JAZ Jurnal Arsitektur Zonasi

p-ISSN 2621-1610
e-ISSN 2620-9934

http://ejournal.upi.edu/index.php/jaz - e-mail: jurnal_zonasi@upi.edu
doi.org/10.17509/jaz.v5i2.41403

METAPHOR APPROACH IN ARCHITECTURE DESIGN: IN SEARCH OF ITS IMPLEMENTATION KEYWORDS

Article History:
First draft received:
13 Desember 2021
Revised:
10 Februari 2022
Accepted:
15 Maret 2022

First online:
15 Maret 2022

Final proof received:
Print:
27 Juni 2022

Online
1 Juli 2022

Jurnal Arsitektur ***ZONASI*** *is indexed and listed in several databases:*
SINTA 4 (Arjuna)
GARUDA (Garda Rujukan Digital)
Google Scholar
Dimensions
oneSearch
BASE

Member:
Crossref
RJI
APTARI
FJA (Forum Jurna Arsitektur)
IAI
AJPKM

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Abstrak: Petunjuk Bidang ilmu arsitektur telah memasuki era post-modern. Era ini sekaligus mengangkat kesadaran dalam menghidupkan kembali nilai tradisi dan budaya. Sebagai salah satu gaya post-modern, arsitektur metafora juga memiliki konfigurasi tertentu yang menjadi karakter perancangannya. Namun ada perdebetan terkait apa yang yang diterapkan pada mettraafora, diantaranya apakah hanya hal konkret yang mengidentifikasi metafora dan bagaimana penerapan sesungguhnya sehingga dapat valid disebut metafora. Upaya dalam menciptakan metafora dalam perancangan bagaimanapun menghadapi tantangan terhadap tuduhan "penjiplakan" dan "tidak masuk akal". Dalam hal ini, dianggap penting melakukan kajian terhadap metafora. Oleh karena itu, kajian artikel "Pendekatan Metafora Dalam Perancangan Arsitektur: Mencari Kata Kunci dalam Pengimplementasiannya" ini bertujuan untuk menyajikan pemahaman terkait metafora dalam perancangan yang dilakukan melalui analisa mendalam. Kajian ini menggunakan metode kualitatif dimana data-data terkait metafora dikumpulkan dan disaring dari sumber-sumber literatur. Fokus kajian yaitu: cara dan nilai penerapan metafora. Peneliti melakukan praktik melalui perancangan sebuah gedung institusi sebagai metode lainnya dalam memperoleh gambaran yang lebih baik terkait pengaplikasian metafora. Data dianalisis dan disajikan dalam bentuk naratif dan gambar digital. Studi ini menunjukkan bahwa rancangan metafora dapat berupa bentuk tak berwujud (nilai) maupun berwujud, dan nilai yang dikandung tersebut terkait dengan: cara hidup, tradisi di antara masyarakat, dan kreasi benda budaya.

Kata Kunci: Arsitektur metafora; perancangan metafora; tak berwujud; berwujud.

Abstract: *This Architecture field has been brought to the era of post-modern. The awareness of reviving the tradition and cultural value has been lifted ever since. As one of architecture style of post-modern, metaphor architecture is too too configure certain thing as the design characteristics. But there were argues as what to be applied, i.e is it solely concrete things what metaphor means and how is it to be valid to be called a metaphor. The effort to create metaphor in design is somehow challenged by the judgement of "copying" and "nonsense". In this regard, the need of metaphor study appeared strongly. Thus, this current study aims to bring the understanding of metaphor in design by doing deep analyzing. This study followed qualitative methods where the data related metaphor is collected and inducted from literature sources. To mention the focus of study: methods and values of metaphor implementation. Authors conducted a practice designing an institute as another method used in gaining a better overview of applying metaphor. The data were analyzed and presented in narrative and digital drawing. The study showed that metaphor could be in form both of intangible forms (values) and tangible forms, and the value it holds is somehow related to: the way of life, tradition among community, and the creation of cultural object.*

Keywords: Metaphor architecture; metaphor design; intangible; tangible.

1. Introduction

In the field of architecture, the approach to design have various methods and in which portraying it certain values. To mention one of them is metaphor (Hekkert & Cila, 2015). In hopes of giving rise responses from people who enjoy or use the works, metaphorical architecture presents an allegory or expression of the form that is embodied in building (Abarchitects, 2013). Being an effective role-played in creative processes, Aristotle was the first philosopher known in history who pointed out metaphors (Ayiran, 2012), which he remarked that it was metaphor which most produced knowledge midway between the unintelligible and the commonplace (Neo, 2010).

Since the time metaphor was collaborated in architecture (Fez-Barringten, 2011), many designs of public building has brought this style as its architecture approach: the Unité d'Habitation building (Casakin, 2019), Menara Wisma BNI 46, Jakarta; Bank of China Tower; Beekman Tower, New York (Prihutama, 2020), and Crystal Palace (Ayiran, 2012).

Whereas a main goal of architecture is to produce outcomes with defined character, metaphors can help to confer strong identity to a building (Casakin, 2019). Nevertheless, since it is carry/borrow the idea of its original thing, which simply termed as the target and the source (Hekkert & Cila, 2015), the sentiment of "copying" and "nonsense" as it is applied in two totally different form and function is appeared strongly. In the other hand, there's no fixed or formal rule that limits any expression of art and design. Accordingly, it goes to personal taste and as long as it does no violation.

Regardless of the recurrent use of metaphor in architecture, few empirical studies centered on the aid provided by this tool in the design process (Casakin, 2019; Neo, 2010). Thus, many questions emerged related to how the target and the source that are ostensibly different can be matched in the process to produce the work of metaphor architecture. Through this paper, these questions are discussed and eventually presenting the characteristics of metaphor by a list of keywords. This study contributed to gain a clearer idea related to metaphor architecture characteristics and how to bring it into practice to the party which take interest in metaphor architecture specifically and in architectural field generally.

2. Methods

A number of study literature has been carried out to collect data related to metaphor architecture consist of:

1. Definitions
2. Methods of implementation
3. Precedents

Table 1. List of Precedents

PRECEDENTS
Arken Museum of Modern Art
Wisma BNI 46
Bank of China Tower

Sumber: Analisa, 2020

All those data were studied to deduct the methods and value in implementing metaphor into architectural design by finding the keywords that then presented in table form. Those finding then used as the basic principles in designing a project and presented to open more discussion whether the application can easily be executed or vice versa. The project that was carried was an institution and the "things/object" that is appointed to be applied in the design are the proper Islamic outfit look, the values on Islam perspective, and geometric value related to it. Thus, the project layout and facades are presented and then analyzed the challenges of it.

3. Results and Discussion

3.1 Definition, Methods Of Implementation And Precedent Of Metaphor Architecture

Metaphor in architecture is an attempt to interpret something by describing an object with another object, as well as trying to see an object as something else (Antoniades, 1990; Lino, 2020). Kinds of metaphor implementations are as follows:

a. Intangible Metaphors (abstract metaphors) are metaphors that move from something invisible (not formed) such as ideas, concepts, human nature, individualism, naturalism, communication, traditions, culture and also religious values.
b. Tangible Metaphors (concrete metaphors) are metaphors that depart from the visual form or certain characters of a real object. Usually the objects that are used as a foundation are objects that have special value in the community group.
c. Combined Metaphors, are a combination of abstract metaphors and concrete metaphors. Combined metaphors compare a visual object with another object that has a conceptual value with its reference object (Antoniades, 1990).

Accordingly, the fundamental variables of each kind of these implementations are presented in the table below (Dora, 2018).

Table 2. The variables of Metaphors Implementation

Kind of Implementations	The fundamental variables of Metaphors Implementation
Abstract	Conceptual Values and Non Visual
Real/Concrete	Visual and Specification/ Characteristic
Combined	Visual Object and Conceptual Values/Non Visual

Source: (Dora, 2018)

In a metaphor, two objects or ideas that are ostensibly different are brought together because they share an underlying property (Hekkert & Cila, 2015) and similarity (Sapitri, Mauliani, & Sari, 2019). A major characteristic is that they facilitate understanding a concept through another concept that is not evidently associated with it (Casakin, 2019). The concept of pouring an object to another object just like from a cup to a bowl is the metaphor used by Apple to figure the easily file transfer from a device to another (Hekkert & Cila, 2015). Both, Apple products and objects (cup and bowl) appears in totally diferent form and shape but sharing same function: to contain or accommodate another object that fit in them. The transferred objects is different as well. In this regard, one is in soft file and another is in concrete form. They unnecessarily share similar or transformed shape, nevertheless sharing an underlying property. The keyword found is in Table 3.

Table 3. Keywords of metaphor (1)

Metaphor Implementation
The source (idea) and the target (design) unnecessarily similar (or has any particular similarity) in form but necessarily sharing similar activity/function/property/nature: easy;hot; passionate; boring; friendly; protective; etc.

Source: Analysis, 2020

Moreover, it could be understood more by the source: fire, and the target: love, in the phrase: love is fire (source). It portrays how love, which refers to abstract form, could be as burning as fire, which is concrete form. Both source and target share an underlying property which is burning, warm/hot, and passionate (just like how the fire flame is dancing/moving). So metaphor consists in giving the name that belongs to something else (Ayiran, 2012).

Table 4. Keywords of metaphor (2)

Metaphor Implementation
The source (idea) and the target (design) have their own term but both are identified and sharing similar activity/function/property/nature: easy;hot; passionate; boring; friendly; protective; etc.

Source: Analysis, 2020

One of precedent taken into this study is Arken Museum for Modern Art (Figure 1).

Precedent : Arken Museum of Modern Art
Architect : Soren Robert Lund
Year : 1996
Location : Copenhagen, Denmark
Function : Museum

This museum applies the theme of Combined Metaphor. The architect of this museum tries to tell the narrative of the wreck, consequently, the application of the Arken Museum Architectural concept illustrates the narrative of a ship (Figure 2). Located in an atmosphere with the surrounding sea, the shape of the ship's wreck thereby adding to the impression of a building that resembles a ship. Conversely, the exterior of the Arken Museum does not show the actual shape of the ship because this museum applies a combined metaphorical theme so that it raises a narrative. Both from the exterior and interior and the elements contained therein give off a nautical atmosphere. Being the part of community, the surrounding sea and the ships have somehow influenced the way of community lives. Thus, metaphor here tried to figure the way of life around the object of design.

Figure 1 Exterior of Arken Museum
Source: (Team, 2017)

Figure 2 Metaphor in Arken Museum Exterior
Sumber: (Team, 2017)

Table 5. Keywords of metaphor (3)

Metaphor Implementation
The source and the target does not show the actual shape but both could share (almost) similar form/geometry.
The tangible metaphor doesn't necessarily be applied for the whole shape of one single building but could be just part of it.

Source: Analysis, 2020

The points of the table above will be more well explained by the design of Wisma BNI 46 (Figure 3) which is located in Sudirman street, Jakarta-Indonesia, which designed by Zeidler Robets Partnership and DP Architects Private Ltd (edupaint.com, 2003). To create facade's building, the designer took pen as the source of metaphor. The pen's common visual image of a pen appears strongly at the top building while ignoring the detail (e.g the original shape which usually cylinder and the cap features). Being the part of work-related item, pen have somehow influenced the perception of community that it is necessary item for office. Thus, metaphor here tried to figure the tradition among community around the object of design.

Figure 3. Wisma BNI 46
Source: (edupaint.com, 2003)

Bank of China Tower (Figure 4) took bamboo as the source of metaphor (Prihutama, 2020). Being the part of China since its traditional era (Luo, Ahmed, & Long, 2020; Yuming, Kanglin, Shengji, & Jiming, 2004), bamboo is somehow an important object in China's culture. Thus, metaphor here tried to figure the creation of cultural object into the design. Meanwhile, design that show strong and almost original feature to the whole building has its own and different term: mimesis, Imitation (Lino, 2020; Muktiono, 2017).

Figure 4. Bank of China Tower
Source: (Dewolf, 2019)

3.2 Implementation Of Metaphor Into Design

Authors intended to gain the better insight by carrying out metaphor design practice. Since all kind of building function was free to be carried as the practice, authors then brought Islamic Fashion Institute to the light with some reasons:

a. No precedent building with the designated function in town
b. A function that was currently needed in regard to the high interest of youngster in Islamic fashion field including being the designer.

In this regard, authors borrow Muslimah outfit as the source of metaphor design. Muslimah is Islamic term for Islam women. The highlight to the implementation was: "Muslimah outfit which protect Muslimah". There are values and restriction at the same time in Islamic law that were believed will give a broader insight in metaphor practice challenges once it was affected by those terms and condition which here is related to Islamic law, such as significantly no people or animals applied on the building's wall, etc (Petersen, 1995).

The design of Islamic Fashion Institute applies combined-metaphor architecture which harmonize abstract/intangible metaphor, in form of the values of universal Muslim clothing, with concrete/tangible metaphor, in form of visualization of universal Muslim clothing and Islamic geometries. The values of Muslimah clothing considered by the fulfilment of fundamental requirements, which are quoted in the book titled "Hijab Al Ma'rah Al Muslimah fil Kitabi Wa Sunnah (Shaykh Al Abany)" (Al Abani, 2016). Those requirements that must be fulfilled for *Muslimah* clothing according to syar'i, namely covering the *aurat* (one's body except certain parts), not see-through, not tight to the extent exposing the curves of the body, not functioned as jewelry, not resemble any certain prohibited object and not overdo it (Al Abani, 2016).

Furthermore, the values studied of Muslimah clothing are as followss:

a. Protected from sunlight and wind (severe weather)
b. preventing mistreatment that comes from a variety of criminal behaviors
c. Providing a sense of security, comfort and calm
d. Portraying a person's personality who avoids feeling arrogant

In that regards, the following is the implementations of the values of Muslimah clothing in the design of Islamic Fashion Institute:

a. Protected from sunlight and wind that is implemented by providing enclosures and secondary skin of the facades especially those on east and west side to minimize direct sunlight.
b. Preventing mistreatment that comes from a variety of criminal behaviors which implemented by placing a variety of vegetations on certain spots in the design to reduce dust and direct noise that can badly disturb building users which placed in inner and outer building (Figure 5).

Figure 5. Inner court in Islamic Fashion Institute Design (Source: Amalia S, 2020)

The vegetation that suit the most to be placed into the design are those that can reduce noise by having a density of leaves as well as overall bushiness. The following are types of vegetation in the form of ornamental plants and trees to reduce noise and remove dust more optimally. As for the ornamental plants, the selection of the kinds that the most effective for that purpose is based on the study that has been ever carried out using a measurement tool called a sound level meter. The kinds are as follows (Tjahjono & Nugroho, 2018):

a. Imodia plants with a 16% reduction of noise. Imodia plants then are placed throughout the open space of the building.
b. Red shoot plants with a 12% reduction. Red shoot plants of noise then are placed throughout the open space of the building and also throughout the site's street dividing the area between the building and parking area.

The purpose of using Imodia plants and red shoots for open space is to reduce noise in the area where the initial spaces are functioned for taking a brief break or having discussions, thus the activities mentioned above and mainly the teaching and learning process can run smoothly without noise disturbance. Meanwhile, the placement of them throughout the site's street and parking area are to reduce the noise disturbance from the motorbikes and cars.

As for trees, the kinds that suit the most to be placed into the design are as follows (Resiana, Lubis, & Siahaan, 2015):

a. Kiara Umbrellas which can absorb sound waves by the twigs, branches and leaves. They are placed throughout the open space.
b. Acacia. They are placed around the edge area of the sites

The selection of these trees are also for buffering purpose that are reducing noise disturbance, sun shading, as well as for blocking the wave of dust to the building and site.

c. Providing a sense of security, comfort and calm which is implemented by using precast metal (GRC) that is applied on the building enclosures in order to reduce solar heat (Figure 6).

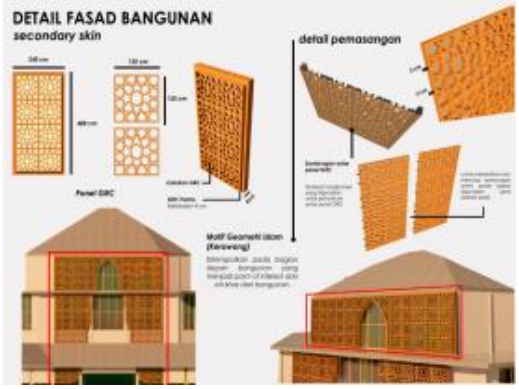

Figure 6. Placement and design of GRC applied in Islamic Fashion Institute facades (Source: Amalia S, 2020)

Consists of a mixture of cement, sand (fine aggregate), fiberglass, and water with alkali resistant fibers added, Glassfibre Reinforced Cement (GRC) is produced as a precast product. The material in the GRC. GRC weights lighter than other precast concrete products and can be made thinner in form of GRC board or GRC panel. It is more flexible in constructing thus can be time-saving as the size of it is also very precise as it uses one type of molding according to the design. GRC also has the ability to absorb heat, resistance to certain weather or temperature as it contains resistant alkaline fiber (Prasetyawan & Wardhono, 2018).

The material used for the upper part of the building which is roof covering is zinc spandex roof. Spandex zinc roof itself is made of a mixture of aluminum and zinc. The ratio used in the manufacture of zinc spandex is 55% aluminum and 43% zinc then the rest is silicon. The advantages of using spandex zinc itself include easy workmanship, relatively affordable price, durable and anti-corrosion (Umar & Rosyidah, 2019).

The material used for the building is lightweight bricks or called AAC (Autoclave Aerated Concrete) is concrete with a combination of sand, lime, cement, gypsum, water and aluminum paste. The advantages of lightweight bricks are relatively affordable and economical prices compared to red bricks, lighter and stronger, faster process, not flammable, waterproof, and soundproof (Pah & Karels, 2018).

Furthermore, the material used for the lower part of the building which is the floor is ceramic. Ceramics are composite materials that feature higher temperature resistance, wear and corrosion that are much better but have brittle properties (Subiyanto & Subowo, 2003). The other advantages of using ceramics are that they are resistant to moisture, durable, easy to clean and have a variety of options whether in size or pattern (Setiawan, Arifani M, Yulianto, & Aji, 2017).

d. Portraying a person's personality who avoids feeling arrogant which implemented by the form of the simple facade to avoid exaggeration in material/decoration usage. Thus, facades are consisted of a simple wooden vertical motif mainly on the east and west sides of the building (Figure 7).

Figure 7. Simple designed facade (Source: Amalia S, 2020)

Meanwhile, the concrete metaphor which applied into design are the visual of universal Muslimah look according to how it is depicted in Quran. Thus, the implementation borrowed any form of geometries and should not contradict with Islamic law. In geometry aspects, there are certain values within certain geometries in Islam, such as circle which symbolizes *tawhid* (the faith that there's only one God), rectangle which symbolizes the world, triangle which describes harmony in Islam and conviction as a human being, the hexagon symbolizes heaven and the spread of Islam, the repetition of the pattern symbolizes the infinite power of Allah in Universe (Maghfirah, 2019). The implementation of them in the design are as follows:

a. The universal Muslimah look in proper Islamic outfit (figure 8) is transformed into the form of a series of geometric to be applied as the basic shape the of layout (figure 9). Here rectangle were mostly used to insert the symbol of world into design.

Figure 8. Muslimah Outfit Look
Source: ('Pertama Kali, Fashion Show Muslimah Gunakan Tema Pandemi Covid-19', 2020)

Figure 9. The Transformation of Muslimah Outfit Look into The Shape of Layout (Source: Amalia S, 2020)

Here showed that the source and the target does not show the actual shape but both could share (almost) similar form/geometry. Moreover, the source could undergo cut and fill in attempt to adjust the need or the challenge of planning and designing to create the target.

b. The silhouette of universal Muslimah look in proper Islamic outfit is applied as well to the southern facade of the building vertically with addition of details in the form of Islamic geometries which functioned as focal point of the facade (Figure 10). Here the top forms triangle which describes harmony in Islam and conviction as a human being.

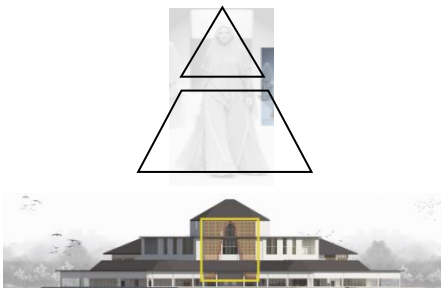

Figure 10. The southern facade of the Islamic Fashion Institute portrays the silhouette of Muslimah outfit (Source: Amalia S, 2020)

4. Conclusion

As long as the values of the sources are clearly identified, the implementation to the design/target in metaphor approach can be brought out to any kind of ideas or form. The final result may won't generate or link it to the actual sources when perceived by the eyes. But somehow, when the viewers get the information about the source that is implemented to it, the viewers can see undoubtedly the underlying property that the two shared. This is how to recognize metaphor. There are also no restriction that limit metaphor, even though in this case Islamic law has restriction toward design, there were not found contradiction with metaphor, as metaphor itself share no limits to creativity and forms. A major characteristic is that they make it easier to understand a concept through another concept that is not evidently associated with it.

The metaphor architecture possibly can be put into practice by applying concrete and abstract value of the object intended which form a combined metaphors. Implementing metaphor would also connect the building with the context of

where it is situated or what it is for. A transformation of real or original visual can be a method to form a basic shape which suitable to site and all others aspects in considerations/analysis. In case of abstract value, a variety of implementations could be carried out as long as the meaning/value is strongly adapted. Thus, rather than accusing metaphor is imitating and non sense, it is suitable to say that accusing metaphor is imitating is a non sense instead. Designs that bring obvious characteristics of the source to the target hardly termed as metaphor since it contains "ostensibly" as one, but not the only one, of its basic characteristics. On the other hand, design that show identical or almost original feature to the whole building is classified to mimesis or imitation. Here how metaphor should be free from the accusation of "copying" and "nonsense".

More varieties of implementations and keywords of metaphor may still unrevealed by this study. Thus, other buildings with metaphor approach are still left room to investigate.

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