

Synthesis of Local and Modern Architecture of Regional House Representative Building in Medan

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Abstract: Architecture is always believed as one cultural heritage that influenced by the time perception, the current knowledge, and the growing of ideologies and values in societies. A regional house representative (DPRD) building which is a symbol of the people in that region should bring the local value in its architecture. However, the presence of modern universal architecture in governmental building lead to the erosion of local elements which in turn transform the building into a non-identity and non-characteristic building. This phenomenon is occurring in DPRD building in Medan, North Sumatera, Indonesia. It can be said that this building barely represented the local culture of its location, North Sumatera. This study aimed to understand the method of synthesis of local and modern architecture to be applied in this building as well as the expression and concept of architectures which underlid the appearance of the building. This study was a qualitative study where the investigation was carried out by describing and interpreting the building based on empirical condition of case study using several theories, such as: Archetypes in Architecture, Ordering Principle of Architecture, Synthesis of Architecture, The Relation between Function, Form and Meaning, as well as Designing theory. The theories and methods used in this study has proved the architecture phenomenon of the synthesis form through three aspects, namely function, form, and meaning. The study results are anticipated to enable the synthesis of architecture in DPRD Medan building to own ideal expression of DPRD building that preserve the local's values and culture meaning through architecture, especially for Karonese culture as one indigenous tribe in Medan. This study delivers benefits in understanding the important aspects in designing governmental building architecture, and serves as a reference design for the future DPRD building.

Keywords: Synthesis, Architecture, Local and Modern, Design

1. Introduction

North Sumatera is one of the most unique province in Indonesia due to its multi-ethnic cultures since ages ago. At previous time, this area was built and reigned by three difference tribes: Karo, Batak Nias, and Melayu. Medan city, the capital of North Sumatera, also a habitat of pluralistic culture due to the existence of many tribes in this third largest city in Indonesia.

According to history, the pioneer of Medan city was a figure from Karo tribe namely Guru Patimpus, who firstly opened a village in Deli land. Nawawiy (2004) said that Medan was still a jungle that only occupied on its river downstream. The inhabitants of this area was mainly from Karo and Malaya peninsula. As times went by, Medan is crowded and occupied by various tribes and races until now. Medan is developed as a metropolitan city, especially by the influence of modern architecture and a habitat of multi-ethnic culture and tradition [1].

As the era of globalization and information exchange rapidly growing, the architectural forms are frequently adopted from developed countries. These developed countries-architectures tend to be followed by the developing countries including Indonesia, especially in Medan. The fast growing of Medan City, unfortunately contradicted with the development of its architecture. Just as many other metropolitan cities, Medan apparently is facing challenges of its architectural form from the other metropolitan cities in developed countries.

The presence of architecture is one effort of human being to fulfill their needs and desires. These entire efforts to survive and ease their life is known as a symbol of culture or one form of the culture. By default, the development of this culture is attached to and cannot be separated with architecture discipline. The influence between culture and architecture can be an opportunity to grow or otherwise, a threat to destroy each other. Assuming that all Indonesian architects take this modern architect without considering the positive and negative sides of its influence in a long-range, the development of Indonesian architecture potentially be degraded.

Meanwhile, every region has definitely a unique architecture potency. Thus, efforts should be undergone to find, identify, and finally develop this local potency to play a role in the era of globalization.

Unfortunately, the architects in fact, tend to adopt the modern universal architecture that is developed in outside of Indonesia. One of many examples was the regional house representative (DPRD) building in Medan City.

The expression of DPRD Medan building from the outside was typical of modern architecture which hardly represent the region's characters and identities. This was evident through the composition of the building which was lack of local signs, from the entrance gate to the flat roof. This flat roof was on the contrary, common for building in subtropical instead of tropical climate of Indonesia regions. The glass walls and modern construction neither represented the essence of the local architectures. The architecture of this building will definitely cause difficulties in identifying the culture and tropical climate of Medan. Nevertheless, this DPRD building, should fulfill its role as a formal representation of its region apart from its function as a place for doing activities. Ideally, the form should express its function as a governmental building as well as an icon of local culture.

This phenomenon partly is strongly caused by the lack of architects and societies' understanding in synthesis of local and modern architectures on the building form as the main alternative in designing governmental building in preserving and promoting local values and cultures. In worst scenario, this inadequate knowledge may bring the assumption of out fashioned nature of local culture. To date, studies investigated the synthesis of architecture are scarce; thereby it is not surprising to find architects imitate the form or style of architectures from developed countries that have principle of modern universal (universal style).

This study aimed to deeply understand the synthesis of architecture method as one method of architecture design to find the application of architecture synthesis and to implement the principles of architecture design in governmental building.

2. Literature Review

The word of synthesis originated from the ancient Greek word *syn* means "adding" and *thesis* means position. The overall meaning of this word is an integration of two or more of available elements that result in a new product. This term has a broad meaning and utilized in many other disciplines. According to a dialectics philosophical scientist, Hegel (1770-1831), a thesis should have a dialog (dialectic) with its opponent, antithesis [2]. The product of this dialog should not be a compromise between the two, but a synthesis (Figure 1). In short, this word means that minimum of two elements can be joined together to complete each other.

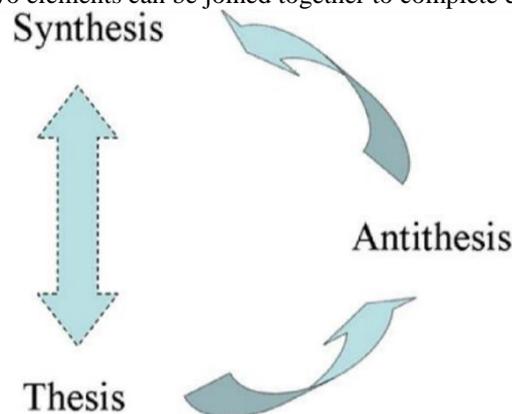


Figure 1: The Principle of Synthesis from Philosopher Georg Wilhelm Friedrich Hegel (1770-1831)

In architecture discipline, the word "synthesis" is often used as an indicator of a design nature. Designing is doing synthesis. However, this "synthesis" word is also often misused. For instance, when one entirely imitates an existed work and use the word "synthesis" to refer this activity. In this current study, synthesis refers to a new creation or product as a synergy of several elements. The synthesis process equal to a design reading and analyzing. These analyses process involved disentangle processes of a building in order to explain its basic principles. These principles are then applied to the analogues character building.

Meanwhile, a synthesis process is combining two or more elements of the building that have similar or different characteristics through a regular composition principle toward producing an intact new form. This process can be also said as a process to apply general principle into a specific form.

Synthesis of architecture is also a form of study that investigating the covering elements of the building that have a mixture of local and non-local (modern) architecture. The understanding of architecture synthesis can also be investigated through the other building elements, such as form, space, and symbolic meanings. This process can occur in the function and form aspects, or in the concepts that underlie these two aspects. According to the culture acculturation in architecture, synthesis process is categorized into the synergy category or adaptation category [3].

In this present study, several approaches were used to read the identity and characteristics of object study according to the synthesis of its architecture elements, such as:

- 1) **Salura Approach (2010):** “The relation between function, form, and meaning”. This approach prioritizes an unseparated relation between function and form. These three aspects are believed as the main aspects that influence each other. This approach is in agreement with this study as it aims to seek for a meaning in the building’s architecture [4].
- 2) **Thomas Thiss Evensen Approach (1987):** “*Archetypes in Architecture*”. Archetypes is a term created by Carl Jung, an expert in psychology which means the basic image of collective consciousness of human being. Evenson, an expert in architecture, applied this concept by studying the architectural forms in detail and divided the building into three main parts: bottom, middle, and upper. Every element of the building is then analyzed according to the expression of existential depression, such as motion, weight, and substance. This present study also analyzes the expression of meaning present behind every form [5].
- 3) **D.K. Ching Approach (2008):** “*Ordering Principle*”. The building form in this research object is explained based on its element composition. All approaches are applied on the case of present study to read the predominant architecture form in entire manner and to investigate the elements and ornaments that produce identity and characteristics of its architecture. Through this, the synthesis process of its architecture’s elements can be understood [6].
- 4) **Karonese Architecture Approach**
According to a book by M. Nawawiy (2004) “Raibnya Para Dewa (The disappearance of gods)”, traditional house of Karonese can be classified into two types based on the roof shape and frame (*binangun*: Karonese language), namely: *Sianjung-anjung* house, which is a four (or more) sided house that could also consist of one or two *terseks* and a horn on every edge of the *tersek*) (Figure 2a) and *Siwaluh Jabu* house, a simple form of house with two sided and a pair of horn (Figure 2b).

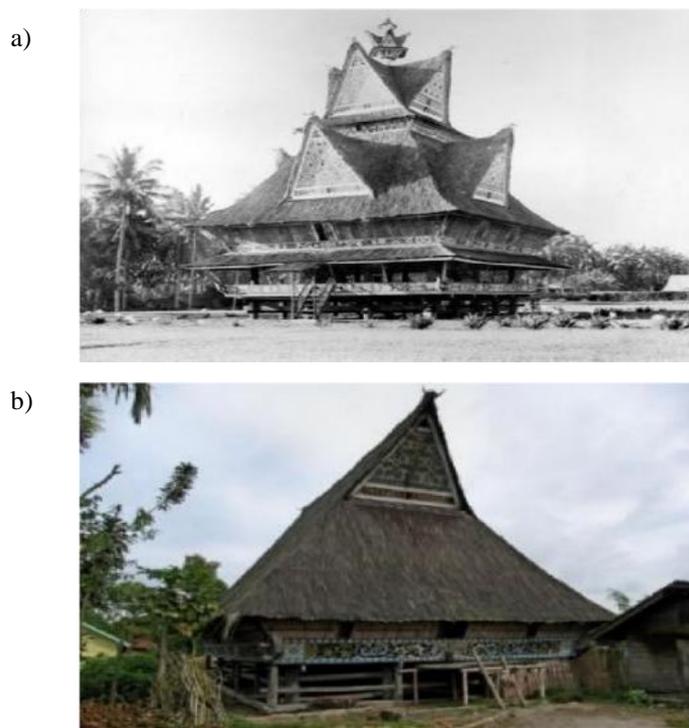


Figure 2: *Sianjung-anjung* House (a) and *Siwaluh Jabu* House (b)

This traditional Karonese house has no boundary such as fence to separate one house to the other. The access between public and the house resident has also no difference. The inhabitants need to walk up the stairs to reach the terrace (*ture*: Karonese language). It has two main doors, in northward and southward following the upstream or downstream of river. The dominant door is the front, the one that northward or facing the upstream. There is no different between public’s door and resident’s door. The shape of the roof is trapezoid-triangle-shaped, where the front roof is triangle (which is called as the face of the house or *ayo/ lambe-lambe*: Karonese language), and the wall is trapezoid-shaped supported by wooden material mimicking a keel (*dapur-dapur*:

Karonese language) located on top of several pillars [1].

The structure of traditional Karonese house consists of upper part: roof, middle part: wall, bottom part: stage. The average size of this house is 17X12 m² with height is approximately 12 m. This house is symmetrical on its two axes to enable the similar appearance on its both sides and equipped with 17 ornaments in different meaning and function [7].

According to Soeroto (2002), the traditional Karonese house architecture is affected by climate and culture aspects [8]. The influence of climate is manifested in the building form which is stage-like system with pillar and window in small size to protect the occupants from the climate outside the building, meanwhile, the cultural aspect can be found in the inner room of the building (which has no boundary between the room-as a symbol of kinship in Karonese tribe), and two terraces (as places to socialize) [8].

3. Methods

This study was a descriptive qualitative study. The data was collected by utilizing the available theories as references to explain the case study and to find several criteria to redesign the building. The method used in this study was descriptive and interpretative. This study reveals the combination of modern architecture as the crystallization of new-comers' (modern) cultures that affected local architecture as a representation of local cultures which finally is used to influence the appearance of architecture form of DPRD Medan building.

This study underwent eight research steps to investigate the interaction of synthesis process which was occurring in modern and local architecture that influenced each other in the case studies, namely:

Step 1: Reviewing the literature on local and modern architecture.

Step 2: Formulating the elements of synthesis architecture.

Step 3: Describing the case study.

Step 4: Disentangling the building in each case study.

Step 5: Figuring out the predominant architecture occurred in the synthesis architecture process.

Step 6: Analyzing the elements of the building in case study according to the synthesis of local and modern architecture in function, form, and meaning.

Step 7: Directly observing the object study as the reference.

Step 8: Writing the study results and conclusion.

4. Case Study

For this present study, two case studies were needed as comparison. The criteria of the case studies were had same function as governmental building and had local and modern expressions. Based on these criteria, two study objects: DPRD Bandung building and Karo Regency Office building were chosen (Figure 3). These two buildings were the used to investigate the principle of synthesis of architecture with local values in modern packing on the building; thereby, these two buildings served as references in applying synthesis of architecture to combine the building requirement and criteria without losing the regional cultures identity.

5. Results and Discussion

Synthesis of architecture is an appropriate approach to combine all criteria and requirements of the building without losing the regional identity; thereby the local signs in the building can be visualized. This approach also reveals the blending of modern architecture as a form of modern (new-comer) cultures effect on the local architecture as a representation of regional culture, in order to influence the performance of case studies architecture.



Figure 3: DPRD Bandung Building (a) and Karo Regency Office Building (b)

DPRD Medan building was chosen as the location and object of redesign process because this building was on the stage of development, and had several shortcomings on the building design based to direct observation, especially in applying the principle of synthesis of architecture modern on local values.

The local values criteria of government building in the two study objects were defined according to the analyses of theory design and theory Hegel. DPRD building is the one building that supposed to be strong in the meaning and symbol to support the criteria of sign or icon in the inner and the outer parts of the building. DPRD building has a function as place to collect the people's aspiration and to display the regional culture through its function. Thereby, it can be said that a successful DPRD building design is the one that is designed in accord with or dominated by local signs and cultures.

The design concepts in each case study (by applying design theory and Archetypes theory) are as follows:

Analysis of the Building Head

The roof of DPRD Bandung building on the supportive mass is a modern roof, a concrete roof (Figure 4). Meanwhile, the main mass of roof used the shape of reversed boat (*perahu kumureb*: Sundanese language) which is in line with the shape of *parahyangan* hut (*saung parahyangan*: Sundanese language) as a basic concept of DPRD building design and as a local culture sign. The used roof structure was modern structure, a concrete frame structure that frequently found with brown aluminum finishing. According to the roof proportion, the roof of supportive mass was greater than the main mass. This can be caused by the bigger size of concrete roof and the hardly visible height of main mass from the entrance. This resulted in modern impression of the roof that is not the character or identity of the DPRD Bandung building.



Figure 4: The View of DPRD Bandung Roof

The application of architecture synthesis was seen from the roof shape of Karo Regency Office building (Figure 5). The building design is inspired by the roof of traditional Karonese house, especially *Sianjung-anjung* house. Karo Regency Office building comprised of two roof, namely *tersek* roof and concrete roof. This *tersek* roof is a local roof that built using light steel frame structure coated with bitumen for modern impression. By using this type of roof, Karo Regency Office building reminded viewers of the culture and identity of Karonese tribe through its architecture.



Figure 5: The View of Karo Regency Office Building Roof

Analysis of the Building Body

The wall of DPRD Bandung building mostly used a permanent wall. The exterior wall of this building used a brick or concrete wall in white color. The use of permanent wall aimed to protect the privacy of the building users as well as to separate the room's functions such as the speaker room, the deputy speaker rooms, the plenary room, DPRD fraction staff rooms, etc. Meanwhile, the partition wall can be found on the workspace. The use of this partition is to prepare the renovation planning which require the change of room arrangement or the addition of room as the increasing number of fraction staffs, or the upgrade of the building's facilities. The exterior of main mass wall was decorated by a local value sign namely batik (a unique traditional clothes pattern of Indonesia) motive ornamentation, which is specific to the local region (Figure 6). This pattern was located on the visible location of viewers or building users. In the meantime, the supportive mass of the exterior wall tended to display a modern significance through the existence of typical pattern. From the overall perspective of DPRD Bandung building, the meaning delivered by this building was in accord with the characteristics of governmental building which is a modern, symmetric, monumental, and democracy building.



Figure 6: Traditional Local Value on the Main Mass Wall of DPRD Bandung Building

The main mass of exterior wall in Karo Regency Office building is adorned with a traditional meaning in the form of local writing of Karonese tribe (Figure 7). This pattern was also placed on the visible angle of either the observers or the building's users. The placing of this ornament followed to the rule of Karonese traditional architecture. On the opening of the building, i.e. window, the glass material used was in a quite large dimension. A large opening with a glass material gives a modern impression on the building but the big size of the window adopted the local cultures element, namely the size of Karonese traditional house window (0.6X1 m²).



Figure 7: Local Meaning on the Main Mass Wall of Karo Regency Office Building

According to the previous discussion, it is evident that DPRD Bandung and Karo Regency Office buildings had their own architectural forms and challenges. Thus, by combining these two building, a design criterion is created to fulfill the design standard of governmental building that represent the synthesis of local and modern architecture (Table 1 and 2).

Table 1: The Concept and Concept Implementation of DPRD Medan Building Characteristics.

Concept	Concept Implementation
Monumental (Hierarchy)	<ul style="list-style-type: none"> ✓ Placing the site on the corner or on the edge of the road. ✓ Placing the building on the highest contour level. ✓ Presenting an opened-space in front of the building, with size at least two times of the building's height. ✓ Using the vertical (tend to be vertical) element.
Formal (Stability)	<ul style="list-style-type: none"> ✓ Using the orthogonal form and tend to be stable. ✓ Forming axis through the symmetric composition, rhythm, and a regular repetition.
Local (Culture)	Using architecture elements and applying ornamentation with similarities to the local cultures icon. Both the element or ornamentation used ideally predominant in the composition of the building.
Democracy (Ideology)	Using forms that have been widely agreed upon the societies as a democracy symbol.

Table 2: Criteria of Design Guideline for DPRD Medan Building

Item	Element	Criteria	Explanation
Head	Roof	<ul style="list-style-type: none"> ✓ Using local roof type ✓ Dimension and distance should be two times of building's height or in accord with the view angle of observer. ✓ Roof is transformed without losing its local value. ✓ The of roof form used ornament which is in line with the local architecture. ✓ Roof structure used modern system. 	The form used on the roof is not necessarily a conventional roof. A modern roof with specific pattern that give identity of the local values is also a good alternative.
Body	Column	<ul style="list-style-type: none"> ✓ Column as a structure element is given a finishing that support local culture characteristics. ✓ Using a grid with 6m folded size for column. ✓ Column is a round-shaped one, in line with the local architecture. ✓ Column is coated with a local architecture craving. 	The implementation of local values on column structure is mainly located on the most visible point of pass-by observers. The column demonstrates an opened impression through the glass wall.
	Wall	<ul style="list-style-type: none"> ✓ The ornament, in the form of sticker, is given to add local atmosphere on the glass wall. ✓ Using glass material as a natural lighting. 	
	Door	<ul style="list-style-type: none"> ✓ Locating the main door in the middle of building's composition. ✓ Giving the door frame a specific pattern of local architecture. 	The implementation of local value on the door is not necessarily use conventional material. Modern material such as glass, can also be used by adding a local motive on it.
Foot	Stage	Column structure on the stage system is in round-shaped, according to the stage system of local architecture.	Stage system delivers a floating impression that can be applied by according to the room's function.
	Floor	<ul style="list-style-type: none"> ✓ There is a difference of elevation. ✓ Using pattern of local elements. 	The implementation of floor's pattern on the building should consider the meaning of that pattern.

Room	The inner room of the building is given a firm hierarchy on the floor based on the adopted traditional architecture to reduce the impression of self-built modern architecture.	The partition walls, made of glass and concrete, are given local-identity accents or motives.
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6. Conclusion

The conclusion of this study is the findings from the investigation of both case studies: DPRD Bandung and Karo Regency Office buildings in relation to the implementation of architecture synthesis theory in DPRD Medan building. As a governmental building, DPRD architecture should be able stand as an icon of its region in introducing the local cultures. This aim should not be separated with the building's function as the people's aspiration place. The iconic of this building should also demonstrate local signs and is incorporated in the building's functions.

The predominant aspect of architecture synthesis in DPRD Bandung building was the batik ornament of West Java province made of aluminum material. This ornament was located on the most visible spot of observer. In addition, the overall view with a thick wall of the building demonstrates a colonial architecture style. This is in accord with the designer concept in delivering democracy impression by adopting the Bandung city iconic land mark, namely Satay Building (*Gedung Sate*: Indonesian language) on the building wall. Modern elements were given using a concrete roof which hardly supported the tradition of where the building located.

Meanwhile, on the Karo Regency Office building, the synthesis of local and modern architecture was predominant on its roof, wall, column, and ornament elements. The roof adopted local architecture and was packed with modern architecture. The ornament in the building also dominated with local signs. The placement of ornament in Karo Regency Office building was in accord with rule of ornament placement in Karo architecture. Ornament could be found on the building column and on the bottom part of the building, made of concrete and striking color so that it is visible from the outside or inside of the site. Modern element in these two cases overall could be seen from the glass and concrete uses of the wall and from the flat shaped of the roof, as well as the light steel use with bitumen finishing on roof structure.

Thomas Thiss Evensen approach (Archetypes in Architecture) that categorizes the architecture elements into three parts: head, body, and foot, was greatly aided the author in classifying every architecture element on both case studies' sign and meaning. Without classifying these elements into head, body, and foot (as suggested by Archetypes theory), the investigation of supportive elements in forming the room's form and expression in the DPRD building will be difficult. The involving of element into the symbol is the predominant sign that reformulate as a design guideline of government buildings in order to preserve the local culture and tradition. Thus, it can be said that the approach of local and non-local (modern) architecture synthesis is closely related in formulating the design guideline of DPRD as a regional iconic building.

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