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Study of The Analogy Concept on The Building Facade of The Indonesian National Education Museum Indonesian Education University

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ABSTRACT

Museums have various important functions that contribute to preservation, dissemination of knowledge, recreation, entertainment, providing educational insights and research centers for experts and academics. Through their collections and exhibitions, museums help maintain our connection to the past, understand the present, and inspire the future. Various approaches are taken to make visitors interested in coming to the museum. One of the factors that influences visitors' interest in visiting a museum is the building design. With an analogous approach, the design of the museum building becomes more attractive and becomes a special attraction to visit. The concept of analogy in architecture, especially in the facade, functions to convey the meaning and message of the designers. The method used in this research is a qualitative descriptive method. This study found that the facade of the Mupenas building uses symbolic analogies. These analogous elements have strong meaning and symbolism related to education, regional elements and the cultural heritage building, namely Isola. The concept of the future shape of the building and the facade of the Mupenas building uses an analogous concept inspired by various educational elements such as books. Typical regional elements from West Java include Sundanese musical instruments such as the *angklung*, flute and drum and the typical weapon, namely the *kujang*. The art deco style as a cultural heritage building found in the UPI environment is the Isola Building. The use of the analogy concept on the Mupenas facade aims to convey an educational message and to describe the historical journey of education and the history of the Indonesian Education University from the beginning to future plans.

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1. INTRODUCTION

Museums have a preservation goal, namely so that people do not forget and become more familiar with their own cultural riches. One effort that can be made is to provide information about museums to the younger generation. In the period before independence, the purpose of establishing museums was to preserve culture and allow people to get to know their culture. However, the aim of establishing a museum after independence was as a means of non-formal education to preserve and develop cultural heritage. Museums in the midst of society as institutions that serve the community for the purposes of education, research and enjoyment are a benchmark for public awareness in preserving history, traditions and culture (Desvallées & Mairesse, 2010). Museums also have the functions of protection, research, exhibition and recreation (Handayani, 2017).

In its development, a museum has the meaning of an institution whose function is to protect, develop, utilize collections and communicate them to the public. A museum is defined as an institution whose function is to protect, develop, utilize collections in the form of objects, buildings and/or structures which have been designated as Cultural Heritage or which are not Cultural Heritage, and communicate them to the public. (Law No. 11 of 2010 concerning Cultural Heritage, 2010).

Based on Law Number 11 of 2010, there are two types of museums, namely: (a) A public museum is a museum whose collection is a collection of material evidence of humans and/or their environment and provides information in the fields of art, events, scientific and technological disciplines whose collection is like a museum national, provincial museum, district or city museum. (b) A special museum is a museum whose collection is a collection of material evidence of humans and/or their environment and provides information about events, life histories, branches of art, branches of science, or branches of technology, including the Bandung Geological Museum, the National Awakening Museum and the Basoeki Abdullah Museum, Jakarta.

Museums have various important functions that contribute to preservation, dissemination of knowledge, recreation, entertainment, providing educational insights and research centers for experts and academics. A museum is a place to see information, collections of objects, and events from the past (Putera et.al, 2020). In museum development, the need for facilities that support infrastructure and services to visitors needs to be considered (Miazaki & Setiadi, 2019). The modern concept applied to museum design aims to improve the museum's image in the eyes of the public (Hidayatullah & Hawari, 2016). The decreasing interest in museums is caused by the perception of museums as boring, uninteresting, old-fashioned places and so on (Yuliasari & Sari, 2020)

Through museums, one of the goals of education which plays a role in building civilization and educating the nation can be achieved. Museums provide information and insight on a variety of topics including history, art, science, and culture. Various approaches are taken to make visitors interested in coming to the museum. One of the factors that influences visitors' interest in visiting a museum is the design of the museum building (Paramitasari, 2015). Museums must keep up with technological developments with a modern appearance and use advanced facilities so that the information conveyed can be well received and provide insight for visitors (Lelo & Laksono, 2018).

A designer in architectural planning and design uses several theoretical approaches to evaluate the needs of a new building based on data and experience from existing buildings with similar functions or characteristics. One of the form approaches used in designing a building is the analogy approach. In the process, a designer does not imitate the entire

object but interprets the object into an idea for designing a work. Various types of buildings can use an analogous approach, one of which is a museum. With an analogous approach, the design of the museum building becomes more attractive and becomes a special attraction to visit.

The National Education Museum, Indonesian Education University (Mupenas UPI) is one of the institutions that plays a role in preserving the history and values of education in Indonesia. Mupenas UPI has a collection of the history of education in Indonesia, starting from the Dutch colonial period to current education (<https://museumpendidikannasional.upi.edu/>, 2016). Mupenas presents an attractive design because museums have an important role, namely through museums helping to maintain connections with the past, understanding the present and inspiring the future. With an attractive museum building design, it is hoped that it will be able to attract interest in visiting the museum and the interpretation of the museum which is synonymous with an unattractive, uncomfortable and boring atmosphere can change. This study aims to analyze the analogy concept used on the facade of the Mupenas UPI building.

2. RESEARCH METHODS

2.1. Data Collection Technique

This study uses a qualitative descriptive approach using primary data and secondary data. Primary data was obtained through direct observation to object study and conduct in-depth interviews with team leader planners of Mupenas UPI and managers of Mupenas UPI. Meanwhile, secondary data is obtained through a study of theory, literature, and several sources from previous studies in the form of journals, proceedings seminars, and Mupenas pre-design concept reports.

2.2. Research Location

The location of this research was carried out at the National Museum of Indonesian Education, Indonesian Education University, which is located on Jalan Dr Setiabudi No. 229 Bandung. The National Education Museum is located on the campus of the Indonesian University of Education (UPI) Bandung City.

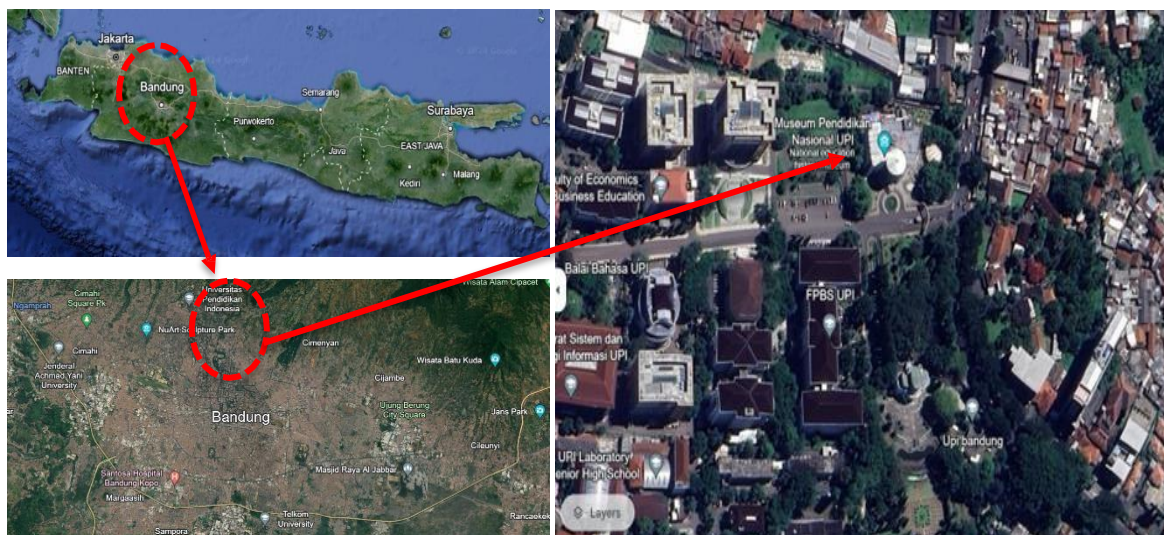


Figure 1. Mupenas UPI location
Source: Google Earth, 2024

3. THEORY/LITERATURE REVIEW

3.1. National Education Museum, Indonesian Education University (Mupenas UPI)

National Education Museum (Mupenas) on Jalan Dr. Setiabudhi No. 229 Bandung and operates from 09.00-15.00 WIB. Mupenas is a combination of a history museum and a science and technology museum which was established to preserve the historical heritage of education. Mupenas has a building area of $\pm 7,118.7$ m² (PT. Daya Cipta Diarancana, 2013a). Mupenas has facilities such as an audiovisual room, AIPT meeting room, inner court, amphitheater and café.

Mupenas consists of four floors with various collections such as dioramas, artifacts, books and archives of the history of education and science. On the first floor of Mupenas there is an audiovisual room, a non-permanent exhibition room, a souvenir room and a room about classical era education which is equipped with dioramas of the prehistoric education system which includes socio-cultural developments, science and technology, and religion. The second floor presents a diorama in the form of a school building and provides an overview of the development of Indonesian education during the classical period, the colonial period, the period of the national movement and the beginning of independence until reformation. The third floor provides an overview of the history of teacher education and the transformation of teachers from the colonial era to the reform era in the form of wax statues. The fourth floor of Mupenas was specially created to present the history of UPI's development from its founding to the present, equipped with a miniature Isola building and a contemporary exhibition space.

3.2. Analogy Concept

The word analogy has a definition as a similarity between two different objects or things. The word analogy can also be interpreted as relating to the transfer of characteristics from a source to an object/process (<https://kbbi.kemdikbud.go.id/>, 2023). According to Geoffrey Broadbent, analogical approaches are divided into three types, namely direct analogy, personal analogy and symbolic analogy (Muslimin & Ashadi, 2020a)

1. Direct Analogy

Direct analogy is an analogy used to compare an object with an object that has the same character and then produce a design idea.

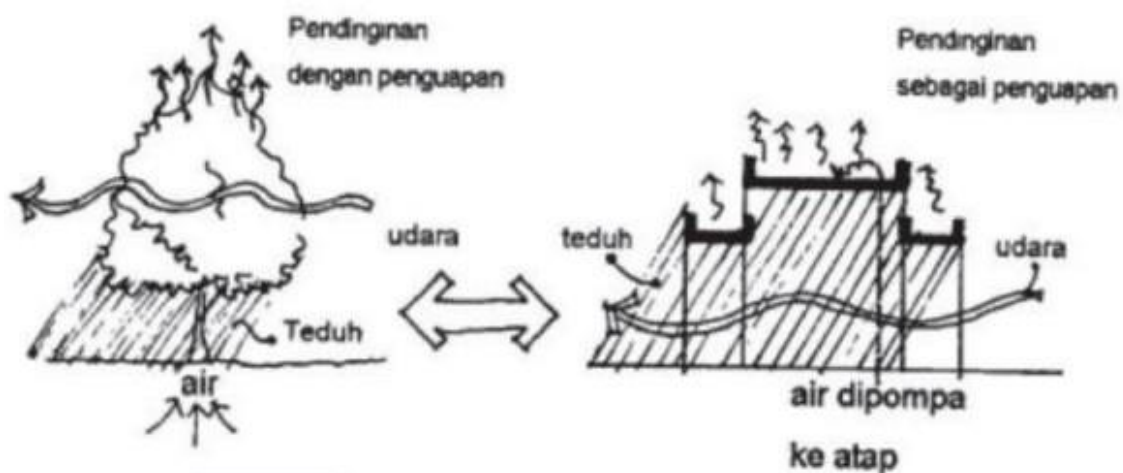


Figure 2. Direct Analogy
Source: Broadbent in Muslimin & Ashadi, 2020b

2. Personal Analogy

This analogy depends on the person's perception of being inside the designed object.

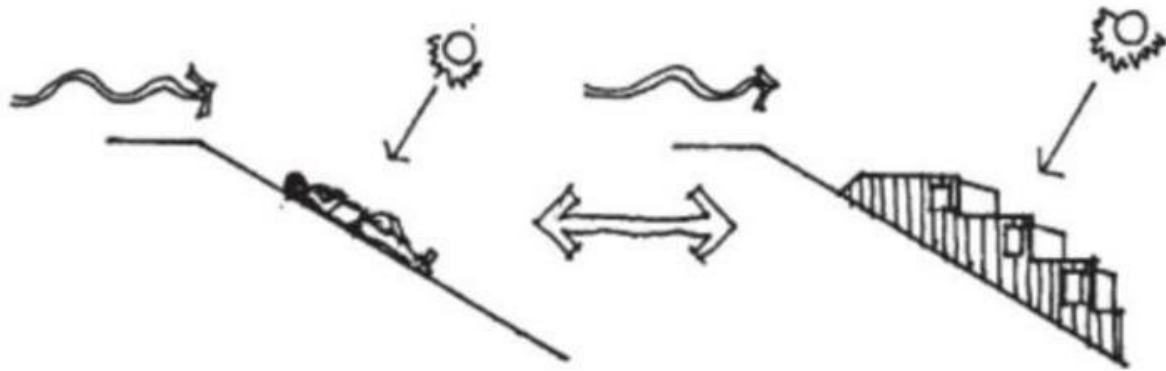


Figure 3. Personal Analogy
Source: Broadbent in Muslimin & Ashadi, 2020b

3. Symbolic analogy can also be called indirect analogy because the object used represents something that is generally known.

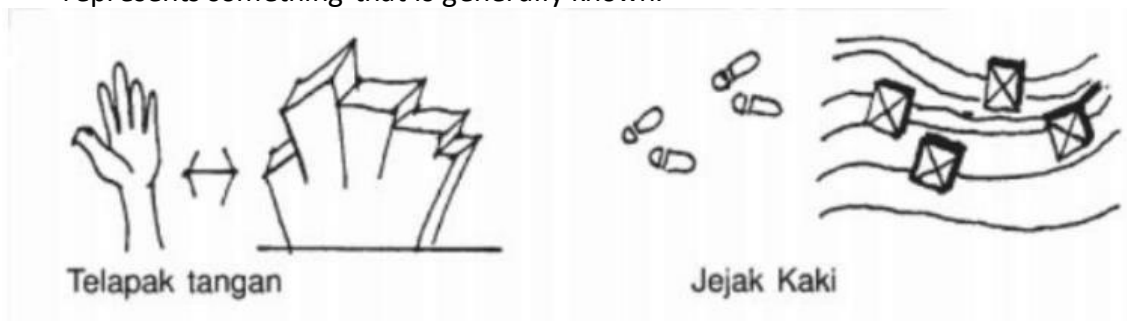


Figure 4. Symbolic analogy
Source: Broadbent in Muslimin & Ashadi, 2020b

The shape search process is divided into 4 categories by Geoffrey Broadbent, that is:

- Pragmatics is an approach through the trial and error experimental stage.
- The creation of shapes is created from existing materials and then processed using existing tools and adapted to the climate.
- Iconic is an approach through traditions or habits that are commonly practiced or based on social agreement, so that tradition is very influential.
- Analogic is an approach that can take the form of natural analogies, the workings of the human body, physical theory, and so on.
- Canonical or geometric is an approach to geometric systems, mathematics, regularities, modules, and so on.

4. RESULTS AND DISCUSSION

Museums are synonymous with storing historical objects and old items. mUseums have an important role, namely through museums helping to maintain connections with the past, understanding the present and inspiring the future. Museums can be a means of imparting knowledge by showing processes from all five senses from what is read, seen and heard. Museum visitors can gain new insight into the history of education in the past, present and future. The Mupenas Design Concept aims to change the way museum visitors can communicate with history with a modern architectural style. The Mupenas design concept aims to describe the history of education and the history of the Indonesian Education University from the beginning to future plans.

4.1. Concept of Building Mass Form

The National Museum Design Concept is based on the physical value and non-physical value approach methods. The physical value is in the form of the site, environment and architectural icon, namely Isola. Meanwhile, non-physical values are UPI's vision and mission, museum function and storyline. The architectural concept of the UPI Mupenas building is Dynamic Symmetrical.

The Mupasi building is located in the northern part of the Indonesian University of Education at a high elevation so that it is more visible from the surrounding area. Design actualizations applied to Mupenas include:

- **Low Operational Cost:** overcome by using a split level circulation system in the building, where in the initial design using escalators.
- **Flowing Circulation System:** and it won't be felt by using split levels (stairs and ramps), the height difference between floor levels is +/- 1 meter.
- **The circulation system uses a ramp:** to accommodate visitors with disabilities.
- **Energy Efficiency** in the building by optimizing natural lighting and ventilation by placing an inner court on the inside of the building.

Within the Indonesian Education University area, there is a cultural heritage building which is the iconic UPI building, namely the Isola building. The Mupenas design adopted the Isola building plan form into the UPI Mupenas. The entrance to the UPI Mupenas Building is on the same line as the entrance to the Isola Building, which is the Imaginary Axis / North South Cosmic Axis towards Mount Tangkuban Perahu.

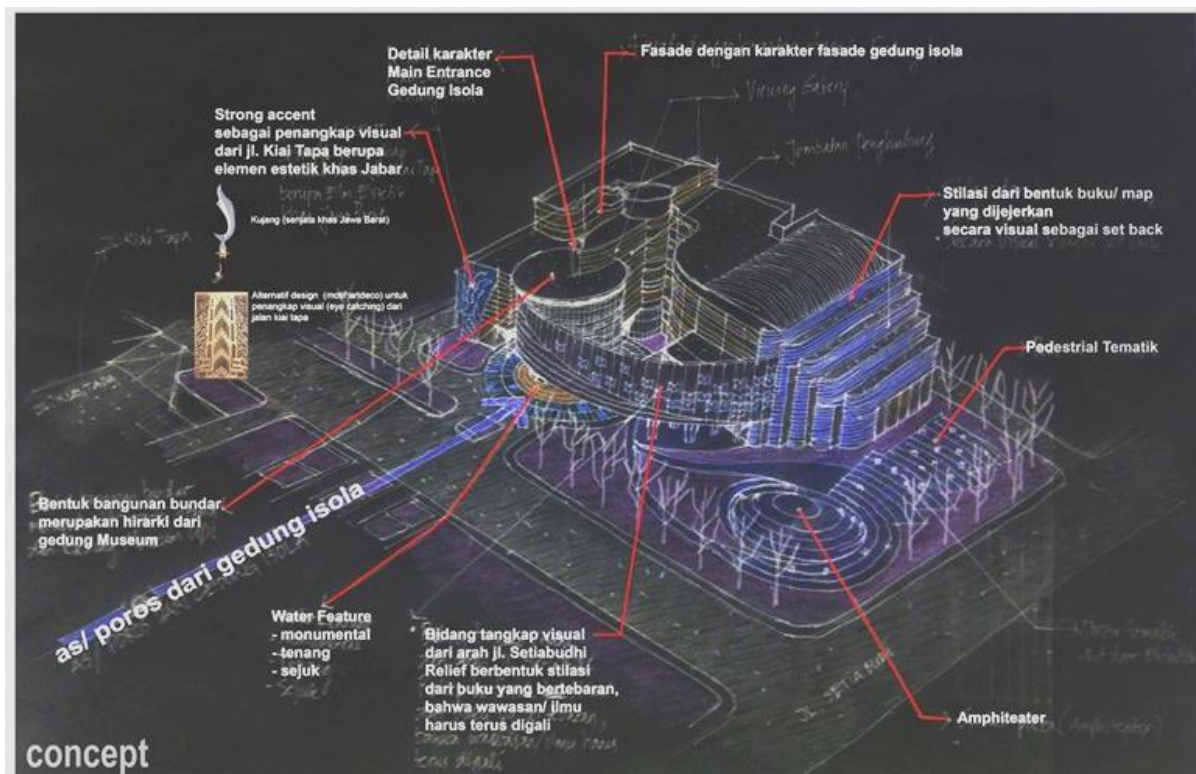


Figure 5. Mupenas UPI Pre-Design Concept
Source:(PT. Daya Cipta Diarancana, 2013b)

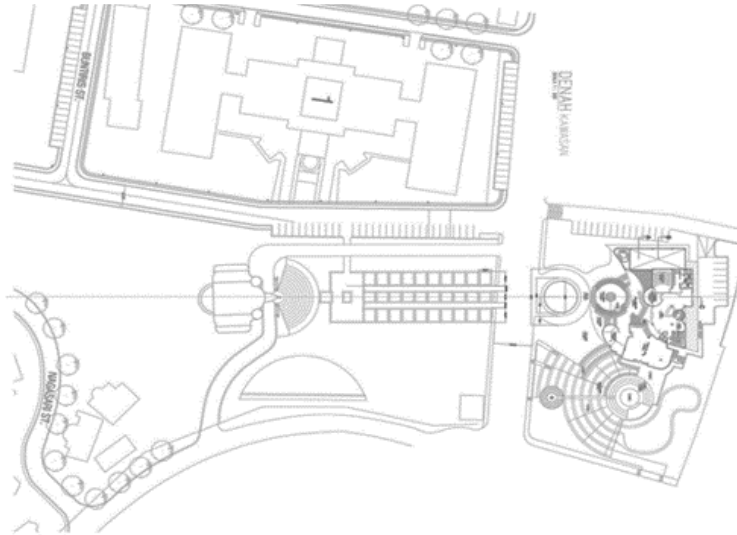


Figure 6. Site Plan for the Isola Building and Mupenas UPI
Source: (PT. Daya Cipta Diarancana, 2013b)

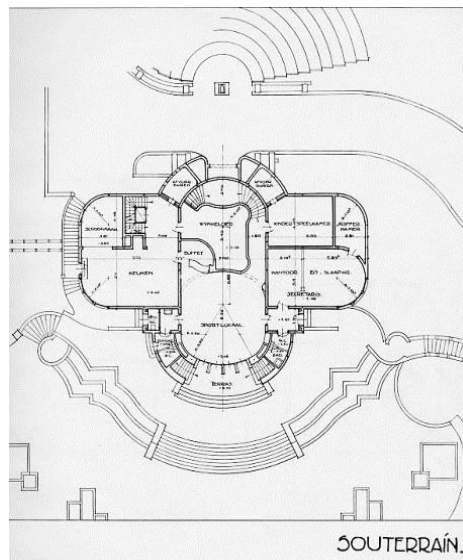


Figure 7. Isola Building Plan
Source: (PT. Daya Cipta Diarancana, 2013a)

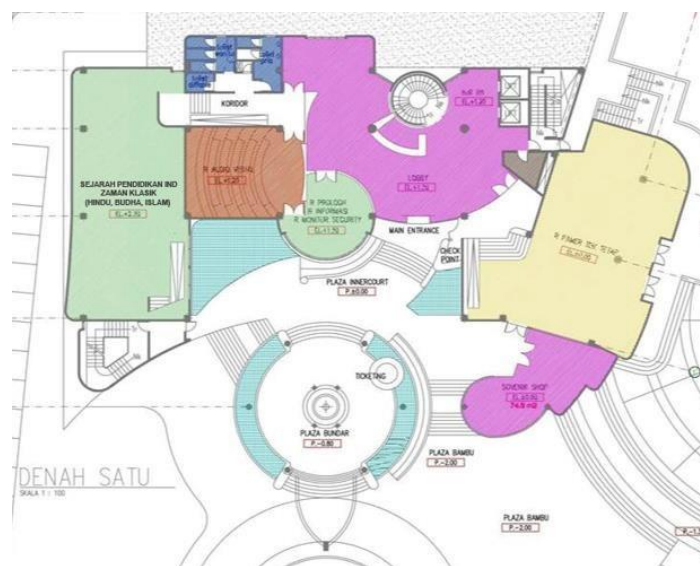


Figure 8. Plan of Mupenas UPI
Source: (PT. Daya Cipta Diarancana, 2013a)

4.2. Identify the Front Facade

The front facade has the design concept and character of the Isola building facade. The determination of the main point on the facade is based on the imaginary axis between Isola and Mount Tangkuban Perahu. The building facade circle is shaped from several periods in the form of a semicircle neatly arranged with tempered glass material. The curved shape is a unified form taken from the Isola shape. The purpose of using tempered glass material is to reflect and reflect the iconic building Isola Building. The Isola building which has become a character/brandmark has become a unified form. Isola elements are used as a unified form.



Figure 9. Form of the front facade
Source: Personal Documentation, 2024

On the facade, the visual capture area from Jalan Setiabudi is in the form of a stylization of scattered books. This means that insight/knowledge must continue to be explored, looking for sources from many things. The material used is Aluminum Composite Panel (ACP). This material is used to adjust the shape of the arch.



Figure 10. Shape of the Side Facade of the Capture Field Jl. Setiabudi
Source: Personal Documentation, 2024

4.3. Identify the Left Side Facade

Museums can be a means of learning for visitors. On the right side of the building, the stylization of book shapes is visually aligned as a set back. Set Back of the building facing Jl. Setiabudhi, not only the attitude/response of the building, but also reflects the book which is arranged vertically which illustrates that the museum is a source of knowledge for educators in particular and society in general. The stylization of books on the right side of the circular building shows that the museum is a very deep insight into science.

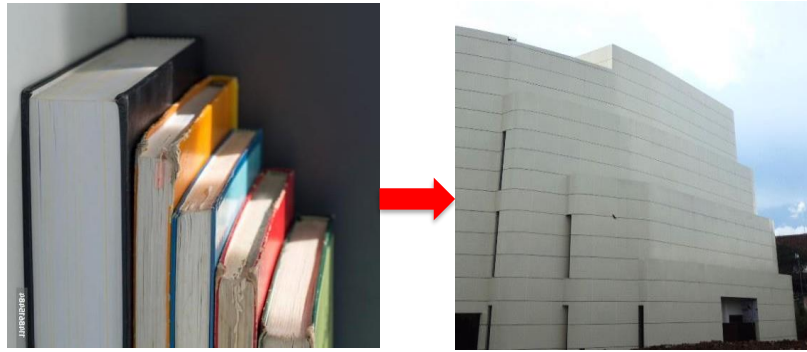


Figure 11. Shape of the Side Facade of the Capture Field Jl. Setiabudi
Source: Personal Documentation, 2024

4.4. Identify the Rear Facade, Right Side and Actualization of the Art Deco Style

The rear facade and right side facade were processed using the Art Deco style and elements of the Isola Building form.



Figure 12. Rear facade
Source: Personal Documentation, 2024



Figure 13. Right side facade
Source: Personal Documentation, 2024

The attitude towards the Isola/Parter/Bumi Siliwangi Building which has an Art Deco style is actualized in the entrance canopy (drop off) and Out Door Café & Roof Garden canopy on the 5th floor.



Figure 14. Art Deco style on the Isola Canopy
Source: (PT. Daya Cipta Diarancana, 2013b)



Figure 15. Art Deco style on the Front Canopy (Drop Off) of Mupenas UPI
Source: (PT. Daya Cipta Diarancana, 2013b)

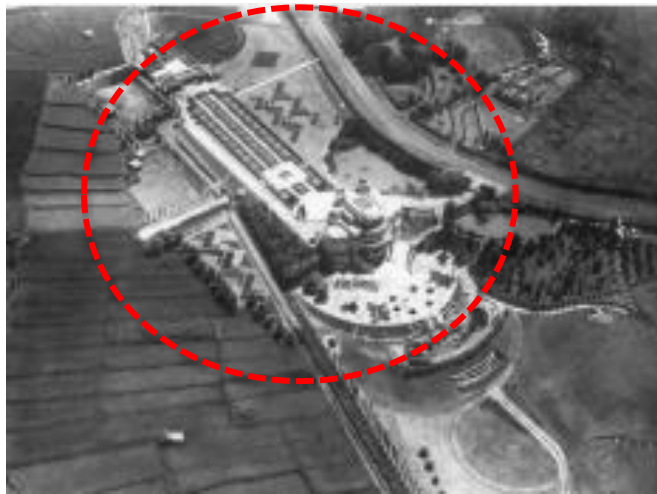


Figure 16. Top view of Isola
Source: (PT. Daya Cipta Diarancana, 2013b)

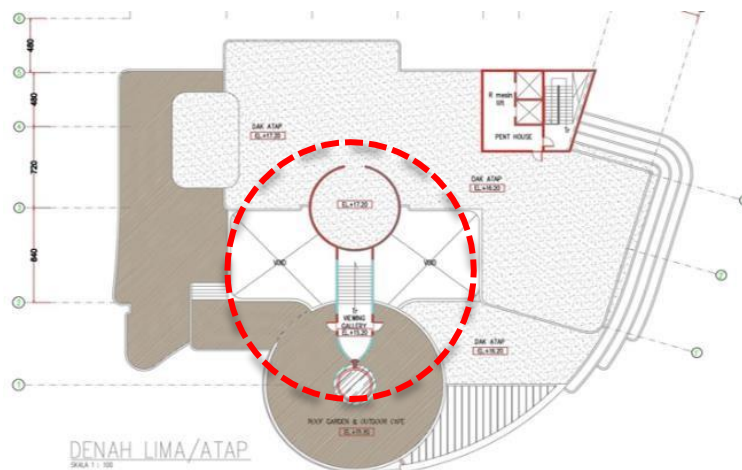


Figure 17. Front View of the Merdeka Urban Hotel
Source: (PT. Daya Cipta Diarancana, 2013b)

4.5. Ornament Details

The ornament details attached to the left side facade and front facade are ornaments made of stainless steel. Regional elements (Sundanese-West Java) with the use of pools and water fountains as well as aesthetic elements in the form of stylized cleavers and Sundanese

crafts in the form of secondary skin. The ornament describes UPI's vision and mission. Gunungan is interpreted as the beginning of education. There are several Sundanese musical instruments such as angklung and drums. The cleaver is a traditional Sundanese weapon.



Figure 18. Details of the Mupenas UPI ornament
Source: Personal Documentation, 2024

5. CONCLUSION

Museums play an important role in preserving cultural and historical heritage, educating the public, and providing places for research and recreation. With various types and functions, museums are important centers of knowledge and culture in society. Through their collections and exhibitions, museums help maintain our connection to the past, understand the present, and inspire the future.

This study found that the facade of the Mupenas building uses symbolic analogies. These analogous elements have strong meaning and symbolism related to education, regional elements and the cultural heritage building, namely Isola.

The concept of the future shape of the building and the facade of the Mupenas building uses an analogous concept inspired by various educational elements such as books. Typical regional elements from West Java include Sundanese musical instruments such as the angklung, flute and drum and the typical weapon, namely the kujang. The art deco style is a cultural heritage building found in the UPI environment, namely Isola.

The use of the analogy concept on the Mupenas facade aims to convey an educational message and to describe the historical journey of education and the history of the Indonesian Education University from the beginning to future plans.

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