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Doctrinal Criticism of Design BRIN Museum in Bogor City

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ABSTRACT

Museums play a crucial role in preserving and protecting historical artifacts. The BRIN Museum in Bogor City is designed as a facility related to archaeology and human natural history, and includes supporting facilities aimed at generating revenue. The museum's design integrates the form of Indonesian artifact buildings, specifically through a transformation planning approach that follows the shape of Nusantara temples. The goal is to preserve Indonesian cultural elements while showcasing modern and innovative architectural work through a Neo Vernacular approach, which applies traditional themes in a more contemporary manner suited to the current era. This research employs a doctrinal architectural critique method on the design of the BRIN Museum. The study uses a descriptive qualitative method, with data collection techniques involving primary data from the designers and secondary data from literature. The research highlights several design aspects that successfully integrate cultural preservation with modern architectural innovation, thus providing a precedent for enhancing the museum's design to better align with cultural and educational objectives and challenging the notion that incorporating elements from the past is always associated with being outdated.

Keywords: architecture; critism; museum; neo vernacular

1. Introduction

Indonesia is rich in cultural heritage and history. Various relics from the past can be found in the form of legends, documents, and artifacts obtained from different places across the archipelago. These historical objects are significant as part of the identity and heritage of the Indonesian nation, which will be passed down to future generations [1]. Museums play a crucial role as places of learning and archiving material objects [2] as evidence of the natural and social cultural heritage of the archipelago. Museums serve as evidence of the dynamics of Indonesian history and cultural development [3].

A museum is an institution that functions to protect, develop, utilize, and communicate its collections to the public. Museums also strive to protect, develop, and utilize their collections in an integrated manner through policies of planning, implementation, and supervision for the greatest possible benefit to society. Museums have the responsibility of conducting research, providing education, and offering enjoyment, as regulated by the Indonesian government [4].

The National Research and Innovation Agency (BRIN) is a government agency that reports directly to the President and is responsible for organizing various activities related to research, development, evaluation, application, innovation, as well as nuclear and space activities in an integrated manner [5]. BRIN's duties

include collecting and managing resources, particularly concerning budgets and human resources, with the goal of becoming a provider of research infrastructure across various sectors. BRIN's primary focus is on enhancing the added value of natural resource wealth in various regions, and on utilizing and optimizing research potential for national economic development.

BRIN manages and optimizes resources to enhance the added value of natural resource wealth through the development of research infrastructure, including in sectors related to archaeological collections and natural history. As an institution dedicated to protecting and developing collections, museums leverage this infrastructure to preserve and exhibit artifacts and historical relics. BRIN's planning of museum construction plays a crucial role in supporting the advancement of knowledge, cultural preservation, and public education. Both entities work synergistically to achieve common goals in advancing national science and culture.

BRIN has appointed PT. Yodya Karya Persero to design the infrastructure development and display facilities for archaeological collections and natural history. This planning is led by Mr. Albert Herizza as the Lead Architect, who employs a neo-vernacular architectural approach to produce a modern design while still respecting and reflecting local wisdom. This approach ensures that the museum's design is not only aligned with current architectural trends but also preserves important cultural elements.

Architectural criticism is a complex discipline involving the analysis and evaluation of works based on various criteria such as aesthetics, functionality, symbolism, and cultural context [6] [7] [8]. It is crucial for developing critical thinking skills among architecture students, helping them distinguish between good and poor architectural practices [9]. This process is often interdisciplinary, integrating ideas from various fields to provide a comprehensive assessment of architectural design [6]. Through critical analysis, critics aim to understand, interpret, and communicate the essence of architectural works, contributing to an ongoing discourse on the importance of architectural criticism in both academic and practical contexts [10]. Therefore, a critical perspective on BRIN's initiatives should not be seen as a negative judgment but rather as an opportunity for improvement and development, offering constructive insights to enhance design quality.

The planning of the Museum of Archaeology and Human Natural History in Bogor City is an effort to integrate research infrastructure, aiming to create a comprehensive and diverse research environment. Facilities such as laboratories, co-working spaces, and museums are essential elements in supporting scientific activities, facilitating the exchange of ideas among researchers, and storing and exhibiting scientific results to enhance public knowledge. Meanwhile, critical perspectives can be seen as a constructive means to detail and improve the quality and positive impact of this planning initiative.

Basically, humans analyze events, interpret or try to understand what is around them [11], make decisions from among various choices, and follow procedures from one step to another. One can differentiate, filter, describe, explain, and interpret using available media and then write it down [12]. This study uses the Normative-Doctrinal Criticism method for the architecture of the BRIN Museum in Bogor City, designed by Mr. Albert Herizza. Normative-Doctrinal Criticism is used to reveal the basis for architectural design decisions applied in the design process. It encompasses aesthetic values, ideological ethics, and the designer's singular perspective [13]. Through Normative-Doctrinal Criticism, many architectural theories are developed, such as "form follows function," "function follows flow," "less is more," and "ornament is crime".

1.1 Doctrinal Criticism

Doctrinal critism is an approach to the critical analysis of works of art and design, especially in the context of architecture [12] . According to Shaw (1956), doctrinal criticism is based on the belief that a certain approach can achieve the goal as well as being a standard measure of the success of a work. This approach is generally referred to as One best wayism. In the context of architectural design decision-making, four types of doctrine are identified as the improver because of these points: (1) innovative thinking; (2) learn from the past failures; (3) keeping up with emerging patterns and adapting to them; and (4) improving quality with the times. These points are an overview of the various approaches or doctrines that can be taken in making decisions in the context of architectural design, each with its own focus and characteristics.

Doctrinal criticism tends to adopt a singular point of view that assumes there is one best way to achieve a goal and one standard for measuring success. While this can be advantageous for designers, it can be detrimental for critics when architectural doctrines are unclear. Architects who adhere to a specific doctrine may feel they are on the side of 'right.' Some critics argue that this approach has drawbacks, such as not necessarily meeting all functional requirements of a building. Critics in the field of architecture are expected to provide feedback to designers about the implications of relying on doctrinal principles as the basis for design, even though such doctrines are not inherently forbidden. Architectural doctrines evolve from observation, learning, and experience over time, resulting in the development of new doctrines in design [13].

1.2 Neo Vernacular Architecture

Neo-Vernacular architecture is concerned with the re-application of existing architectural elements, both in physical form such as form and construction and non-physical such as spatial concepts and philosophies. The aim is to retain within a culture the local elements that have been formed through information [14]. This process involves regeneration, either partially or completely with the aim of creating more futuristic and new architectural works. Neo Vernacular architecture is a revolution of vernacular architecture with criticism of modern architecture [15]. The characteristics of Neo-Vernacular architecture are: (1) forms that apply cultural elements into the planning, which are poured into the physical form of architecture (plan layout, details, structures and ornaments); (2) not only physical elements are applied to neo vernacular architecture, but also non-physical elements such as culture, mindset, beliefs, and layout that refer to the repetition of the same pattern starting from the largest size to the smallest size; (3) the products produced with the application of Neo Vernacular architecture produce new rich works, especially in terms of visuals.

The philosophy of Borobudur Temple, according to Sagimun (1997) in the book "Our Oldest Historical Relics", explains the meaning of the word punden in Javanese, which carries connotations of honor or glorification. Additionally, the term stepped punden refers to a sacred building with a terraced or stepped shape. Typically, a punden berundak has an odd number of levels. The Borobudur Temple embodies a philosophy of life's journey and generally consists of three levels, each with its own significance: (1) Kamadhatu (the realm of lust), which is associated with desire and lust, is considered the underworld or realm of desire. Humans at this level are bound by their desires and can be controlled by impulse and will. This concept is reflected in the temple's structure through a row of reliefs hidden beneath the temple's base; (2) Rupadhatu (the tangible realm) is interpreted as the intermediate world or the world related to physical form or appearance. It describes the stage where humans have relinquished all desires and passions, and this idea is illustrated by the temple's square shape; (3) Arupadhatu (the intangible realm) is a higher realm or world without form or shape. In this phase, humans have achieved total freedom and have forever given up all attachments to the temporary world. This section can be found at the top of the stupa at the temple's summit (Figure 1). In conclusion, the concept describes man's spiritual journey to achieve liberation from the lusts and horrors of the temporal world.

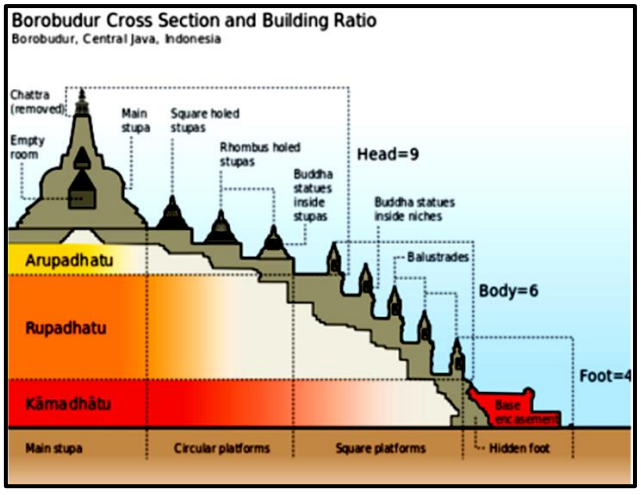


Figure 1. Countainer Cutout and Building
Source: https://borobudurpark.com

2. Method

The Normative-Doctrinal Criticism method is a descriptive research approach that utilizes qualitative methods to analyze and evaluate research objects. In this study, data collection is carried out meticulously, involving an in-depth review of literature relevant to museum design, architectural styles, and various sources discussing architectural criticism. This process aims to understand the design principles applied and the theoretical context underlying them.

The data used in this research consists of primary and secondary data. Primary data is collected through direct interviews with the Lead Architect, Mr. Albert Herizza, who is involved in the design of the BRIN Museum in Bogor City. This interview aims to gain direct insights into the design thinking and approaches employed. Secondary data includes design reports, planning drawings, and literature studies conducted to support the research analysis. This data provides additional context and references necessary for understanding how architectural doctrines are applied in museum design. The research aims to reveal the architectural doctrines applied in the design of the BRIN Museum in Bogor City. By analyzing how design theories and principles are translated into practice, this study seeks to provide a deep understanding of how specific doctrines influence the final outcome of the design project.

3. Result and Discussion

The site where the project will be built is within the LIPI-BRIN area. This area intersects with Jalan Raya Bogor to the west. The site is located at Jalan Raya Bogor, KM 46-47 (Figure 2).

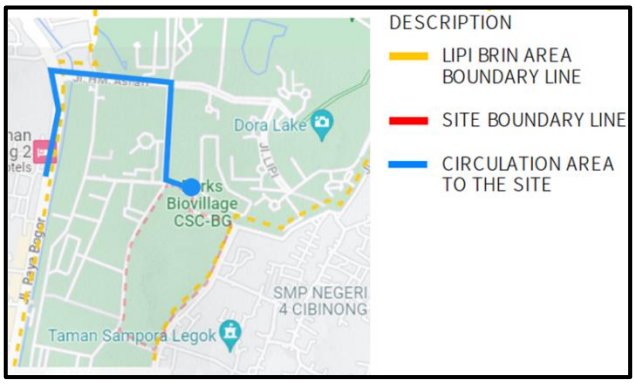


Figure 2. The Location of Museum Plan
Source : Design Report PT. Yodya Karya

Planner Profile

Project Name	:	Infrastructure Development Planning and Display Facilities for Archaeological Collections and Human Natural History
Activity Name	:	Planning Consultant Services
Project Adress	:	Soekarno- Cibinong Science Technology Area, JalanRaya Jakarta-Bogor Km. 46 Cibinong-Bogor Regency-West Java (this is also the same alignment)
Assignor	:	National Innovation Research Agency (BRIN)
Implementation Consultant	:	PT. Yodya Karya Persero
Scope of Work	:	Structure, Architecture, and MEP
Implementation Time	:	150 (One Hundred and Fifty) Calendar Days
Land Area	:	±3.5 ha (Figure 2)
Maximum Building Area	:	37,668 m2 (Without Roof Top=30,850 m2)

Infrastructure Planning and Display Facilities for Archaeological Collections and Human Natural History (Museum) in the science Technology-Soekarno-Cibinong area, Jl Raya Jakarta-Bogor, on an area of (3.5 ha).

The building area is 30,850 m2 with a plan form such as the letter x which implements the small stupas of the temple body ornament. The museum building is one of the supporting facilities of the building which is facilitated by research laboratories, museum displays, libraries, souvenirs, restaurants, cafes and amphitheaters. These facilities are to serve the public needs to the community for study, education and pleasure.

The BRIN museum's mass form is very unique with the concept of the main idea of artifact buildings in Indonesia, namely Sukuh temple. Mr. Albert Herizza as the architect of PT. Yodya Karya raised the concept of stepped punden by going through several stages of transformation of the shape of the building mass adjustment obtained from the results of substraction (Figure 3) or reduction of the shape of the main form which was originally 1 mass divided into 4 masses and the middle mass is a transition area (Table 1).

The Sukuh Temple is located at the foot of Mount Lawu. The Sukuh Temple complex was established in the 15th century during the reign of Queen Suhita, the Majapahit queen who ruled from 1429 to 1446. During this period, the Majapahit Empire was in decline. The Sukuh Temple falls into the classification of stepped punden temples. This type of punden is rarely found in the Indonesian archipelago and is believed to be a revival of megalithic cultural influences in Java during this era [16].

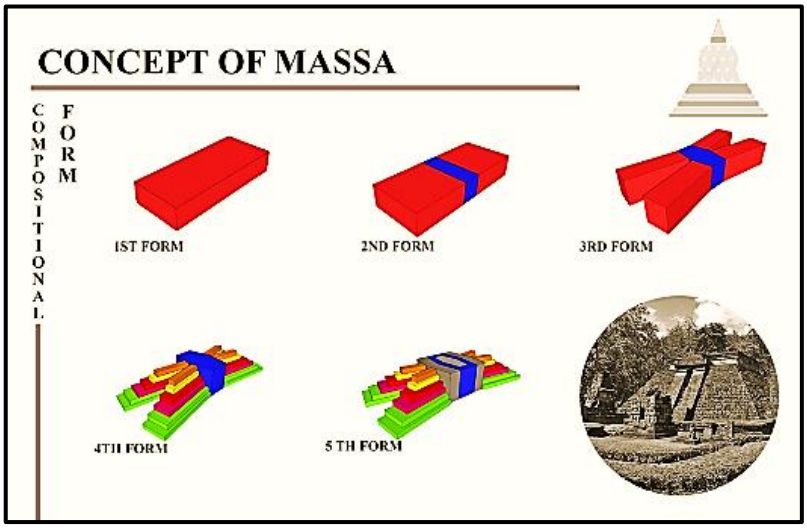


Figure 3. Shapes
Source: Design Report PT. Yodya Karya

Table 1. Concept Analysis of Mass Form of BRIN Museum

Transformation Stage	Concept Analysis of Mass Form
1st form	The rectangular mass of the building adapts to the existing conditions.
2nd form	The building mass is separated into 3 masses (3 towers) with each function. The left and right masses are the masses that will function as the main building (archaeological exhibition, storage, research, etc.). The connecting mass is a transition area.
3rd form	The next building mass is the result of the addition of the main mass conversion form which was originally 3 masses divided into 4 masses.
4th form	The installation of a roof that follows the mass change player accompanied by the addition of fins on each floor gives a stronger impression as a building inspired by the stepped shape of the temple.
5th form	The installation of a roof that follows the mass change player accompanied by the addition of fins on each floor gives a stronger impression as a building inspired by the stepped shape of the temple.

Figure 4. Clearly shows the final transformation of the building mass form study process. The stepped form, adopted from local wisdom in the form of stacked Nusantara temple stones, illustrates the application of the stepped punden architectural principle, which refers to traditional tiered structures. This design not only provides an appealing aesthetic but also integrates local cultural elements into the modern structure. Through its tiered mass arrangement, the museum design successfully creates a harmonious visual appearance rooted

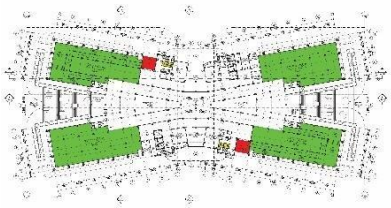
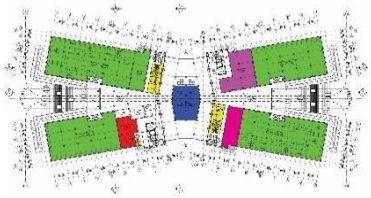
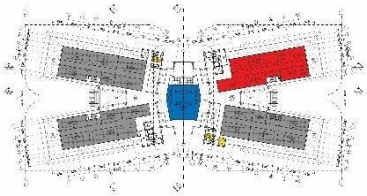
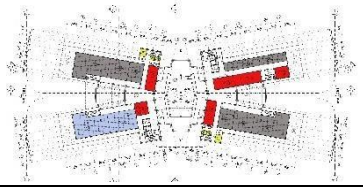
in local architectural traditions. The building not only fulfills its functional requirements but also serves as a symbol celebrating Indonesia's cultural heritage, bridging the gap between the past and future in architectural context.

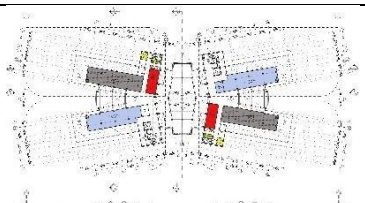
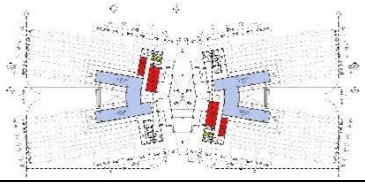
Figure 4. Perspective of BRIN Museum
Source: Design Report PT. Yodya Karya

3.1 Form Analysis

The BRIN museum building consists of 6 floors. The 1st to 3rd floor areas are exhibition rooms and other facility rooms, while the 4th to 6th floors are private areas that are only accessed by staff. There are laboratory and research rooms for study purposes as well as storage rooms for archaeological objects (Table 2).

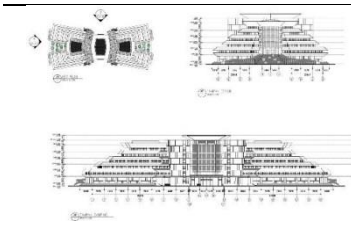
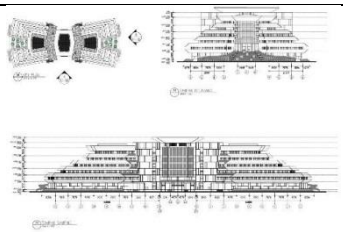
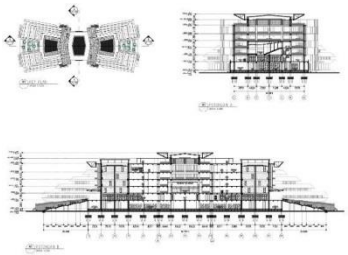
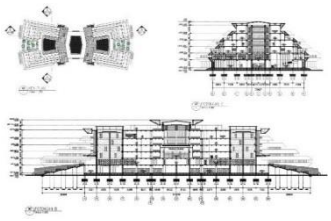
Table 2. Analysis of the Concept of Space Form of BRIN Museum

Floor	Plan	Analysis of Space Form Transformation
1		The transformation process occurs on all floors of the building. Planning the orientation of the space plan produces an x shape according to the space requirements of the building, the first floor plan is intended for the museum exhibition space and display area.
2		The 2nd floor plan is facilitated with public spaces such as a library, souvenir shop and restaurant for visitors to the BRIN museum.
3		On the 3rd floor plan, there is a reduction in the dimensions of the space and the layout of the space adjusts the space requirements to achieve a functional space in accordance with from follow function..
4		On the 4th floor plan, private rooms such as storage rooms for archaeological objects, laboratories, manuscript rooms and other supporting space facilities begin.

Floor	Plan	Analysis of Space Form Transformation
5		On the 5th floor plan, private rooms such as storage rooms for archaeological objects, laboratories, characterization rooms and other supporting space facilities begin.
6		The 6th floor plan is devoted to the study room and master piece storage room in the BRIN museum building.

The transformation of the building's form is evident through the sectional drawings (Table 3) with the stepped punden concept, which gradually alters the building's shape according to spatial needs. The result is a majestic appearance, with sections AA and B-B showing a comfortable interior layout from the north and east, while sections CC and B-B reveal a conical elevation resembling a pyramid from the west and south.

Table 3. View and Building Section

View	Section	Description
		The process of shape transformation takes place across the entire floor of the building. By lifting the concept of stepped punden, it appears to have changed the shape made by subtracting or reducing on each floor by following the space requirements on each floor, which has its own characteristics in the building. The visual appearance of this building is majestic. Section AA and Section B-B of the building to the north and east. Visible pieces of buildings that show the arrangement of the inner space and the comfort of every visitor to the BRIN museum building. Pieces CC and B-B of the building towards the west and south. There is a difference in elevation that is conical to the top floor forming a pyramid-like building.
		

The visual analysis of the BRIN Museum building mass configuration shows that the lower part is designed for public facilities, such as exhibition rooms and displays. The middle section, or the main body of the building, includes semi-private spaces for the storage of historical artifacts and study. Meanwhile, the upper part of the building provides more private facilities, including the main room and research support rooms. Philosophically, this mass division of the building reflects the concept of temple philosophy (Table 4).

Table 4. BRIN Museum Building Mass Analysis Results

Building View	BRIN Museum Building Facade Analysis
	The lower part of the BRIN Museum building is intended for public facilities or activities such as exhibition rooms, displays and other supporting facilities.
	In the center of the building or the body of the BRIN museum building with semi-private space intended for storage facilities for objects of historical heritage and study.
	At the top of the BRIN museum building, more private facilities are intended for the master room and research support rooms. Conclusion: Philosophically the building part This BRIN museum has a mass division according to the concept of the temple philosophy.

3.2 Critique Analysis

BRIN museum planning by applying cultural elements that have a Neo Vernacular concept with the application of existing elements One of the approaches implemented in the BRIN museum research is a type of The Improver doctrine, which is one of the views in the decision-making process. Critique analysis listed in Table 5.

Table 5. Critique Analysis

Aspects of Doctrinal Criticism	Museum	Neo Vernacular	Conclusion
Innovative thinking	Museums are places to preserve and protect objects of historical heritage, facilitate public needs for study, education and fun.	It is a concept that is attached to physical (form, structure) and non-physical (philosophy, concept, and layout) elements.	Think be innovative by altering the shape of building artifacts with modernized in the BRIN museum design.
Learn from past failures	Buildings in Indonesia tend to have similar building forms.	With the concept of punden berundak which is implemented on the museum design BRIN make the shape of the building looks more modern.	Exploring past experiences as a learning reference to correct similar mistakes and create an architectural masterpiece that is worthy of its name. modern.
Keeping up with emerging patterns and adapting to them	Adjustment of patterns to the shape of the museum building.	The idea of form that presents the shape of buildings in Indonesia.	Follow tren ds against changes to keep the design stay relevant and up- to-date.
Improving quality with the times	Museum with the latest design and enhancing the quality of the building.	The museum applies cultural elements and introduces them through an architectural design work.	Have strong desire strong desire at implementation design building museum for improvement and progress.

By exploring past experiences as learning references, architects can correct similar mistakes and create modern architectural masterpieces. Following changing trends ensures the design remains relevant and up-to-date. A strong desire in implementing museum building designs supports improvement and progress. The applied concept includes physical elements such as form and structure, as well as non-physical elements like philosophy, concept, and layout. The application of the stepped punden concept in the BRIN museum design gives the building a more modern appearance while maintaining a form that reflects Indonesian buildings. This museum not only introduces cultural elements through architectural design works but also appreciates Indonesia's cultural heritage in a contemporary context.

4. Conclusion

The Chief Architect employs a neo-vernacular approach in the design of the BRIN Museum by integrating Nusantara artifact elements tailored to the building's spatial and functional needs. The primary concept of the stepped punden form, which includes the philosophies of kamadhatu, rupadhatu, and arupadhatu, is adopted to create a design that harmonizes cultural preservation with modern architectural innovation. This design successfully presents a work that not only honors Nusantara's cultural heritage but also produces a fresh and relevant architectural solution that aligns with contemporary advancements, challenging the notion that incorporating past elements is inherently outdated.

5. Acknowledgment

This research is part of the Mandatory Output of the Independent Learning Campus Program (PK-MBKM) in the Architecture Study Program at the Institut Teknologi Nasional Bandung in collaboration with PT. Yodya Karya Persero Bandung Branch. This research is expected to serve as a learning medium for students about Architectural Criticism, especially the use of the Doctrinal Criticism method, as it is still rarely discussed. It is hoped that this research will have a significant impact on the repertoire of architectural design methods, enabling future architects to design based on the objectives and messages they wish to convey through architectural design. The author expresses gratitude to the Architecture Study Program, Institut Teknologi Nasional Bandung, and PT. Yodya Karya Persero Bandung, as well as Mr. Albert Herizza, and all parties who have assisted in this research.

6. Conflict of Interest

The authors whose names are listed below certify that the manuscript does not have a conflict of interest

Abdul Ihsan Supriatna

This statement is signed by all the authors to indicate agreement that the above information is true and correct (a photocopy of this form may be used if there are more than 10 authors):

Author's name (typed)	Author's signature
Abdul Ihsan Supriatna	

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