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Hypothetigraphy as Architectural Image Diagrams (Case: Wayang Museum, Jakarta, Indonesia)

Undi Gunawan[a]*, Antariksa[b], Purnama Salura[c]

[a] *Post-Graduate Study Program of the Architecture Department of Parahyangan Catholic University in Bandung, Indonesia*

[b] *Architecture Department of Brawijaya University in Malang, Indonesia*

[c] *Architecture Department of Parahyangan Catholic University in Bandung, Indonesia*

[a]*Email: oenggun@yahoo.com*

[b]*Email: mr.antariksa@gmail.com*

[c]*Email : purnamasalura@yahoo.com*

Abstract

This paper presents a spatial study using a model of diagrammatic description that is based on hypothetigraphy. In doing so, it highlights the descriptive nature of phenomenology and the significance of architectural images. The term hypothetigraphy is a neologism coined by Manfredo Massironi to describe a particular kind of graphic that fosters relations between the structural entities of things and their abstract properties. It is thus an intermediary between representational and non-representational visual forms. The term is used here as an entry point for developing a flexible interpretative model of diagrammatic description based on a case study of the Wayang Museum (Puppet Museum) in Jakarta, Indonesia. This study illustrates how hypothetigraphy diagrams of the Wayang Museum enable the identification of spatial thresholds that lead to a deeper understanding of architectural images.

Keywords: hypothetigraphy diagram; architectural image; Hypothetigraphy Diagrams; the Wayang Museum in Jakarta

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* Corresponding author.

E-mail address: oenggun@yahoo.com

1. Introduction

This paper presents a spatial study that applies a model of diagrammatic description based on hypothetigraphy. In doing so, it highlights the descriptive nature of phenomenology and the significance of architectural images. The term hypothetigraphy is a neologism coined by Manfredo Massironi to describe a particular kind of graphic that enables relations to exist between the structural entities and abstract properties of things [1]. It is thus an intermediary between representational and non-representational visual forms. The term is used here as a potential starting point to develop a flexible and interpretative model of diagrammatic description.

In this study, the model is elaborated by using the Wayang Museum, a puppet museum located in Jakarta, Indonesia, as a case study. The study of this museum is part of a larger study encompassing several museums located in the area of Jakarta's Old City. Museums consist of the type of architecture that provides opportunities for fostering relations between phenomena. A museum is an environmental framework built with space, form, and details of light and time [2]. In this study, we examine key areas of the Wayang Museum by using hypothetigraphy diagrams.

The hypothetigraphy diagrams of the Wayang Museum enable the identification of spatial thresholds. These refer to the places of exchange formed between spatial phenomena [3], providing spatial separation and connection; differentiation and transition; interruption and continuity; and boundaries and crossings. Spatial thresholds are spaces turned into places [3] that define a building's architectural image.

2. Materials and Method

Several previous spatial studies on museum architecture have used a method known as space syntax [4, 5]. These studies have sought to analyze a spatial configuration observed from the different points within its overall layout. The basic strategy of space syntax entails measuring the configurational properties of the spaces that compose the layout [4]. Space syntax is an analytical tool deployed in spatial studies and is increasingly being integrated with other approaches [6, 4, 5]. There have been attempts to integrate space syntax with phenomenology by using two-dimensional building plans and extracting abstract configurational properties from the overall building's layout [5]. As a spatial description and analysis tool, space syntax entails observations of a building from an abstract operational level. Compared with space syntax, the hypothetigraphy diagrams developed in this paper operate at a more grounded level, establishing a model of diagrammatic description. Instead of using a two-dimensional plan, the diagrams use a three-dimensional representation of a building. This focuses on several key areas of the building, while acknowledging the overall layout as the background.

Phenomenology was developed by Edmund Husserl as a radical approach to philosophy that extends the descriptive psychology developed by his mentor, Franz Brentano. An objective motivation for a phenomenologist is to realize the thing-in-itself through descriptive acts. Phenomenology describes phenomena. The phenomenologist aims to see a thing as a phenomenon in its own right, with its own meaning and structure [7]. This requires a reflective effort of coming to terms with something that is, in some way, already evident. It entails the work of explication, elucidation, explication, and description [8].

Description is a fundamental process for developing architectural understanding [9, 10]. A description of a building can provide both an analysis of subjective experiences as well as a verification of spatial experiences. The work of description itself functions as experimentation within phenomenology [11, 12]. Developing systematic and accurate descriptions is crucial, as a building directs, scales, and frames actions within its spaces. A building and its spaces are externalizations and extensions of human bodily functions, in addition to being mental extensions and projections. The process of description is derived from our imaginations, memories, and conceptual analyses of architecture [13]. This leads to the concept of an architectural image.

An architectural image is a bodily and mental experience of encountered spatial and temporal phenomena. Architectural image formation recurs within processes of internalization, identification, and projection in space. An architectural image is composed from the interpretation and concretization of an idealized spatial order. It is an abstraction and condensation of a spatial experience [13] that has been described as an intermediary architectural object [14]. In relation to the process of description, the architectural image becomes an emancipated representation that falls between the experiential and conceptual domains [15].

The term image that is used here extends beyond the classical distinction between form and matter. It stretches dynamically between the borders of the accounts of physical description on one hand, and those of the psychological on the other [16]. Yet, standard architectural descriptions appear to place more emphasis on the physical aspects of architecture as opposed to its experiential qualities [17]. There is a need for the physical and the experiential to meet within descriptions that extend beyond classical notions of architectural graphical description, namely, *dispositio* (arrangement), *orthographia* (elevation), *ichonographia* (plan), and (perspective) [18]. Manfredo Massironi, one of the leading phenomenologists in the areas of visual perception and Gestalt psychology, outlined the range of graphic production. He distinguished two classes of drawing: representational and non-representational drawings [1] (see Figure 1).

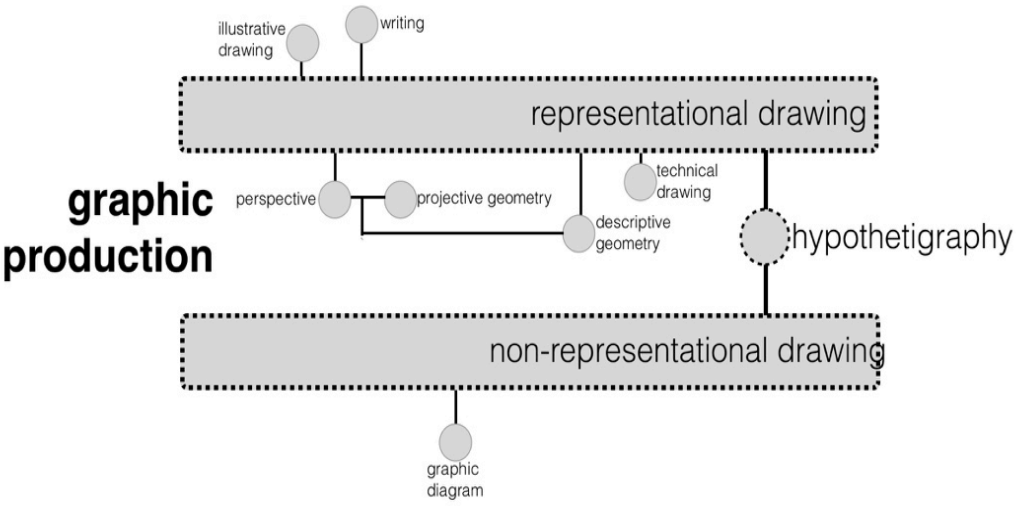

Figure 1: Types of graphic production described by Manfredo Massironi [1]

The neologism in the above diagram, which is a kind of graphic that Massironi refers to as hypothetigraphy, is

its most important feature. This graphic enables relations between the structural entities of things and their abstract properties. It can substitute lengthy textual descriptions with a simple and immediate visual representation, and can join units of phenomena to create a model that reflects a determined theme. It should also include qualities, quantities, and relations [1]. Because of its informative nature, this graphic, termed a hypothetigraphy diagram, can provide a model of diagrammatic description.

The architecture of a building is a composition of relations among its physical elements. To be able to describe this composition requires the generation of a customized recto-verso axonometric drawing. This type of drawing provides a balanced and simultaneous view of multiple elements, enabling the representation of walls, floors, roofs, or ceilings within the same drawing [19]. It is an attempt to bring bare bones content and sense data into a single diagram. Bare bones content consists of a three-dimensional construct of the building that includes the width, length, and height of the space in relation to human scale. Sense data are things of which the perceiver is directly aware and knows immediately upon perception, including long corridors and small or big openings (see Figure 2).

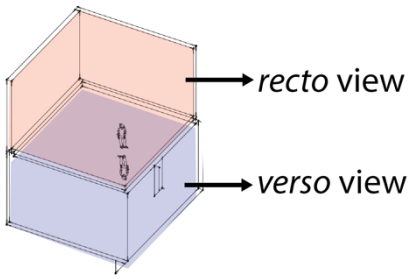

Figure 2: Illustration of a recto-verso axonometric diagram

The hypothetigraphy diagrams developed in this study are each composed of four analytical units: architectural elements, spatial definitions, existential themes, and activities. These analytical units are observed phenomena, ranging from a building's physical attributes to its spatial uses.

A unit of architectural elements contains basic architectural elements such as the floor, wall, and roof or ceiling. Doors and windows are part of the wall elements, just as stairs are part of the floor elements. Basic elements of architecture provide an essential understanding of the building's physical attributes [21]. The diagram includes notations to differentiate these elements (see Figure 3).

A unit of spatial definitions consists of elements that modify spatial attributes. These include lighting fixtures, windows, and doors openings. Openings are notated in the diagram, and some iconic symbols are used to denote lighting fixtures (see Figure 4).

A unit of existential theme contains tangible spatial cuts that mark the transitions between spaces and the qualities of spatial rests, movements, and encounters [7]. The spatial transitions and qualities constitute mental architectural elements [13]. Notations are used to denote the themes as well as their positions and changes. Significant changes are highlighted on the diagram when necessary (see Figure 5).

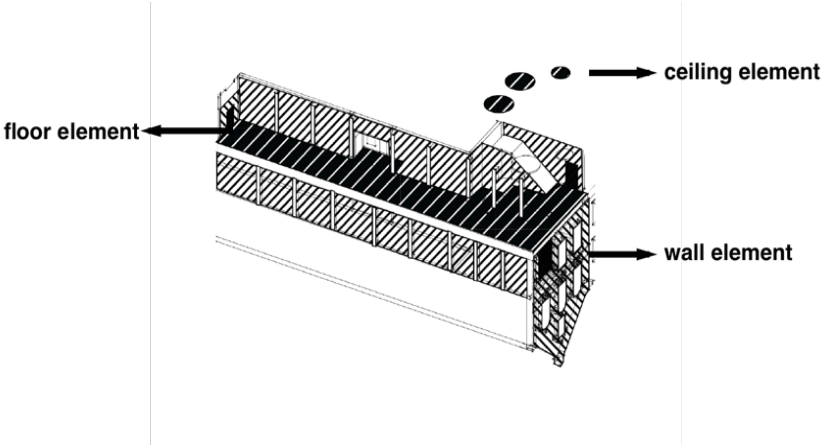

Figure 3: Illustration of an architectural elements unit

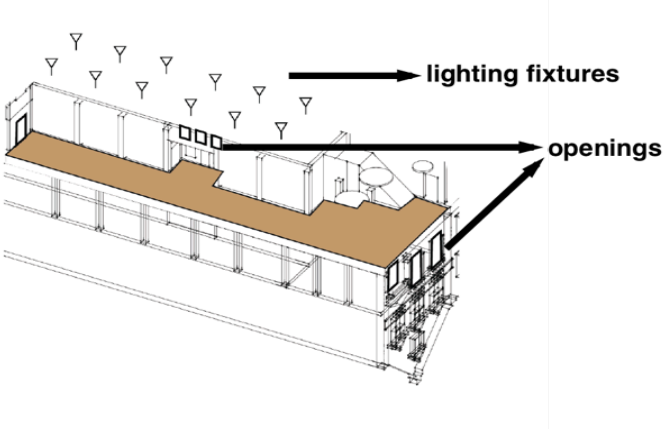

Figure 4: Illustration of a spatial definitions unit

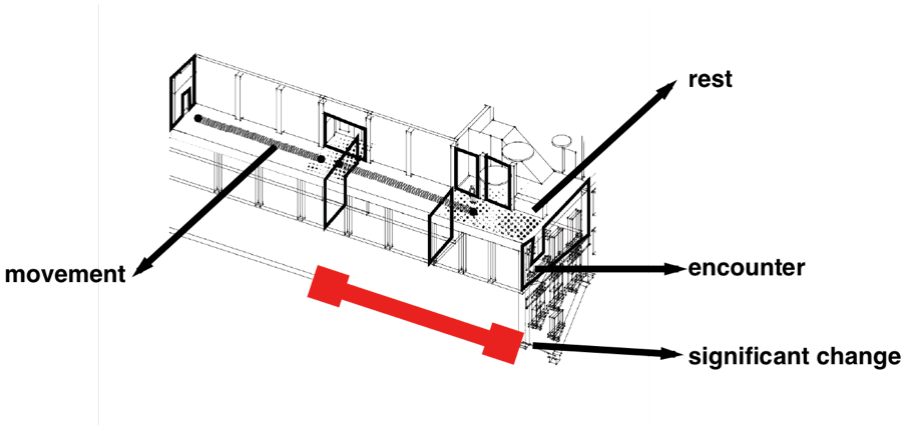

Figure 5: Illustration of an existential themes unit

A unit of activities contains records of the observed activities of museum visitors. To signify different kinds of activities, for example, taking photographs, pausing beside museum artifacts, and reading information, the diagram uses iconic symbols (see Figure 6).

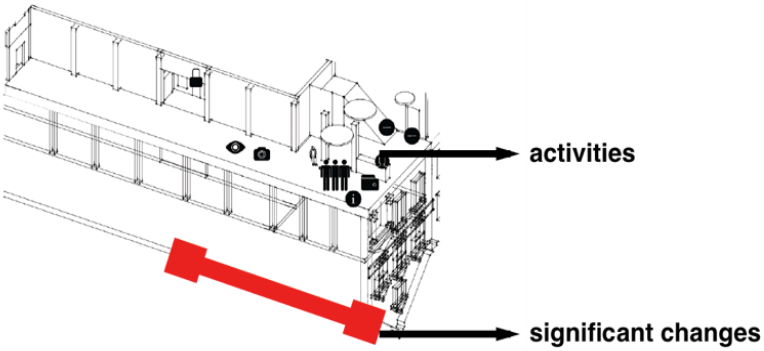

Figure 6: Illustration of an activities unit

The contents of the analytical units, described above, depict spatial interactions, transitions, and interconnections that constitute spatial thresholds. These are evident in the spatial relationships derived from each unit. A spatial threshold is part of a spatial experience that indicates a spatial character of significance. Spatial thresholds control the permeability of spatial limits, confirming spatial discontinuity whilst simultaneously allowing people to cross over them, physically or visually [3].

They have three roles. The first is a utilitarian role: a door provides passage, while a window provides light and ventilation. The second is a protective role: a door controls passage, while a window selects a view and offers the choice of being exposed or protected. The last role is semantic: a door signifies meaningful passage, while a window signifies an eye [3]. Some photographs can be included to provide general views of the area, completing the model of hypothetigraphy diagrammatic description (see Figure 7).

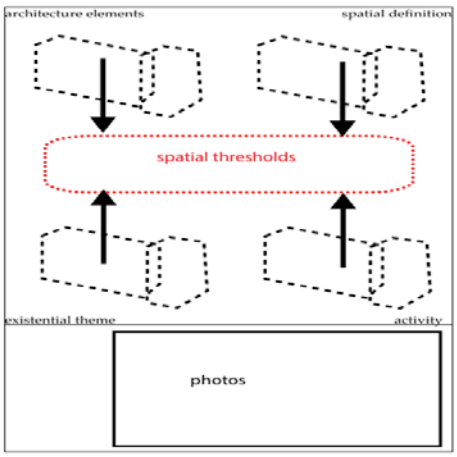

Figure 7: The hypothetigraphy diagrammatic model

3. Results and Discussion

The Wayang Museum in the Indonesian capital of Jakarta is entirely dedicated to *wayang*, a form of puppetry that is unique to South and Southeast Asian cultures. While this is not a historical research-oriented paper, recognition of the building's past is necessary in order to elicit a general understanding of its architecture. The Wayang Museum was originally built in 1640 as a church for Dutch colonialists. In 1732/1733, the building was renovated and named the New Dutch Church (*de Nieuwe Hollandsche Kerk*). Part of the building was destroyed during the 1808 earthquake, and it was renovated with a new façade in 1912. On August 14, 1936, the building was declared as a monument and bought by the Dutch Colonial Batavia Agency for Arts and Sciences (*Bataviaasch Denootschap van Kunsten en Wetenschappen*). Its renovation continued until 1938, and it was subsequently converted into a museum and declared as the Old Batavia Museum (*de Oude Bataviasche Museum*) in 1939. After Indonesia gained independence, the building was renamed as the Old Jakarta Museum (Museum Jakarta Lama) in 1957. It was managed by Indonesia's Ministry of Education and Culture from 1962 to 1968, after which its management was transferred to the Jakarta City Administration. On August 13, 1975, it was inaugurated as the Wayang Museum (Puppet Museum).

This short history of the Wayang Museum highlights its importance and the rationale for its architecture. It has two colonial architectural façades (one on the south side, the other on the north) (see Figure 8), and its spatial configuration is deep and narrow. The south side serves as the museum's entrance and the north side serves as its exit (see Figure 9).

Figure 8: The front façade of the Wayang Museum

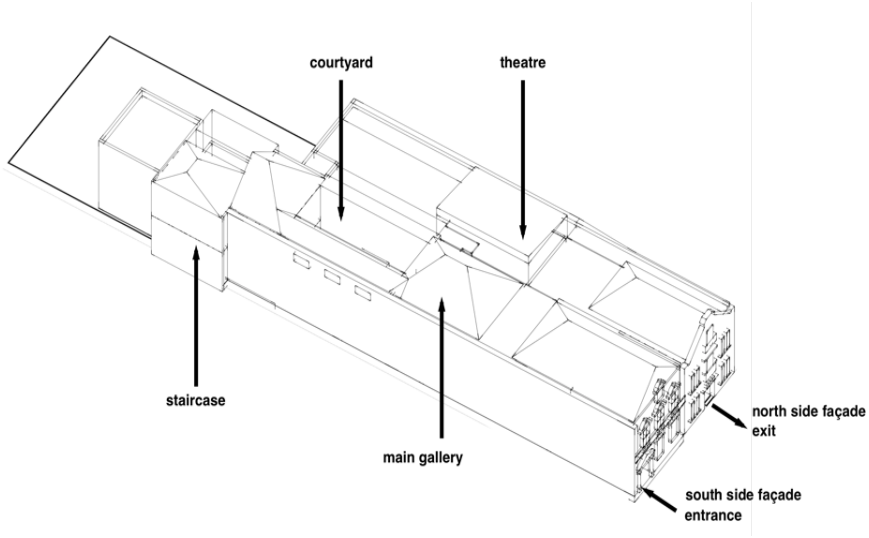

Figure 9: An axonometric drawing of the Wayang Museum

Five key areas of the Wayang Museum are selected for diagrammatic representation. These are the reception area, the tomb and monument area, the staircase, the main gallery, and the ramp and theater area. These areas are chosen because they are significant and distinct areas within the museum (see Figure 10).

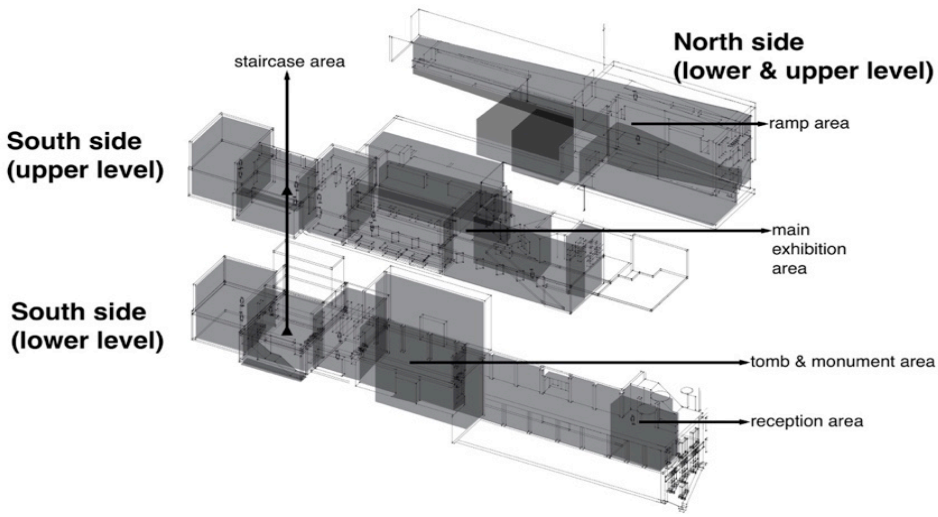

Figure 10: The five key areas of the Wayang Museum and its entire layout represented in a recto-verso axonometric diagram

The reception area is the first part of the museum that a visitor encounters when entering the building. The ticket box is not clearly designed. A simple reception table serves visitors when they enter the area (see Figure 11). The walls create spatial differences that characterize the elements of this area. The wall elements form a scalar transition that extends from the area of the reception table to the corridor. The spatial definitions unit shows that this transition signifies a spatial threshold in this area, while the existential themes unit reveals the spatial threshold in this area that enables visitors to come up to the reception table, from where they can obtain a museum guide and related information, and then move along the corridor. Visitors' activities are concentrated

around the pair of oversized wayang figurines that serve as a photographic backdrop for the visitors.

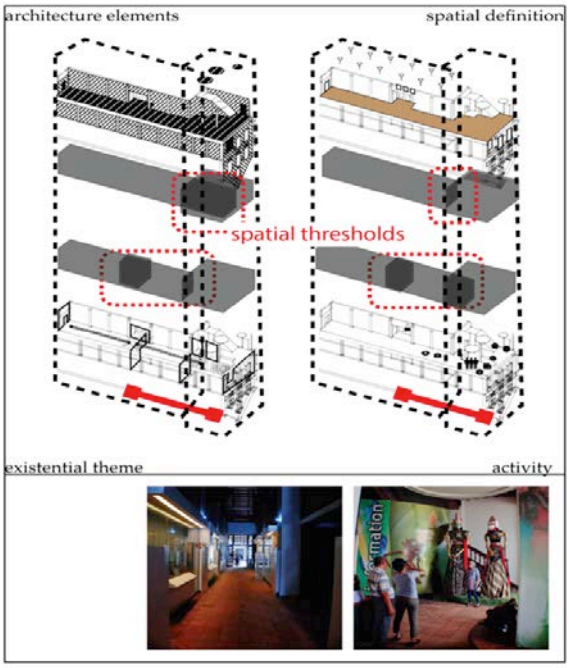

Figure 11: Diagram of the reception area

A long corridor connects the reception area to the museum's tomb and monument area. This area consists of a semi-open courtyard with ornamental engravings of colonial heritage on its walls, marking the tomb of Jan Pieterszoon Coen, a Dutch colonial. The combination of exterior and interior spaces forms the important element in this area. The floor consists of two kinds of surfaces: a soft surface of exterior space and a hard surface of interior space. Beside the aforementioned wall markings, height differences between the exterior and interior walls signify the spatial definition. The natural lighting provided by the courtyard, in contrast to the shade within the interior space, also forms the spatial definition. The focus of the visitors' attention is the wall markings. The existential theme of this area is constituted by the column formation that creates a boundary between the exterior and the interior spaces. The spaces between the columns enable visitors to stop and take photographs of the wall markings. The spatial threshold of this area is formed by the connection between the interior and exterior spaces and the wall markings (see Figure 12).

The staircase area is analyzed twice because it connects the two levels of the museum. The staircase itself does not have an important role in defining the spatial threshold. This is defined by the floors of the area. The floor element and the staircase are the dominant elements within the lower level of the staircase area. Artificial lighting from the ceiling element constitutes the spatial definition. The enclosing walls and the staircase create the area's existential theme. The walls allow for visual experience while the staircase allows vertical movement. A number of activities occur here in the vicinity of some paintings mounted on the walls (see Figure 13).

The staircase connects the lower and upper levels. The floor is composed of the same wooden material as the staircase, while the walls are covered with white plaster. The raised ceiling allows the entry of natural light into

the area. The transition from the staircase to the upper-level floor creates a significant existential theme. Natural light features importantly in the establishment of the spatial definition. In this area, visitors stop and orientate themselves with the upper-level floor. The spatial threshold is defined by the transition from the staircase to the floor (see Figure 14).

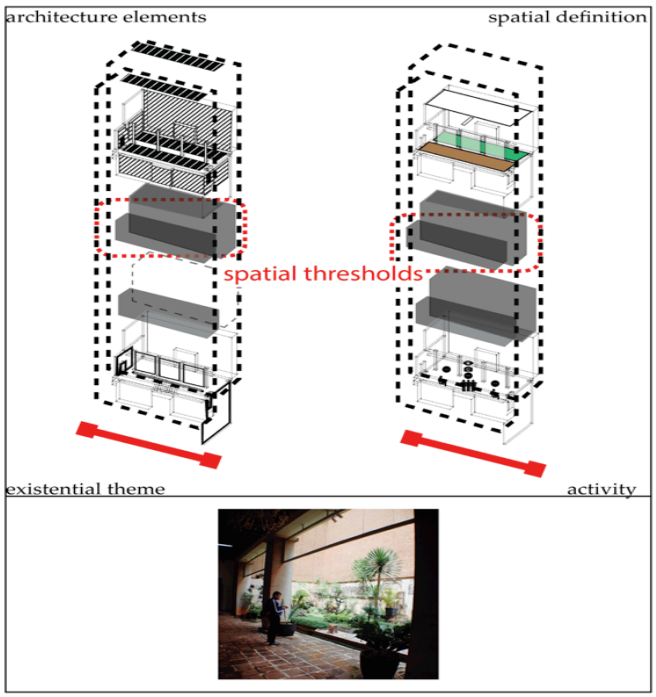

Figure 12: Diagram of the tomb and monument area

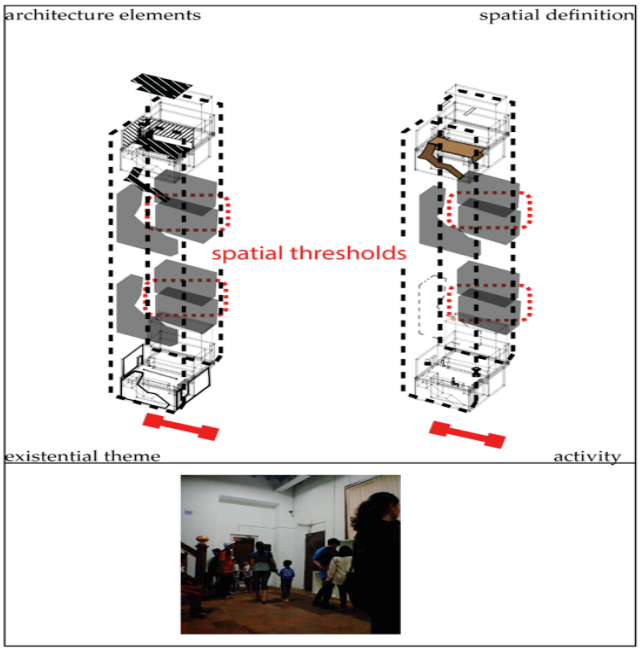

Figure 13: Diagram of the lower level of the staircase area

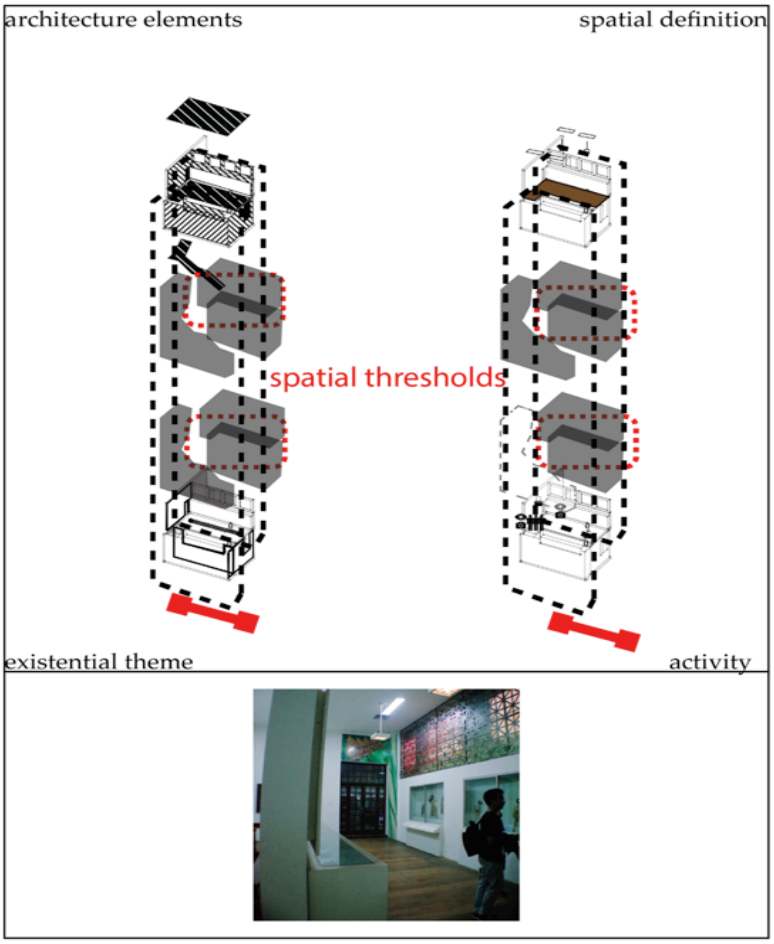

Figure 14: Diagram of the upper level of the staircase area

The main gallery accommodates a significant quantity of artifacts. This area features sophisticated spatial partitions and is the most crowded area in the museum. There are significant articulations of the elements in this area. Some of the walls have been rotated at an angle of 45 degrees. There is also a material interplay between the glass and the wooden partitions. This interplay of contrasting materials brings about a distinctive spatial definition. The main gallery, in which visitors' activities are concentrated, is situated between the sophisticated articulations of the partitions. The spatial threshold of this area is defined by the separations, interactions, and connections among the partitions (see Figure 15).

The ramp area and the theater form the last part of the sequence of key areas in the museum (see Figure 16). The ramp connects the gamelan (a type of traditional musical instrument) room and the theater. The gamelan room houses the museum's traditional musical instruments, while the ramp conveys visitors down to the theater. The ramp element (depicted by the long red paths in Figure 16) dominates the area. The raised floor element defines the gamelan room as well as the stage of the theater. The transitions created by the ramp mark the area's spatial definition. The visitors' activities take place in the gamelan room and in the theater. The ramp thus takes on an important role by connecting these rooms, whereas the spatial threshold is mainly defined by the rooms themselves.

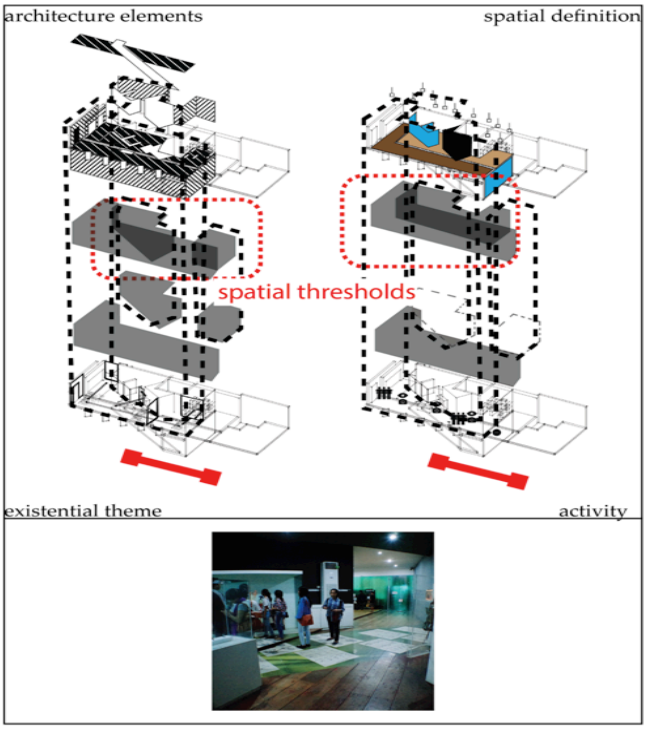

Figure 15. Diagram of the main gallery area

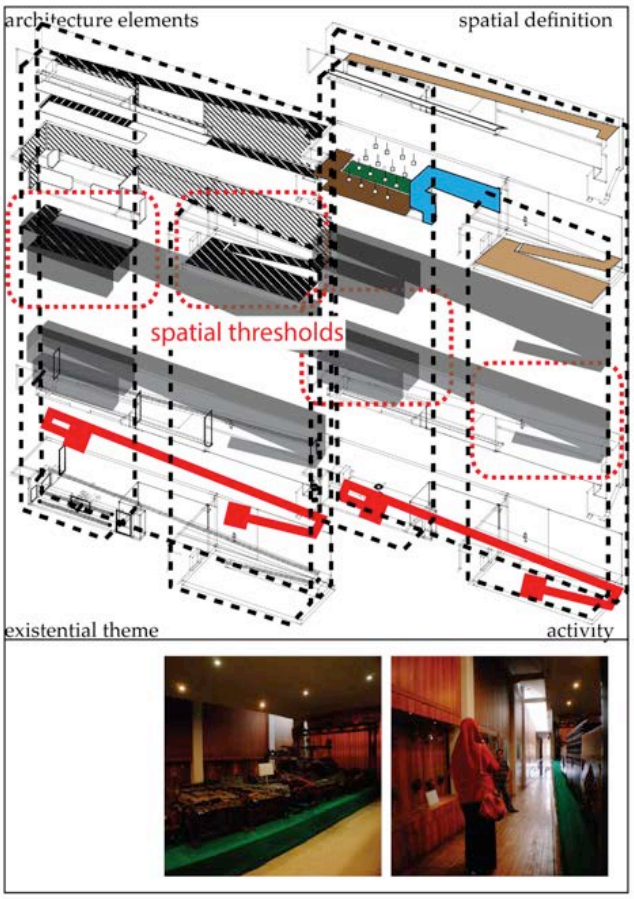

Figure 16. Diagram of the ramp area and the theater

The above hypothetigraphy diagrams provide a diagrammatic analysis of the five key areas of the Wayang Museum. The four analytical units (architectural elements, spatial definition, existential theme, and activity) contain indicators for identifying the museum's spatial thresholds. By finding, recognizing, and understanding these spatial thresholds, this study reveals how an architectural image of the museum is produced. Spatial thresholds in the reception, tomb and monument, and ramp and theater areas create contrasting effects within these areas. The reception area connects the museum's exterior with its interior. The tomb and monument area contains both exterior and interior spaces within a courtyard. The ramp element within the ramp and theater area links the gamelan room and the theater. The main gallery is the most articulated area of the museum. Lastly, the staircase marks the transitions between different levels of the museum. These five key areas thus define the museum's architectural image.

4. Conclusion

The following conclusions can be drawn from the above analysis:

A hypothetigraphy diagram can provide a refreshed model of diagrammatic description, producing an intermediary representation that fosters understanding of a building's architectural image. A hypothetigraphy diagram can also be used as a graphical tool to create a framework for analyzing and understanding space. Moreover, it can stimulate further models of phenomenological architectural description.

The Wayang Museum can be viewed as defined by a series of spatial thresholds that are significant in the composition of the museum's architectural image. Although the hypothetigraphy diagram of the Wayang Museum developed in this paper is limited to the depiction of four analytical units, these units can be expanded, reduced, or refined according to designated analytical levels. The diagram considers the museum building as a whole while focusing on key areas. Although detailed analysis of the entire area of the museum would result in a more rigorous description, an increase in the amount of description would require a more critical reading. As a model of diagrammatic description, the hypothetigraphy diagram serves its function as a research and analytical tool, rather than a map or an item of general information for the museum's visitors.

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