

# The Transformation Process of Kawit Carving as an Identity in the Regional Library

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**Abstract-** The purpose of this study is to explain the design process of Kawit carving into the identity of the North Kalimantan provincial library.

The design process used is *Divergence - Transformation - Convergence*. *Divergence* is the process of collecting data relating to the design using the *Literature searching* method and *Interview*. *Transformation* is the process of processing data with the design method of *transformation*, and *convergence* is the process of analyzing the results of the design carried out by the *check list* method.

The results of the analysis and data collection explain the elements of kawit carving that make their identity strong are the circular shapes in the middle and arches on each side, besides the methods that can be used in the transformation process are extended, broken down and reduced to produce building shapes.

**Index Terms-** Kawit Carving Transformation, Identity of Kalimantan Utara, Regional Library

## I. INTRODUCTION

This article aims to explain the process and method of transformation to design a regional library with kawit carving as a design idea so that it can become an identity from the province of North Kalimantan.

### A. Research Background

To be able to interact with the environment an architectural work is expected to be a reflection of the environment, so that the work can be an identity of the area where the object is built so that the values of the local culture are maintained into new forms, especially architecture.

To elevate and maintain the local identity of the object of this design, the form of Dayak Kenyah Kawit carving is used as a form to ornament on the architectural objects of the library that will be designed with the concept of identity that is present. This concept is an embodiment of regional identity that is adapted to the current situation, or renewed through a transformation process without reducing the values or meanings contained therein. The concept of identity that can be achieved can be achieved through the process of transforming forms, using materials, to modern structures.

The relationship that explains between Kawit carving and the library is the nature or philosophy of the two objects, the first is that the library is universal as a place to accommodate various kinds of information and is used by various groups and the Kawit carving philosophy as a reminder of unity among people from various circles especially amidst the rush of migrants who migrate to North Kalimantan.

## II. LITERATURE REVIEW

### A. Kawit carving

Kawit carving is an ornament with a curved and circular shape. Curved lines and circles take the basic motifs of fern plants or nails stylized in such a way that they do not resemble the original shape.

The existence of curved ornaments and interconnected circles in the Dayak Kenyah community became a symbol of the endless descendants of the Dayak people who could unite the Dayak community. Circle ornaments symbolize each of the Dayak chiefs and sub-tribes in Kalimantan. The ornament of this curved line and circle teaches about brotherhood.

To interpret this Kawit carving, it can be viewed in terms of semiotics which explains that a sign can be described through three levels of meaning, namely:

### a) Definition of Denotation

The meaning manifested through the existence of curved and circular line ornaments is a symbol of the unity of all Dayak communities in Kalimantan as something that must be maintained. Curved lines are shaped like tendrils and ferns that grow in the forests of Borneo.

### b) Meaning of connotation

The meaning to be conveyed through the ornament of curved lines and circles is as a symbol of all interconnected Dayak chiefs, intertwined with one another with lines that are connected to each other.

### c) Social aspects

Curved lines and circular shapes symbolize descendants and every dayak chief in Kalimantan. The curved shape and inner circle of ornament are used as symbols of unity among Dayak people.

In ornamentation it is used as a reminder that unity among the Dayak people is important, especially when there are increasing numbers of migrant tribes and the influences they carry, as a reminder that they must also be able to maintain their traditions and characteristics amidst many external influences.



Fig. 1. Kavit Carving

### B. Regional library

The Regional Library is a library located in the provincial capital which is given the task of collecting, storing, preserving and utilizing all printed works and recorded works produced in the area.

This design thesis chooses the North Kalimantan regional library to be the object of design, it aims to answer the issue of increasing the reading interest of the people of North Kalimantan, especially among SCA (State Civil Apparatus). The design of this library object is a plan of the local government to be built in the city of Tanjung Selor, Bulungan Regency, North Kalimantan so that it can become an icon of the city as the Provincial Capital and is expected to be a representation of the area where the library was built.

### C. Theory of transformation

J.P Steadman in his book Architectural Morphology (1983) describes the method of geometry to explain the proportions of the human head and face.

This method begins by drawing a rectangle which is then divided by lines placed on parts of the face such as chin, eyes, eyebrows, nose and so on. This method explains how a different set of faces can be produced by changing the relative distance of the pattern of lines on the rectangle.

This method is also applied to the transformation process of kawit carving to get alternative designs that are able to become identities from the province of North Kalimantan.

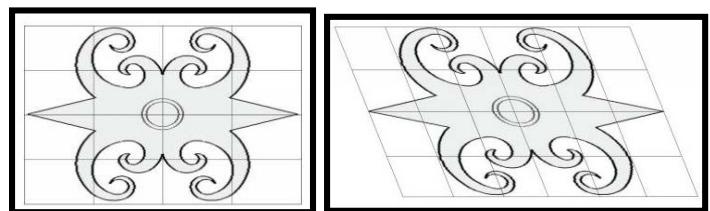


Fig. 2. Transformation with geometry methods

The next transformation uses several types of 'deformation' rectangular coordinate systems: on curva then simple enlargement or reduction is carried out, by stretching one or the other from the axis. In this way it illustrates how the evolutionary process of the same species can be produced through a simple transformation process.

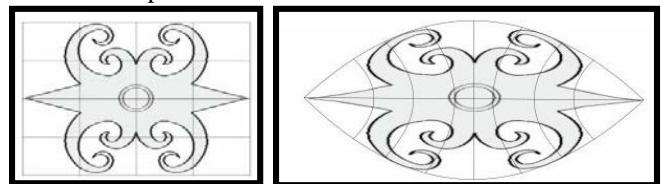


Fig. 3. Transformation results with geometry shifts at the bottom

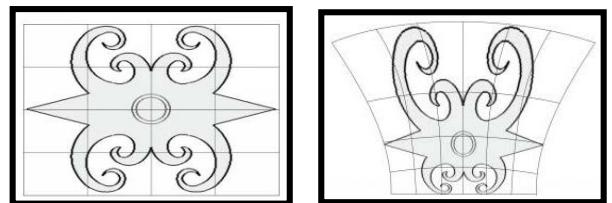


Fig. 4. The transformation results by forming curva on the side

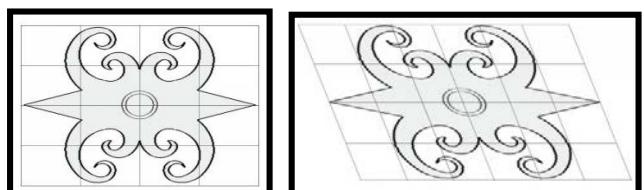


Fig. 5. Results of transformation by forming curva at the top and bottom

a) In his book *Form, Space, and Order Architecture* D.K.Ching (1996) describes several theories that can be done in the transformation process, namely by:

a) Dimension changes

A form can be changed by replacing one or several dimensions and still maintaining its identity as a member of a form.

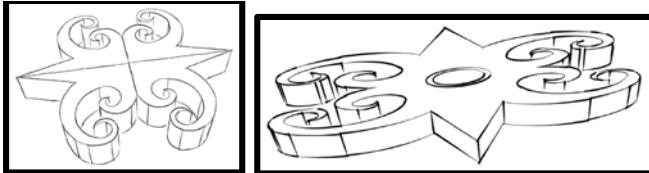


Fig. 6. Transformation results by changing dimensions

b) Change with reduction

A form can be changed by reducing a portion of its volume. Depending on the number of deductions, a form can maintain its original identity or be changed to another form.

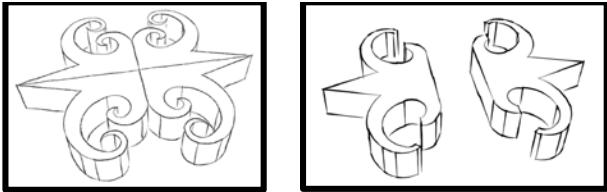


Fig. 7. Transformation results by means of reduction

c) Changes with additions

A form can be changed by adding certain elements to the volume of the object. The nature of the addition process and the relative size and size and added elements will determine whether the original form identity can be maintained or changed.

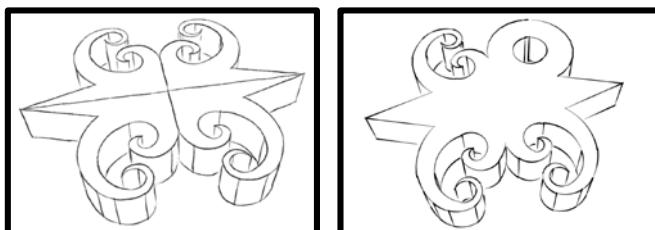


Fig. 8. Transformation results by adding shapes

d) Combining of geometric shapes

If two geometric shapes are different or opposite their orientation and penetrate each other's boundaries, then each form will compete to get supremacy and dominance visually.

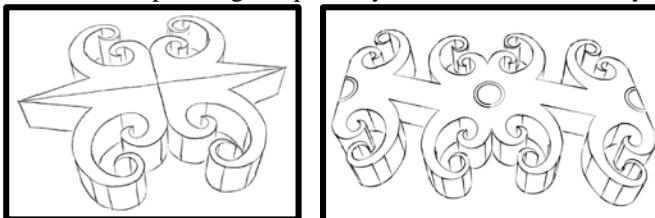


Fig. 9. Transformation results by combining forms

#### D. Theory of identity

According to Hartati (2013) in her writing that discusses National Identity and Regional Identity as National Unity: regional identity is a characteristic possessed by a region, philosophically dissecting the area with other regions. Based on this understanding, each region in Indonesia has its own identity in accordance with the uniqueness, nature, characteristics, culture, and character of the area.

In looking at the overall visual character, Berry (1980) mentions several physical elements related to the formation of building characters, namely physical elements in the form of:

- a) Shape / basic shape of the building itself
- b) Form windows and doors / openings
- c) Use of roof angle / roof slope
- d) Building materials
- e) Markers on buildings
- f) Building color
- g) Vertical elements
- h) And horizontal elements

In his theory, Shirvani (1985) mentions several physical elements related to the formation of visual characters, namely the shape and time of the building can include the quality related to the appearance of the building, namely:

- a) Building height
- b) Building severity
- c) Style
- d) Scale
- e) Material
- f) Texture
- g) Color
- h) Signage

From the results of the discussion above about identity, it can be concluded that identity is an important factor in an architectural approach that refers to locality and cannot be generalized and gives meaning to a place.

### III. METHODOLOGY

The design process uses the method proposed by (Jones, 1970, Design Methods) about the design process of Divergence - Transformation - Convergence. The purpose of using this method is to adapt to the design situation where the problems in the design have not been clearly identified so that it requires the right design process to determine design problems until the completion of the design, besides that the methods used in this process support the exploration of design and collection data.

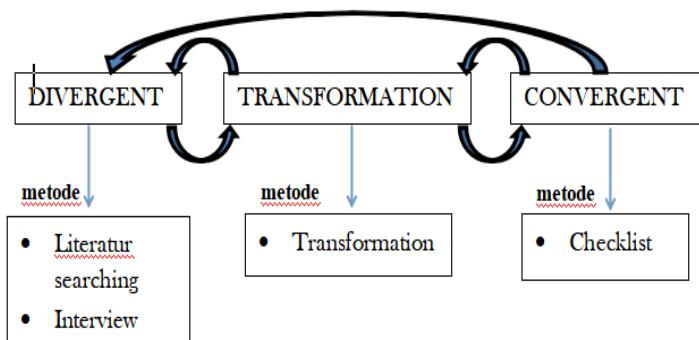


Fig. 10. Design Process

#### A. Divergent

In short, the Divergent process functions to rearrange or restructure existing problems by identifying parts of the design situation, this allows for a better change in problem solving.

##### a) Literature Searching

This method is to find useful information that can affect the output of the designer without costing and delaying work.

This method is done by searching literature data related to design objects, related concepts, related theories, locations, and other aspects that will affect the design results.

##### b) Interviewing Users

Search for information about objects that are explored that are only known by users, certain sources or information that is limited in nature.

In this method, conduct interviews with speakers related to Kawit carving material, history, and the meanings contained therein later.

#### B. Transformation

This process is the stage of making patterns from the data that has been collected. The purpose of this process is to process the results of the data collection process and transform it into a concept. At this stage, the implementation of schemes and

concepts becomes a more concrete form. The output can be a collection of images that can be understood. The rational method is used in this stage to make the design scheme form a more detailed architectural physical form.

##### a) Transformation

Transformation methods can be interpreted changes from original objects into new objects. Both changes that do not have or show similarity or similarity with the original object, or new changes that still show the instructions of the original object. Either by sliding, cutting, reduced and added in certain parts.

#### C. Convergent

The last part of these three processes is convergent, the purpose of the design is to progressively reduce uncertainty until only one of the many possible alternatives is chosen and secondary alternatives left as the final solution to be used.

##### a) Checklist

The method used in this process aims to enable the designer to use knowledge of requirements that have been found to be relevant in the same design situation.

## IV. ANALYSIS AND CONCEPT

### a. Konsep Ide Bentuk

To maintain the values of local culture on the object of this design must be determined a concept that can accommodate local values with modern so that it becomes an attraction for a library and regional icons. From this goal a concept is defined which is the identity that is present. This concept is an embodiment of regional identity that is adapted to the current situation, or renewed through a transformation process without reducing the values or meanings contained therein. This concept can be achieved through the process of transforming forms, using materials, to modern structures.

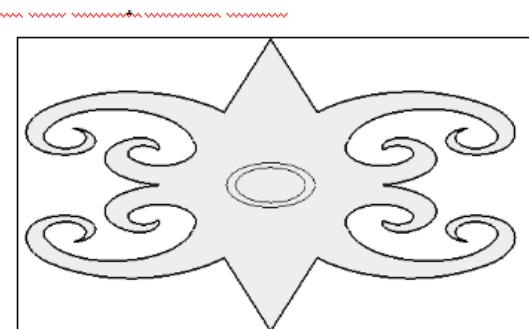


Fig. 11. The concept of building shape ideas

The part of the picture above undergoes changes by extending to the engraving section, then the part is broken down and moved so that it becomes like the image below.

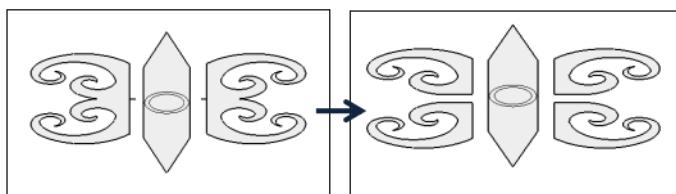


Fig. 12. Change by breaking down the kawit carving

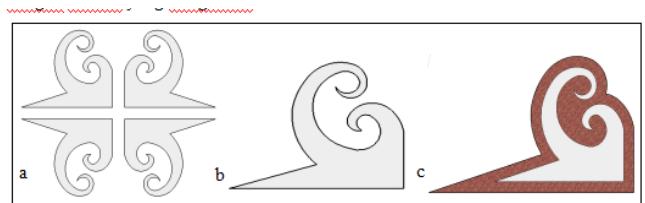


Fig. 16. The transformation process is separated

From the changes in Figure 14 a reduction is made and broken down in the form of carvings, then in the middle part of the circular carving changes the scale to be bigger in figure 15.

This section will be the center of the building's shape which is a result of transformation with a symmetrical shape.

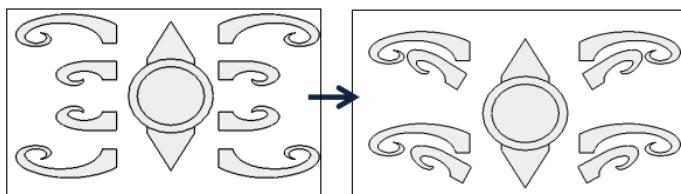


Fig. 13. The shape of the enlarged circle is then moved

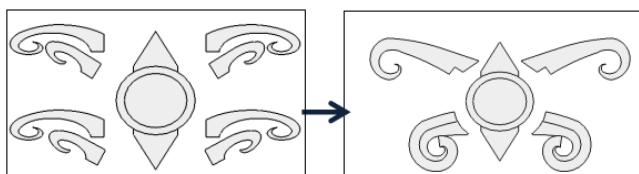


Fig. 14. The displaced form is then added to the inner side

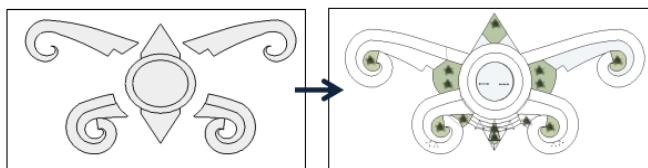


Fig. 15. The process of combining the form and surrounding environment

#### b. Konsep Ruang Luar

The concept of outer space uses a form of transformation results separated by the D.K Ching method. The whole form is separated into several parts, then the curved shape of the carving is separated from the whole shape. The results of the separated form are processed by shortening the ends and then being used on plants that limit the parking area and park on the edge of the site.

This form serves to cover the tree area on the site with the type of boxwood plant to make it easier in the pruning process in accordance with the desired shape.

#### c. Konsep Fasad

Changes to this form of kawit carving have become more complex to maintain the identity of this carving which then changes to the function and material, which was originally an ornament on the wall then used as sun shading, then the initial material which is wood in this design using aluminum composite panels.

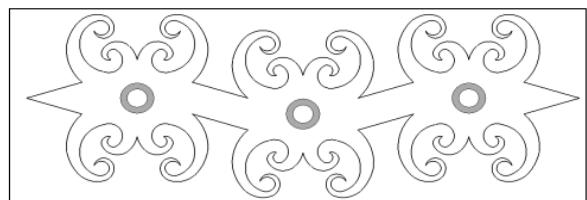


Fig. 17. Transformation with the addition method

Forms that have undergone a transformation by combining are then transformed again by being separated, reduced and added to produce more complex formations to form an ornate carved whole.

Fig. 18. Transformasi dengan metode penambahan dan pergeseran



Fig. 19. Transformation on the parts of sun shading

The results of this transformation process are more complex because each form on the carving undergoes a transformation and is then combined into one part taken from the basic form of kawit carving.

The results of the transformation are then applied to the facade with a parametric method, from the basic square shape that is perforated with different sizes then made by becoming gradations from solid parts to transparent parts.

## V. RESULT AND DISCUSSION

### A. Aplikasi Bentuk Bangunan

The forms of kawit carvings that have been transformed are implemented in buildings through building forms, floor plans and circulation, facades and outer space. In addition, it explains about space zones in buildings that are divided into public zones for visitors and private zones for managers.

In realizing this carving as an identity in the library, there are several parts of the building that can show the identity of kawit carvings, including buildings that maintain the curved shape of kawit carvings, with some changes but do not eliminate their identity.



Fig. 20. The look of the building that shows the shape of the kawit carving

Fig. 21. Implementation of curved shapes from kawit carvings on buildings

## VI. CONCLUSION

The processes carried out to achieve the objectives of this design are generally summarized into several points, among others :

1. Collect data about design objects, namely kawit carvings and regional libraries. The process of collecting data is done by the literature method searching and interviewing users.
2. Perform a design process with a transformation method that produces the identity of kawit carvings through the shape of the building, parametric patterns of facades, patterns in outer space, and imagery of facades into buildings.

## ACKNOWLEDGMENT

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