The Crux of Minimalist Architecture: A Local Strategy of Housing Design in Jakarta or a Break Free from Traditions?

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Abstract. During the 1950s, the idea of Minimalism presents itself as one of the response of the search of universal language in art and architecture. This particular style, which was started as an art movement, has received many critics in the relation to the loss of art but nevertheless Minimalism has spread all over the world and influenced many disciplines, including architecture. In minimalist architecture, elements of design convey simplicity, basic geometrical forms, with no decoration, and the use of white color, modern materials and clean spaces. The “less is more” movement in architecture, which can be seen in the works of Mies van der Rohe and also in the International Style that celebrates materiality and rationality, is also understood as Minimalism. Moreover, an important historical connection to minimalist architecture is the relationship to popular representations of how the upscale modern family lived. Recently, the idea of minimalist architecture appears in Indonesia as a preferable housing style. Adapting minimalist architecture to be suitable for a tropical climate can be done partly by modifying the forms and the microclimate such as using passive system approach or additional equipment that creates comfort in the building. This paper investigates the idea of minimalist architecture in Jakarta, Indonesia, and how the idea is widely used for housing. Some questions related to this study are investigating whether minimalist architecture in Jakarta shares the same principles with minimalist architecture in its earlier time or it is only a trend in housing design. Not only this study analyzes the moment when the idea of Minimalism develops in the history of modern architecture but also some important characteristics of minimalist architecture in different era and space. In addition, this study also discusses how minimalist architecture that happens in Jakarta becomes a way of dealing with both modern and local conditions, including a break free from traditions.

1. Introduction

The International Style is known as a major architectural style emerged in the 1920s and the 1930s and this Style is a result of dissatisfaction of eclectic buildings of a mix of decorative elements from different architectural periods and styles. This modern style is the dominant tendency in Western architecture and the idea of finding a universal language in architecture that has spread worldwide. The term is first used by Hitchcock and Johnson for the architectural exhibition of Modern Architecture: International Exhibition for the Museum of Modern Art (MoMA), New York, held in 1932. Since the International Style emphasizes more on architectural style and aesthetics and lacks social aspects of the modern movement promoted in Europe, architects are able to use this universal language in different countries. The idea of the International Style spreads widely after the World War II that leaves destruction and the need to rebuild cities as soon as possible and to fulfill the need to...
build houses and buildings. In addition to this, the growth of industries has caused the production of new building materials in large-scale and architects start to design buildings by using mass-produced materials.

According to William Jordy [1], the characteristics of International Style are:

- Abstraction; physics of an object is simplified by reducing the ornaments to get the main essentials of the object.
- Neutral color; white or black are classified as neutral color, because it doesn’t show any emotion.
- Exposed materials; materials like steel, concrete, and glass is used because those are industrial products and do not need complicated finishing.
- Simple geometric form; cube is used mostly it is a neutral form and using cube means reducing the possibility of historical traces.

Minimalism is also interpreted as diffused boundaries or smudged borders, which means that sometimes the artist or the architect blur the gap between two objects in order to create a unifying effect [2]. Moreover, Hitchcoock and Johnson [3] also state that the most common characteristics of the International Style are rectilinear form with almost no ornamentation, open interior spaces and the use of modern materials such as reinforced concrete, glass and steel.

In its earlier stage, the International Style offers two patterns that are seamless and membranous walls. Architects make some modifications to those patterns as a result of their own interpretation of the style. During the 1920s and the 1930s, the use of new materials such as glass, concrete and steel were still limited. As an example of the application of the International Style’s principles is the Farnsworth House designed by Mies van der Rohe in 1949. The design of the house is simple with a cube-shape, uplifted piles as the foundations and glass walls (see Figure 1). The house is divided into three segments with eight piles as its main structure. The distance between two columns was probably related to the possible wide span of the materials. The house is known for using new technology and materials for both structural and non-structural parts, including concrete and glass. The glass walls also gave support to the whole structure since they stood from the floor to the ceiling. For the stairs, the architect used plain horizontal steps from concrete, and marble for the floor. The architect painted the wall with white color. Mies van der Rohe implemented characteristic of the International Style into his design and in this way he created his design identity.

![Figure 1. Mies van der Rohe’s Farnsworth House](image)

Unfortunately, this building has received some critics from the owner, Dr. Edith Farnsworth. One of the reasons is because the ventilation was really bad. The whole building had only one opening, which was the door, that made the air circulation inside the house very bad. Moreover, the owner could not have the privacy because of the glass walls. The owner was afraid that someone watched her from outside the building. “…The truth is that in this house with its four walls of glass I feel like a prowling animal, always on the alert. I am always restless. Even in the evening. I feel like a sentinel
on guard day and night. Mies talks about his ‘free space’: but his space is very fixed... Any arrangement of furniture becomes a major problem, because the house is transparent, like an X-ray.”[4]. In short, the owner felt that the house failed to give her a privacy.

Although the Farnsworth House does not function well as a weekend home for Dr. Edith Farnsworth, technologically, this house is one of the most successful example of the International Style applied for a building with a good relationship between inside and outside and in maximizing the use of modern building materials. In 1950s, people started to accept modern industrial products for buildings, including standardized measurements from fabrications, and exposed materials. However, this acceptance also marks a new problematic phenomenon of losing traditional meaning of a house. Some other critics for the International Style is that after the 1937 this style has more individual expression of the architect but not of the owner, moreover, the building cannot adapt well to the surroundings because the house is designed following the architect’s personal tastes and preferences.

In relation to the physical condition of a house, new materials such as glass, concrete and steel prevent the building to cope with its surroundings and its local context, and this condition causes the building to become unable to respond well to the site and local conditions. Like the case of the Farnsworth House, the use of modern materials also makes the building unable to fulfill the owner’s needs. As the result of those critics and failures of the International Style, some architects started to find a more personal approach to the site. The work of Le Corbusier after the 1937, for instance, started to put the site and the psychological comfort of the space for the users as more important than the technological consideration [1]. However, the most important critic of the International Style, which is its inability to adapt to the surroundings and local conditions, nevertheless occurs.

The search of the universal architectural language still continues, including during the 1960s with the idea of Minimalism, known as the climax of modern art and architecture before a shift into postmodernism [5][6]. The term Minimalism is used for an exhibition at Museum of Modern Art in 1960. Minimalism is brave enough to come out and said that art should not be framed [5]. Minimalism is typified by artworks composed of simple geometric shapes based on the square and the rectangle. Minimalism is an extension of the idea that art should have its own reality and not be an imitation of some other thing such as a landscape or a person. With this highly purified form of beauty, minimalist avoided overt symbolism and emotional content, but instead called attention to the materiality of the works as well as order, simplicity and harmony.

In architecture, minimalist idea glorifies a style in which things come down to its simplest, most necessary elements [7]. This kind of architecture was widely accepted as part of new interpretations of modern architecture and the dynamics of reductive and clean elements. Moreover, in minimalist architecture, there are some beliefs that the knowledge of materials – including the understanding of the limits and the way those materials work – as well as the lived experience of the viewer could create a harmony in architecture. The objective of minimalism is not about an object or a building but the client, the person who is going to use the space or see the building. This is the reason why minimalist architecture should be considered as an architectural style, especially after the fall of the International Style to create an adaptive design language, an opportunity to use products of industry and the needs of housing. Minimalism in architecture, is usually understood as rooted in the works of De Stijl, its rectangular forms and primary colors, as well as the designs by the pioneer of modern architecture, Mies van der Rohe, a German architect who laid the ground work for less is more. The designs are honest, in terms of being exactly what they look like and delivering nothing more than they promise [8].

In Jakarta, Minimalism in architecture became a trend especially since early 2000’s. Minimalist architecture also typically uses basic geometric shapes, white colors, open-plan spatial arrangements, straight elements, flat roofs and modern materials such as steel, concrete, and glass. However, does minimalist architecture also engage the idea of minimalism in art and architecture just like in the West? And how does the use of this style contribute to the understanding of space?

The object of this study is a residential building designed by the architect Andra Matin in 2009 located on Jalan Bangka VIII, South Jakarta. Andra Matin is known for simple and modern designs
that attempts to show a dynamic interplay of internal and external boundaries. The concept of the building is very similar to other Andra Matin’s residential works such as I&L House and IH House with dominant geometric form, floating platform and open plan. The concrete structure holds the floors - open but non private spaces on the lower level and private spaces on the upper level – creates a floating effect to the whole building. The architect puts the service areas such as kitchen together with the swimming pool on the lower level in order to create more private spaces for the family on the upper floor. Andra Matin’s identity in his residential also includes the idea of contrast – between inside and outside – and hierarchy of spaces – such as public and private [9][10].

Figure 2. Andra Matin's Residential Work Comparison

The owner of the house has changed for three times and there are some changes made to the functions of the rooms although the façades stay the same. The land is approximately 1,600 square meter with two-stories building. The current family who live in the house since 2013 consist of seven people (a father, a mother, a daughter, a son, a grandmother, a servant, and a security). The father spends most of his time working outside the house while the mother mostly stays at home as a housewife. The daughter studies at the Universitas Indonesia while the son studies at ITB Bandung. The grandmother, the servant and the security spend most of their time in the house. The family have changed some function of the room, for instance, the former fitness room on the lower level is now an audio room used to for Playstation and karaoke, and the study room is now a bedroom for the grandmother. It is the intention of this study elaborates how the design of the house is influenced by the idea of minimalism, which arguably has been adapted by the architect and, and analyze how the family adapts to the house’s design.

2. Methods
Since this paper focus on how a building reflects the principles of Minimalism, it is necessary to have literature surveys on minimalism especially in architecture. In order to get information of the house, we conducted field research and did an interview for the family members who live in the house and studied Andra Matin’s design from secondary sources. We then analyze how the minimalist thinking affects the design of the house and how the inhabitants live inside the house.

3. Results & Discussion
Minimalist architecture becomes a trend in Jakarta, especially for middle class people because it gives simple and good expressions for the house and modern lifestyle for the owner. Moreover, minimalist architecture is sometimes associated with a modern and high class architecture since it looks different from the surrounding buildings. A clean and geometric form with flat roof does not actually refer to common tropical house. A typical tropical house is known for having some openings for cross
ventilations, as well as dominant and extended roofs. Minimalist architecture should be adaptable to the needs of its inhabitants’ needs and local contexts since the original ideas are actually transported from the West. Below are some discussions of the characteristics of minimalist architecture from the house in Bangka, South Jakarta.

3.1. Physical Conditions of the House

The walls of the building are approximately ninety percent made from glass with only few openings, since the house is air-conditioned. The number of openings on each level are only four but they are relatively small. In minimalist architecture, a glass wall can be used to make a boundary, and at the same time gives a transparency and a connection between inside and outside. In the house, a glass sometimes creates a boundary to separate two activities that has no problem with transparency, for instance in living room. A glass wall is used to separate the interior and the exterior, and replace the function of a solid wall. This separation occurs in some walls facing the pool and some walls facing the entrance. The glass walls absorb the sunlight and illuminate the whole house during the day. However, without air conditions, the house is very hot and the air circulation is very bad even though all of the windows are open. At some windows, the owner use curtains to reduce the heat. Depicted in Figure 3 are some glass walls and areas in the house with bad air circulation, especially during the day, because of the lack of openings.

For materials, the architect uses concrete columns and walls as structure and boundaries. Solid materials like concrete gives more privacy therefore the concrete walls are used for dividing the interior of the house. For example, there is a concrete wall to separate the guest area and the living room to create boundaries and privacy. In this way, the family can freely use the living room although there is a guest in the guest room. Approximately ninety percent of the façades use glass materials.

3.2. Functionality of the House

Figure 3. The glass walls of the house.

Figure 4. Concrete walls separates the guest and the family areas.
The main building is used by the family to do their daily activities. Only the grandmother stays most of the time in the pavilion – which is used to be a study room – since she has some physical constrains. In this way, someone can assist her whenever she need a help.

As shown in Figure 5, the mother has various activities and occupies many areas in the house. The father usually has less activities in the house comparing to the mother. After coming back from his office, the father usually spends sometimes sitting next to the pool. The first child usually does her activities next to her mother. She also uses her bedroom or the study area located on the upper floor. The second child spends most of his time outside for his study at a university. When at home, he spends his time with the family in the living room or spending his time alone in his own bedroom. The maid spends most of her time during the day in the kitchen, sometimes cleans the whole house, and she stays in her room during the night. The security occupies his space near the main gate. He sometimes accesses the kitchen though the pathway.

The house implements some principles of minimalist architecture through the idea of geometric form and open space in the rooms. As a result, one can feel that the house form is a combination of some boxes and planar surfaces. The house form is an abstraction of geometric form and living conditions such as an open space to support family activities. The use of neutral color and exposed materials, especially concrete and glass, give simplicity and create boundaries between different activities and inside-outside. The compact design of the bedrooms on the upper level and open spaces on the lower level forces the inhabitants to gather and care of each other.

The house has different owners from the first it was built until now. Some functions of the rooms also change. This indicates that the owners did some adaptation to the house although in some cases the house may not support the changes very well.
Figure 6. Changes in the room functions includes the security area, the guest room and the grandmother’s room.

Figure 6 shows how some changes in the function of the room. The guest room of the late owner is changed into the security area since the location is not in the main building that indicates hierarchy and different level of relationship with the family. The security area faces the main gate that makes this room very strategic to see who is coming to the house. The former family room is now a guest room while the former study area is now the grandmother’s room. However, since the study room is made mostly by glass walls, this room does not give good privacy. The owner then put curtains all over the room. The former fitness room, with the glass wall looks straight to the pool, is now an audio room. This room was changed because the whole family like to sing and the children like to play electronic games. Unfortunately, because the only access to the room is through the master bedroom, the room is rarely used especially by children.

From our interview, the owner decided to buy the house because the location of the house is strategic. The location of the house is not on the main street, which gives more privacy for the owner. The family seems to be happy to live in the house especially with Andra Matin’s signature of minimalist house. The glass façade of the house does not bother the family like Dr. Edith Fansworth felt about her house since the site of the house is hidden from the main street. Moreover, open spaces resulted from the glass walls on the lower level of the house supports the gathering activities of the family. The separation of service area and a pavilion for the security also enhances the privacy of the family. Unfortunately, there are some disadvantages of the house. The glass wall on the upper floor makes the air circulation becomes very bad and the house becomes very hot during the day. The audio room, which was designed at first as a fitness room but now is completely very solid and close, cannot be accessed from outside the master bedroom. Thus the occupancy of the room is very low. A study room which is now converted into the grandmother’s bedroom gives only little privacy to the occupant.

4. Conclusion
The house on Jalan Bangka, South Jakarta, does implements some principles of minimalist architecture such as using exposed industrial materials, neutral colors, and a simple cube form. The house design is most likely following the taste of the architect since his design always uses industrial materials, neutral colors, and a simple cube form. It seems that in designing the house, what comes first is the idealism of the architect then the consideration of owner’s need and lived experience in the house. Although the building can adapt well to the needs of the current owner, yet it still produces some disadvantages of design, especially in relation to adaptation to local context and privacy. As a way to fulfill the need of the family, the current owner of the house need to adjust the function of the rooms according to the needs of the family.
In discussion in this study has shown how the idea of minimalism is used for house design, with the application of general principle of geometric form, open layout, the use of concrete and glass material and white color. However, the use of minimalist architecture has no connection to the concept of abstracting art and architecture to the simplest and purest form but to follow a trend and give modern identity to the house, away to common practice of tropical house. With the use of minimalist architecture, the house cannot actually give a certain comfort for tropical climate without the support of air conditioner and in the case of privacy with the support of curtain. The owner can tolerate the inability of the house to support their needs so they change some part of the house for their convenience. In short, minimalist architecture glorifies a style in which it all comes down to its simplest element but unfortunately sometimes does not adapt to local contexts. This is the crux of minimalism. No matter how ideal the architect design the building, nor how far the architect wants the building to get away from traditions, in the end, it always comes back to the people who use it.

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