focuses on the ellipse-shaped block notation as the icon of the planetary orbit.

The phenomenological qualitative method was employed to interpret the meaning of the basic shape of the block notation as the icon of planetary orbit. The data were collected through guided interview and library research. The data were analyzed using the semiotic process, meaning that in the first phase the text was analyzed based on the shape structure and in the second phase the text was heuristically analyzed.

The result of the study shows that the ellipse-shaped block notation is the planetary orbit whose function changes from the manifest function into the latent one, resulting from the function as the tapping sound value.

Keywords: form, notation, icon, orbit, planet

INTRODUCTION

The shape of an object is the sign which can be visually observed and represents the past, the present and the future. As a sign, an object is stated to have a shape if it has a structure which clearly indicates the existence of its function and meaning. As the representation of three eras, the shape is a tangible physical sign which describes the background and the current and future functions.

In arts, a shape plays a significant enough role as it constitutes the most important basic concept in the

discussion when arts are discussed. Furthermore, it is frequently referred to as an art product if it has three main aspects such as the content, the material structure and the meaning relation between the content and the structure. Philosophically, Cornell (1999) classifies a shape as an art product if it has the content, the structure and the meaning relation between the content and the structure. Connell clarifies that a shape contains the message which it intends to transmit to the interpreter. Furthermore, he states that the structure is closer to what characterizes the shape. The meaning relation refers to the

One of the shapes in arts whose function is significant enough is the shape of the block notation. However, its sign and meaning are not recognized. The phenomenon is that people in general and artists in particular know that the shape of the block notation is identical with the value of the tapping sound. However, they are not sensitive enough to identify the reason why a shape and function of the basic shape of notation are chosen. They know that such things are chosen for the value of the tapping sound.

Less curiosity, being ignorant and less understanding that a shape is the basic shape of the block notation cause message and meaning to disappear. It is one of the factors which causes the manifest function to change into the latent one. The concept of the block notation in the western music is frequently categorized as an art product and used as the basic foundation for understanding music through the message and meaning of the notation block as a relation between the nature and culture which are integrated in such a way that the understanding of the basic shape of the block notation as a sign is badly needed in order to understand the function and meaning of the dialectical process which is intended to transmit.

In general, the basic shape of the block notation looks like an ellipse. In the system of the musical notation, the basic shape of the block notation does not change or remains steady; however, the signs such as the flag, the pole or the color lead to the transformation of creativity to make the function of the value of the tapping sound have different meaning. As an illustration, the full notation with four tapping sounds looks like a hollow eclipse, and the notation with two tapping sounds looks like an eclipse without hollow and black in color. According to Weaner, Burke et al (1986), the visual role of the notation should not be static, and that the extent to which an observer can observe it should be taken into consideration when understanding the musical notation as there are many symbols such as the pole and flag.

The discussion on the ellipse-shaped block notation, as a sign, cannot be separated from semiotics. According to Pierce (in Nattiez: 1990), a sign is made up of three parts; they are symbol, index and icon. A symbol is a sign which is made to appear by

an agreement; and index is a sign which is made to appear by the causality relation, and an icon is a sign which resembles its physical representation. A sign is a symbol, index or icon if its referent is an object, allowing it to be interpreted by the interpretant.

Understanding the eclipse-shaped block notation as the signifier of the relation between the nature and culture makes it possible that its function and meaning do not only function as the symbol of the value of the tapping sound but also shows the relation between the two. This is supported by the historical background of the appearance of the eclipse-shaped block notation which cannot be separated from the astronomic development.

As far as the astronomic physics is concerned, the interesting concept which shares the same characteristic as the eclipse-shaped notation block is the planetary orbit in the solar system. Kepler states that the planetary orbit looks like an eclipse in which the sun is the focus. Such a similarity leads to the opportunity to investigate the function, sign and meaning of the eclipse-shaped notation block.

The meaning given to a sign as a shape contributes to its function. Louis Sullivan (in Cornell) explains that a shape such as a formula, role or the shape of a geometrical construction has function. Similarly, Malinowsky (in Koentjaraningratm, 1978) states that how an object functions in society depends on what it needs for life. The concept of what society needs for life proposed by Malinowsky can be interpreted as having two functions; they are the function which is desired and the function which is not desired by society. Merton (in George Ritzer and Barry Smart) claims that cultural elements have manifest and latent functions. Such functions are exchangeable, depending on the society's combined needs. Both the latent and manifest functions and the human needs contribute to the change in cultural function.

Based on what was described above, it can be stated that unawareness and less understanding of the function and meaning of the eclipse-shaped block notation can be a boomerang or a time bomb in the future as a shape which is based on the society's philosophy or way of thinking of a particular meaning and function will be created. The similarity

between the ellipse shaped-block notation and the planet orbit gives the basis for interpreting that the sign of the ellipse-shaped block notation is an icon of the planetary orbit from the structure, function and meaning points of view.

THEORY

According to the view of formalism, there are three definitions of what a shape is. First, a shape is an art product if the characteristics it has correspond to the shape which is intended. This theory gives more emphasis on the mathematical aspects such as formula and geometry. Second, a shape is something which has such a unique primary function that its design can show its real function. Third, a shape is the most important concept in the discussion on arts. It is a product which will work if it has three aspects such as the content, the material form, and the relation between the content and material form.

The development of the theory of formalism shows that a shape is an art sign which describes the past, the present and the future when the function and meaning really contribute to the existence of the shape. The theory of semiotics, that is, the theory of sign signification is needed to describe the art sign in a shape.

Charles S. Peirce states that a sign is made up of icon, index and symbol. A sign can be an icon, an index and a symbol. A sign can be an icon if it is physically similar to what it represents. Such a similarity can be, for example, in the form of a photograph, (traditional) painting, and a particular type of map. A diagram can also be iconic as it shows structural similarity.

An index is a sign which is connected with the cause and effect in what it represents. As an illustration, smoke indicates that there is fire, fire causes smoke to appear. As far as the musical semiotics is concerned, index is the most important sign. Every musical element requires that it can be regarded as an index, whereas a symbol can be illustrated by the Eagle 'Burung Garuda' which symbolizes the Republic of Indonesia.

An object and interpretant are needed in order to understand whether a sign is a symbol, an index or an icon. The object is the referent which is referred

to by the sign. The interpretant or the user of the sign is the way of thinking of those who use the sign. They decode a particular meaning or the meaning which someone has in his/her mind of the object referred to by the sign.

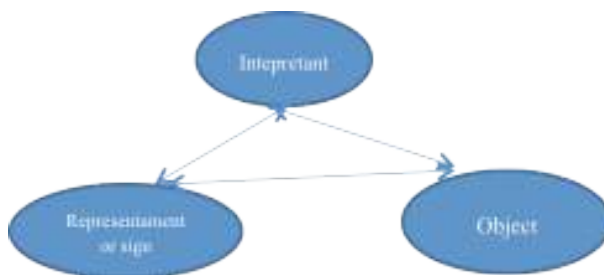


Figure 1. Peirce's Triangle Diagram of Meaning

A sign can be interpreted if it has an object which it refers to. One of the eclipse-shaped objects is the planetary orbit in the solar system, as proposed by Keppler who learned the movements made by the planets; as a result, a theory was created well-known as the Keppler's Law in which it is explained that the shapes of the planetary orbits can be divided based on three laws.

In Law I, Keppler states that the orbit made by every planet looks like an ellipse and that the sun is the focus. Such a shape is stated to be the most unique one as its eccentricity value ranges between 0 and 1. The orbit made by every planet looks like an ellipse and surrounds the sun. The sun is the focus. Epistemologically, an ellipse is a sliced cone with a particular slope.

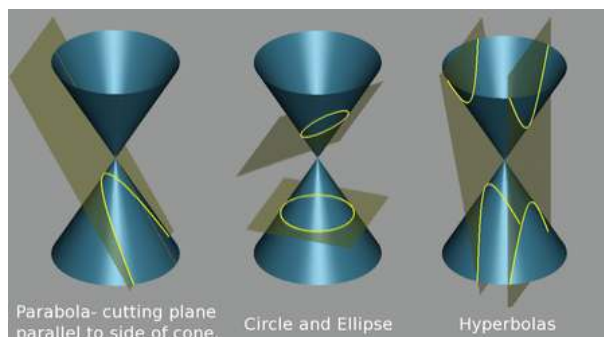


Figure 2. Geometrical Shape of Sliced Cone

Source: Leithold, Louis (1981). "13". *The Calculus with Analytic Geometry*. New York: Harper & Crow, Publisher, Inc. pa. 657

In Law II, Keppler, as far as the planetary vector radius is concerned, states that a planet goes through the same width of area for the same period of time. The vector radius refers to the line which connects every planet with the center of gravitation. The same width of area and the same period of time contribute to the same angular speed. The consequence of the Keppler's Law II causes the linear speed of every planet in every point to be inconstant, depending on the distance between one planet and another. In Keppler's Law III, it is stated that the quadrate of the circulating time needed by a planet to go around the sun corresponds to the cube of the average distance from the sun.

When a sign has an object to refer to, its function and meaning can be identified. Talking about the function of a sign in society cannot be separated from the functional theory of structuralism proposed by Robert K. Merton (in Kaplan and Manners: 2002) in which it is stated that (1) everything is functionally related to another 'functional integrity postulate'; (2) every cultural element has a function, and none of the other elements can perform the same function 'universal functional postulate'.

Merton states that no culture becomes perfectly integrated or culture can get integrated to a certain extent. Different cultural elements can perform the same function (functional alternative). What is meant by being disfunctional is that one element can lead to a pressure which can threaten the maintenance of a system. However, such a thing should be empirically explored and no decision can be made based on a priori.

Merton (in Kaplan and Manners: 2002; George Ritzer and Barry Smart: 2011) endeavor to clarify the concept of "function". Merton has also introduced the difference between the manifest function and the latent one (the tangible and intangible functions) in a cultural element or act. What is meant by the manifest function is "an objective consequence which contributes to the adjustment of the system which is intended by and based on the system's participants. On the other hand, the latent function refers to an objective consequence of a cultural case which is not intended and recognized by the society members. Most people think that the common knowledge prepares more rational things and more

useful understanding media than the scientific knowledge does. This and the affinity of the big substance of the existing cultural prejudices can compete with the scientific studies.

RESEARCH METHOD

In this present study the qualitative-quantitative method with semiotic process was used. The data were collected through interview and library research. In the data analysis the sign was used as the text and art context which were divided into two phases. In the first phase the shape and material structure of the art text were heuristically read and understood. The shape and material structure of the text were identified, described and analyzed in order to identify their meaning.

In the second phase the sign or the text was read again, interpreted and compared with another text 'hypogram'. Hypogram refers to an attempt made to search out the background why the text was created and its relation to another text and its transforming process. The understanding of the text in the second phase is referred to as signification.

RESULT AND DISCUSSION

As a sign, the shape of the block notation has an important characteristic, that is, the orbit which shapes the notation is similar to the geometric ellipse which can be visually seen as the basic shape of the block notation interpreted by the participant although the structure still needs to be identified and described in order to be able to determine the identity of the ellipse. That the structure of the shape of the block notation is an ellipse can be identified and described by comparing its characteristics with those of the geometrical construction of an ellipse. How the block notation is identified and described can be seen from the following figure. identifikasi dan deskripsi notasi balok dapat dilihat pada gambar di bawah ini.



Figure 3
Identification and description of the basic shape of the block notation.

Figure 3 shows that the orbit of the block notation is identified and described as an ellipse in a tilting position. This result is in accordance with what is interpreted by the participants stating that the shape of the block notation looks like an ellipse in a particular tilting position. A 450 rotation needs to be made in order to reduce such a tilting position, following the clockwise so the structure of its shape can be analyzed (see Figure 4).



Figure 4
Analysis of the block notation structure forming the ellipse

Figure 4 shows that in phase I in which the block notation structure is analyzed as a sign, it can be seen that the basic shape of the block notation is similar to an ellipse. The things which can show that it is an ellipse are that both the horizontal and vertical lines which divide the block notation shape show that there is a central point, making the length of the orbits and the width of the areas are the same. The horizontal line which divides the shape into two parts with the same width has two focused points which are the same distance from the central point. The intersection between the two lines forms four parts with the same width and four points in the orbit. Such things characterize the ellipse.

The meaning provided in phase I has not been explained that the ellipse is a sign which has meaning and a unique primary function. The reason is that the only one aspect which is represented, that is, having the same characteristic as the geometrical construction; meaning should be heuristically provided in phase II, that is, in the semiotic process in order to find out the message intended to transmit through the ellipse-shaped block notation. The result shows that the ellipse-shaped block notation is similar to the planetary orbit. If well projected, it is similar to the planetary orbit with its stabilizing and balancing function. That the ellipse-shaped block notation is similar to the planetary orbit is described using the figure as follows.

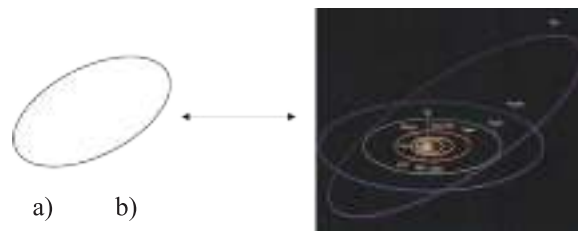


Figure 6. The ellipse-shaped block notation resembles the planetary orbit in the solar system. (a) shows the block notation and (b) shows the ellipses formed by the planetary orbits

A sign can be interpreted if it has an object which it refers to. One of the eclipse-shaped objects is the planetary orbit in the solar system, as proposed by Kepler who learned the movements made by the planets; as a result, a theory was created well-known as the Kepler's Law in which it is explained that the shapes of the planetary orbits can be divided based on three laws.

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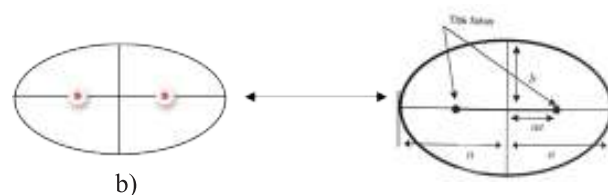
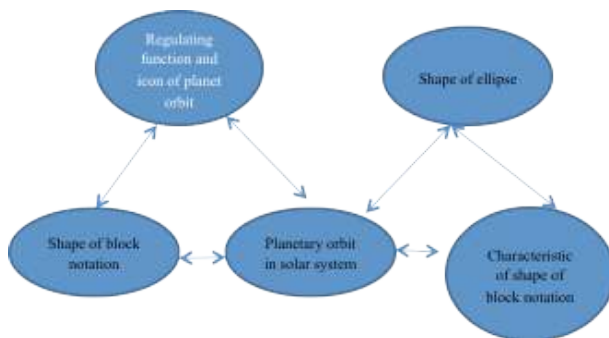


Figure 7. Shows the similarity of the projection and the characteristic of the ellipse-shaped block notation to the ellipses made by the planetary orbits in the universe. (a) shows the shapes identified, described and the analysis of the block notation. (b) shows the ellipses made by the planetary orbit and its characteristics, based on the Kepler's theory.

It is shown in Figure 6 and Figure 7 that the characteristics of the shape of the block notation are similar to those of the planetary orbit in the solar system. As far as the solar system is concerned, the shapes of the ellipses made by the planetary orbits have the balancing function in a much greater quantity. They are created to reduce the possible collisions possibly taking place among the planets in the solar

system. The participants interpret that visually and analytically the ellipse formed by the block notation is similar to that formed by the planetary orbit.

Both the musical and non-musical participants visually interpret that the shape of the block notation is like an ellipse. The non-musical participants understand that the shape of the block notation is a sign which is similar to the shape of the planetary orbit in the solar system based on two things. First, the analysis shows that the structure is similar to that of the planetary orbit. Second, the origin of the appearance of the shape of the block notation follows the astronomic development.



The semiotic process through which the basic shape of the block notation becomes an icon

The ellipse-shaped block notation is an art work which represents the relation between the nature and culture. The characteristics of an ellipse are packaged within the function of the tapping sound as the cultural function. The ellipse with hollow and the one without hollow illustrate this. The ellipse structure represents the nature and the value of four tapping sounds represents the culture which is transformed from the four areas with the same width in the ellipse with hollow which is divided into such two intersections that one rotation needs four times of point relocation in the orbit.

The same thing takes place in the notation with two tapings of sound and one tapping of sound. The use of the pole as a symbol in the shape of the notation with two tapings of sound causes one point to appear in the orbit and the ellipse to be divided into two with two areas of the same width, meaning when rotating two steps are needed. The pole is used to represent the culture which comes from the creativity when the shape is modified so that its

function can be determined. However, the ellipse-shaped block notation represents the nature, that is, the planetary orbit.

Based on the theory of Formalism, the ellipse-shaped block notation is an art work which works as it has the content, material structure, and relation between them, causing the ellipse-shaped block notation to have the content which functions to represent the planetary orbit and the value of the tapping of sound. The structure of the notation basic shape has the same characteristics as that of an ellipse. The meaning relation between them means the meaning provided to the sign, namely the formulation of the ellipse-shaped block notation.

From the physics point of view, the Kepler's law and the background of the creation of the ellipse-shaped block notation, a message is intended to transmit that the shape of block notation is a sign which became the signifier in the past, is becoming the signifier in the current era, and will become the signifier in the future. As a sign in the past, the ellipse-shaped block notation had a manifest function representing a geometrical construction.

The cultural change in society, which is based on life needs, one of which has something to do with arts, has caused the function of the shape of the block notation to change, from the geometric construction into the function of the value of the tapping sound. Such a functional function degrades the geometrical construction function into the latent function.

The relation between the nature and culture in the form of the block notation shows that an "art" should be understood as a scientific complexity, the multiple functions and meanings with such the same opposition that the future function and meaning which complete one another can be produced. The planet orbit as a natural object and an object which is referred to represents the ellipse-shaped block notation with a message that it has a very specific shape as it has the balancing and regulating function.

The background and the similarity in shape, characteristic and nature of the ellipse-shaped block notation to the planet orbit in the solar system give an understanding that the ellipse-shaped block notation

is the icon of the planet orbit in the solar system with the balancing and regulating meaning, which currently performs its latent function as its existence is made to be intangible by its manifest function which determines the value of the tapping of sound; however, such a function will become the manifest function in the future when "arts" are understood in the scientific complexity.

CONCLUSION

The similarity in form, characteristic and nature of the ellipse-shaped block notation to the planetary orbit leads to an interpretation that the ellipse-shaped block notation is an icon of the planet orbit in the solar system. As an icon, the function of the shape of the block notation has changed, from the manifest function into the latent function, following the use of the block notation as the value of the tapping of sound.

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