Civil Engineering and Architecture 10(6): 2731-2747, 2022 http://www.hrpub.org
DOI: 10.13189/cea.2022.100636

# Formal Aesthetics of the Facades of Historical Public Buildings (Dutch East Indies Architecture in Malang)

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*Received July 4, 2022; Revised August 11, 2022; Accepted September 19, 2022*

***Cite This Paper in the Following Citation Styles***

***(a):*** *[1] Noviani Suryasari, Antariksa, Lisa Dwi Wulandari, Herry Santosa , "Formal Aesthetics of the Facades of Historical Public Buildings (Dutch East Indies Architecture in Malang)," Civil Engineering and Architecture, Vol. 10, No. 6, pp. 2731 - 2747, 2022. DOI: 10.13189/cea.2022.100636.*

***(b):*** *Noviani Suryasari, Antariksa, Lisa Dwi Wulandari, Herry Santosa (2022). Formal Aesthetics of the Facades of Historical Public Buildings (Dutch East Indies Architecture in Malang). Civil Engineering and Architecture, 10(6), 2731 - 2747. DOI: 10.13189/cea.2022.100636.*

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**Abstract** The building is a form of design work that must have visual quality through the expression of the facade. The visual quality of the building facade is one of the important concerns of the designer, motivated by certain aesthetic concepts, manifested through the arrangement of visual elements and expressed in the formal character of the building. Formal aesthetics as part of the overall aesthetic scope in addition to sensory and symbolic aesthetics is important to show how much visual quality of a building is expressed through its facade. This study aims to find out how the formal aesthetics of six selected heritage public buildings with Dutch East Indies architecture in Malang City through the analysis of the quality of the visual elements of the building facade. The relevance of the quality of this element lies in its importance in the preservation of a heritage building in maintaining certain aesthetic values through hierarchical visual qualification of elements. The method used was a descriptive qualitative analysis based on the paradigmatic syntagmatic relationship that exists in the arrangement of the visual elements of the building facade. The results of this study indicate that authenticity, representation, and inclusiveness determine the level of importance of visual elements in building facade designs that contain certain formal aesthetics. Authentic, representative, and inclusive elements in the facade design of a historic public building with Dutch East Indies architecture in Malang City greatly determine the sustainability of visual quality in its context as a heritage building. The difference in the importance of the three elements determines how much tolerance for changes can be made to significant visual elements. The recognition of the authentic, representative, and inclusive elements of a heritage building aims to provide direction for architectural preservation efforts to the right strategy.

**Keywords** Visual Elements, Authentic, Representative, Inclusive, Formal Aesthetics, Facades, Heritage Buildings

## 1. Introduction

Aesthetics is one aspect of great concern to designers or the architect as the designer of an architectural design work [1]. Historically, aesthetics is known as a branch of philosophy that puts forward the issue of beauty. Therefore, when an architect in the process of designing a building considers the aesthetic problem, the expectation is that the architectural design works will be able to express a certain beauty that is perceived. Extra-large efforts are mostly worked on to achieve this by an architect. Aesthetics in the design has an important goal to evoke feelings of pleasure and even imagination in an observer (spectator) through his

visual experience of architectural work [2,3], and this shows that there is a certain level of appreciation for the building. The scope of aesthetic issues in this study is limited to certain aesthetic domains because aesthetics covers extensive discussion, even beyond the aesthetic problem itself. Aesthetics encompasses many dimensions related to design objects, designers, and spectators [4]. The limitation of aesthetics in this research is formal aesthetics, as a fundamental problem of the aesthetics of design work [5]. Formal aesthetics is interpreted through how the extraordinary character of the form of an architectural work or building results through the arrangement of various visual elements such as color, texture, shape, and others [1,6]. Thus aesthetics is viewed through a formalistic perspective and visual approach, where the design object is defined as the main entity that not only contains certain aesthetic values but also expresses them out of the order of the existing visual elements.

The formal aesthetics of architectural design work, among others, is contained in one of the building's appearances in the form of a building facade. The building facade is one of the most significant visual observation units that represent the value (one of which is the formal aesthetics value) and the structure of a building [7]. In a broader context, the facade of the building can even affect the image and architectural quality of a building in the observer's perception [6]. Even on a broader scale, it can affect the image of an area or the image of a city [8-10]. In this study, the building facade in question is a visual observation unit in a more specific context because it is the facade of a historic building that represents the image of the historic area. In the context of a historic district or historic city, the appearance of a historical building represented by the facade of the building becomes a significant visual observation unit in the viewer's assessment of the image of buildings and historic areas [11]. The facade of the building is the part that is most easily observed visually by the observer and then influences the character of the space around the building.

The visual elements that exist in a facade of a historic building determine the formation of a formal character and the formal aesthetics of the building. Concerning architectural preservation, many ways have been proposed and applied to determine the aesthetic significance of a historical building through an assessment of the building's facade where there is attention to the visual elements that exist in it [12,13]. The significance assessment which focuses on these physical architectural features offers a wide range of the visual elements in question, from different points of view. Similarly, the assessment criteria used. Various criteria will be applied to the architectural attributes of the architectural heritage, taking into account several studies on the cultural significance of the cultural heritage [14-16]. These criteria are taken down and translated from the big concept of the definition of heritage itself, namely the concept of authenticity. Although the meaning of the concept of authenticity is growing more widely [17-19], its operation in the realm of evaluating the physical elements of heritage buildings as a literal concept of authenticity is common. In addition, in line with the development of the categorization of cultural heritage by UNESCO not only covering material but intangible heritage [20] [21], the concept of representative and inclusive is a concept that can also be a criterion for evaluating a cultural heritage product [22]. The last two concepts are also the reference for this study, considering that both terminologies through existing operational definitions can go hand in hand with updating the big concept of heritage definition through updating the concept of authenticity (progressive authenticity). This study offers an effort to use these criteria in the context of the formal aesthetics of historic building facades in understanding their potential and significance as heritage buildings or cultural heritage. Therefore, this study is looking forward to an enriching and differentiating it from previous similar studies through the scope of criteria and analytical approach applied.

With the concept of a heritage city that accompanies it since 2013 after receiving an award as one of the cities in Indonesia which for the last 10 years been seen as having made many efforts to preserve cultural heritage, Malang City is still trying to develop its potential as a heritage city in a sustainable manner. A heritage city is a city that can maintain the superiority of Indonesian values through its city heritage [23]. Therefore, this research raises case studies of several important historic buildings that are still serving the interests of public activities or the city community. By referring to one of the criteria, namely the minimum building age of 50 years to make a building a heritage building that must be preserved [24] and a study on the assessment of historic buildings by the people of Malang City [25], several historic public buildings in Malang City were appointed as cases. Historically, the diversity of the appearance of the building through the variety of expressions of the building's facade shows that each building is aesthetically designed with specific aesthetic rules so that a certain formal character appears. However, historically, the similarity of the era when the buildings were planned shows that aesthetically the buildings were designed with the spirit of the era based on the same aesthetic value agreement, which represents the era of early modern architecture [26-28].

So based on the background related to the urgency of understanding the cultural significance of heritage cities through the further recognition of the significance of historic buildings by identifying the formal aesthetics of building facades, this study was conducted on these six public buildings. Through an assessment of the visual elements based on the operationalization of the concepts of authenticity, representation, and inclusion, this study aims to determine the quality of visual elements. The final result of this study is a clear identification through hierarchical

categorization, in which visual elements fall into the category of authentic, representative, and inclusive elements as representations of qualifying visual elements.

## 2. Materials and Methods

This study aims to determine the quality of visual elements in the design of public buildings with Dutch East Indies architecture in Malang City, and how their roles in forming the formal aesthetics of buildings. Concerning the preservation of heritage building architecture in the context of historic areas, the element qualification in question is a hierarchical qualification that can show the level of visual superiority in shaping the formal aesthetics of the building's facade and its importance to the visual quality of the historic area. In this case, the public building in question is a heritage building in Malang City which has a significant role in the development of architecture and the city due to its long history of use. Six buildings are the object of this study, located in the downtown area (Figure 1), and have the same building function as when the building was originally designed and erected in the 1930s. Due to its age which has entered its 10th decade with the formal character of the architectural building of the Dutch East Indies era, its existence is deeply embedded in the memories of the city community and is an important part of the city's aesthetics.

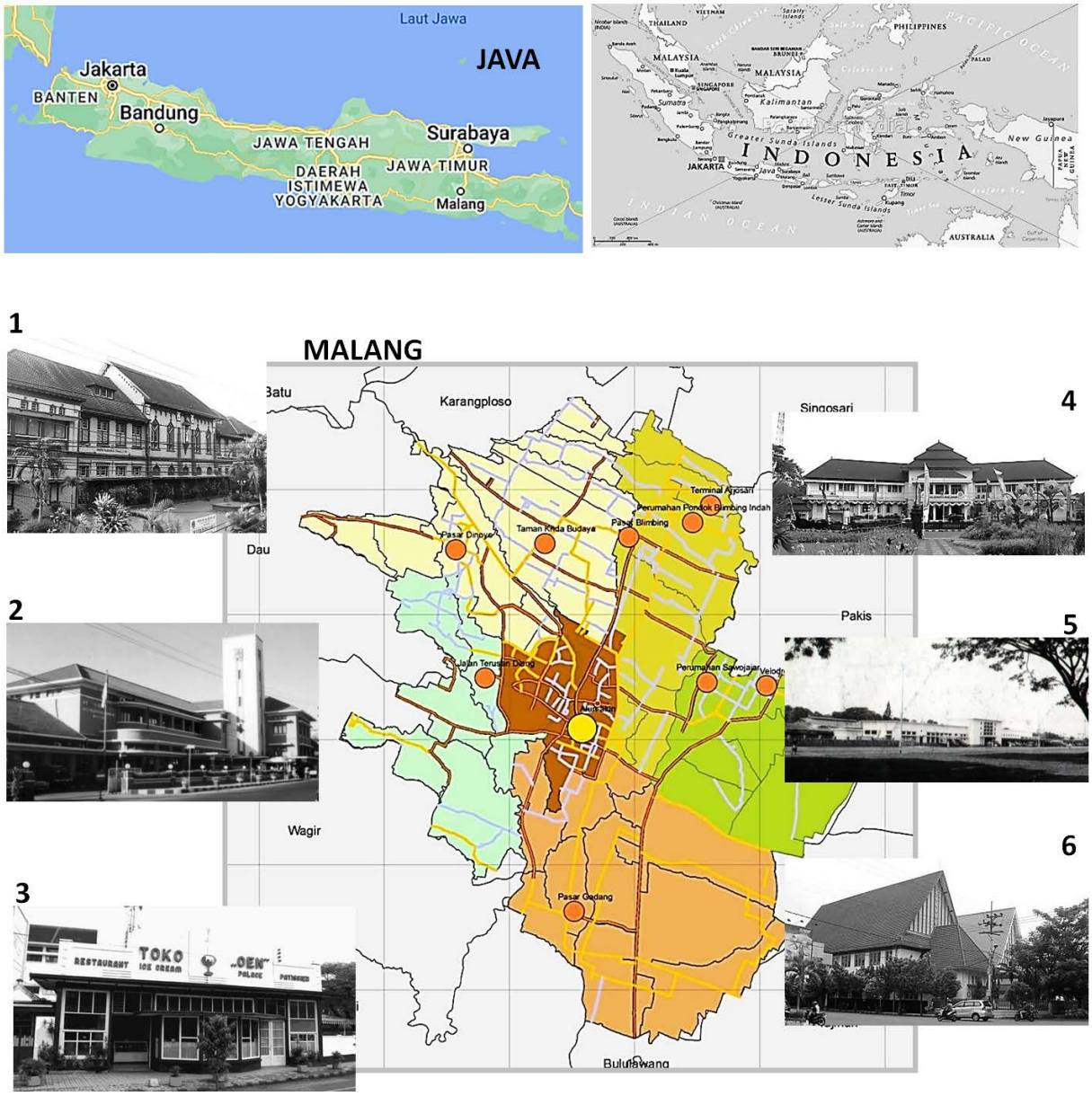


**Figure 1.** The Location of Six Research Object Buildings in Malang City: 1) Frateran School 2) Perusahaan Listrik Negara (PLN) Office 3) Toko Oen 4) Malang City Hall 5) Malang City Station 6) Kantor Perbendaharaan & Kas Negara (KPKN)

Based on the background and purpose of this study, it is related to 1) the urgency of formal aesthetics in understanding the visual quality of design work, and 2) its relevance to the urgency of the level of importance of visual elements forming formal aesthetics in understanding the aesthetic significance of a heritage building, some operational basis of the analysis is described below.

### 2.1. Syntagmatic-Paradigmatic Relations in the Domain of Architectural Visual Order

The visual elements that exist in a facade of a historic building determine the formation of a formal character and the formal aesthetics of the building ultimately. The way the visual elements are arranged and combined between one element and another can refer to the agreed aesthetic value. The agreement can depend on the era, the environment, and the conditions of the people. Historically, the building has its roots in the early modern architectural development era in the Dutch East Indies. The period of early modern architecture is still strongly influenced by the aesthetics of the premodern period which is firmly rooted in the formal aesthetics of classical architecture. Visual elements (paradigm) are combined through certain principles or rules to produce several themes of visual composition (syntagm). It is like understanding verbal language, where words (paradigms) are combined to generate meaningful sentences (syntagm). The approach used to study a cultural product with elements of paradigm and syntagma was the paradigmatic-syntagmatic approach [29]. Therefore, each building was analyzed through graphical analysis based on the conceptual framework of syntagmatic-paradigmatic relations as follows (Figure 2).

### 2.2. Authentic, Representative, and Inclusive Visual Elements in Syntagmatic-Paradigmatic Relations

The following operational foundations refer to the concepts of authenticity, representation, and inclusion as the basis for the broad definition of heritage. The distribution of visual elements (paradigms) in six compositional themes as well as defined in the conceptual framework of Figure 2 allows specific visual elements to become a distinctive property of a particular compositional theme. The existence of these visual elements shows the level of authenticity as part of a compositional theme because its existence is not influenced by its existence in another theme. On the other hand, a visual element can play a very strong role or dominate many compositional themes. Its dominance makes this visual element play a comprehensive (inclusive) role in most of the themes that are formed. In the context of heritage, inclusivity indicates a strong cohesion because it can show its existence in many places to strengthen the similarity of identity.

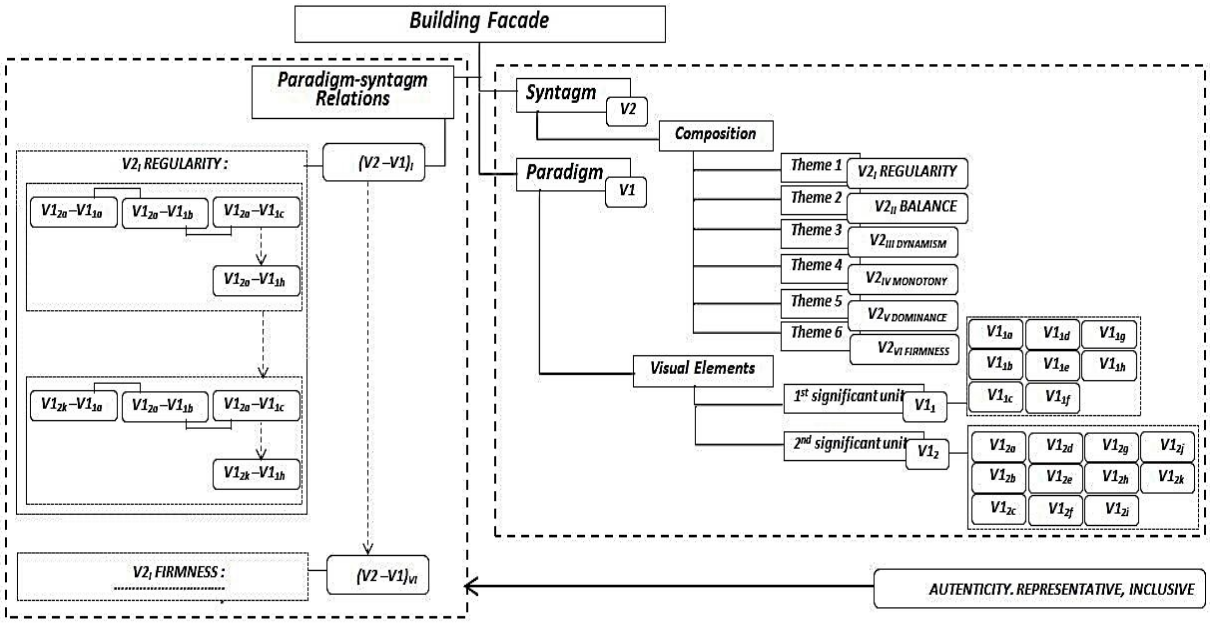


**Figure 2.** Conceptual Framework of Syntagmatic Paradigmatic Relation Analysis

Meanwhile, between the two characteristics of the existence of these elements, there is a visual element that is a characteristic property of a specific compositional theme on the one hand. On the other hand, this element plays a relatively sufficient role in other themes as well. It is because these visual elements can show their superior strength in specific themes compared to other themes. The level of representation (representative) of this element as forming a particular compositional theme becomes most visible in the overall theme of the existing composition. In the context of inheritance, the representative indicates that there is a value that is most prominent but not exclusively belonging to a particular entity but is still part of the property of another entity although it is relatively less prominent. Based on these three categories of distribution of visual elements, mapping was carried out at this stage so that it can be identified which visual elements fall into the categories of authentic elements, representative elements, and inclusive elements as representations of the qualifications of visual elements.

# 3. Result & Discussion

## 3.1. Six Compositional Themes of the Formal Aesthetics of the Building Facade

Each building has visual elements and components that are arranged in a visual display (building facade). The visual elements and components of the buildings in the six buildings that are the object of this research include eight 1st significant units and eleven 2nd significant units. Expressions between buildings are different because of the difference in the results of the arrangement of the existing significant units. Each building expresses a specific formal character as an effect of the existence of certain ordering principles that form the basis for the arrangement of these visual elements and components. However, behind the diversity of expressions displayed by the six public buildings with the Dutch East Indies architecture through their facades, there are the same compositional themes. It is because the patterns are the same, thus giving rise to certain impressions that can be felt (Figure 3).

Six compositional themes behind a building's expression and applied in all research object buildings include regularity, balance, dynamism, firmness, dominance, and monotony. Between one building and another, there is a combination of different arrangements of visual elements resulting in the same compositional theme. The complexity of the combination is indicated by the large number of phrases that form an ordered pattern based on certain principles to produce a compositional theme. Figure 3 part a, shows the Malang City Train Station building with the existing display expressions. There are six compositional themes behind the expression, one of which is the regularity of 17 phrases, accompanied by five other themes with a different number of phrases. Five other buildings also have the same theme of regularity, but with different combinations of the number of phrases (Figure 4).

The number of phrases indicates the number of combinations of the 1st significant unit and 2nd significant unit as a unit of the lowest combination used to produce the final composition of visual elements in higher overall combinations. When the theme of order in the City Station building, for example, is phrased 17, it can be interpreted that there are 17 combinations of 1st significant unit – 2nd significant unit in a specific pattern of arrangement to produce the impression of visual regularity on the facade of the building (Figure 5). Table 1 shows the number of phrases in producing six compositional themes that apply to each building, from the six research object buildings.

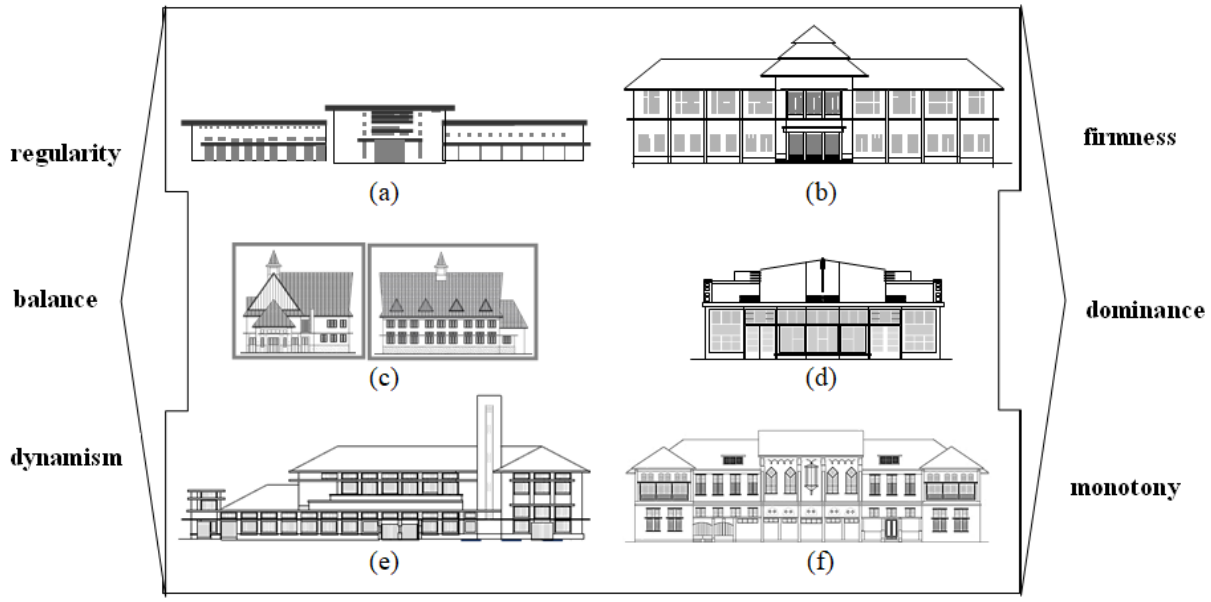


**Figure 3.** Six Compositional Themes behind the Diversity of Expressions in the Visual Appearance of the Building Facade

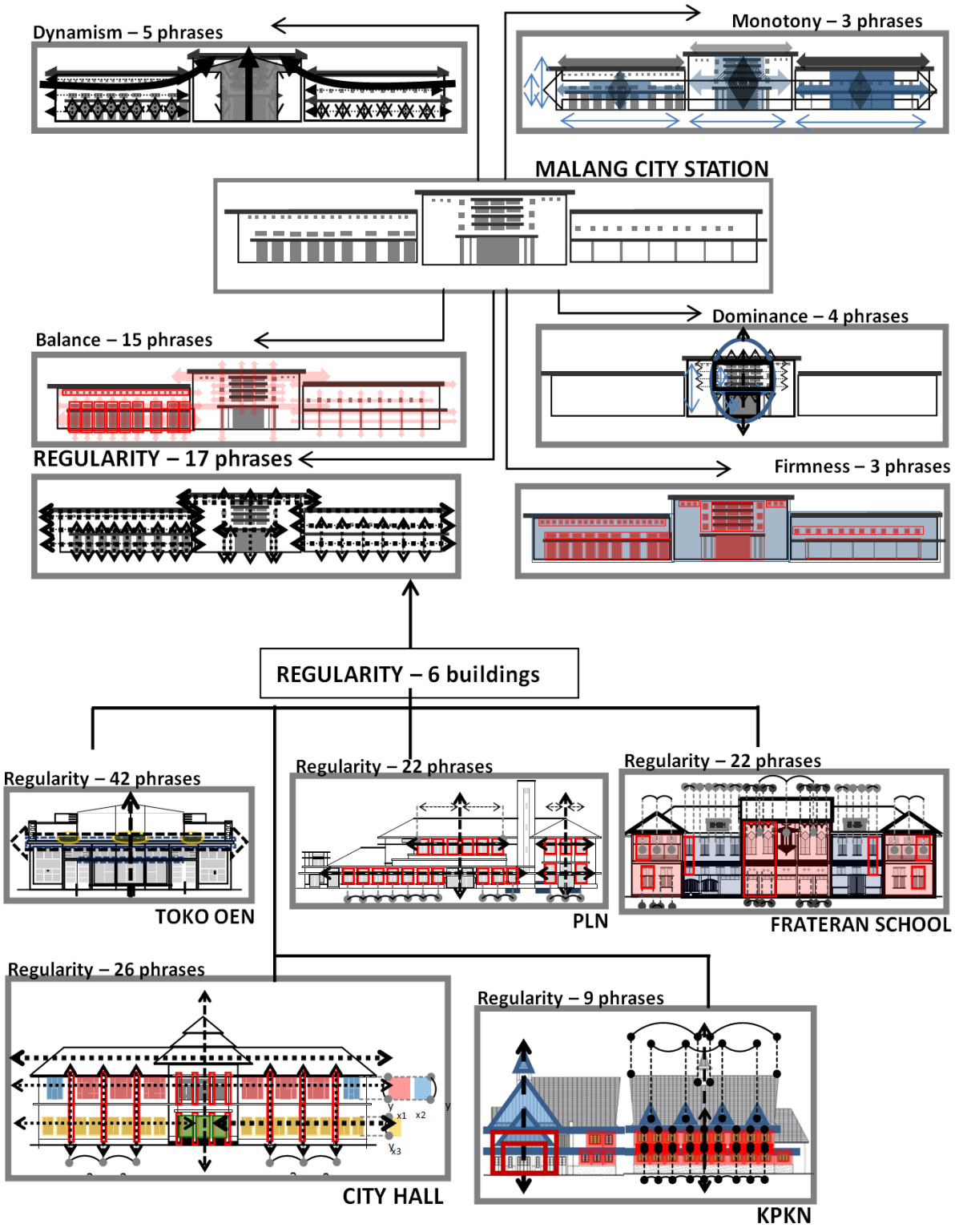


**Figure 4.** Graphic Analysis Visualization of the Six Compositional Themes of the Formal Aesthetics of the Building Facades

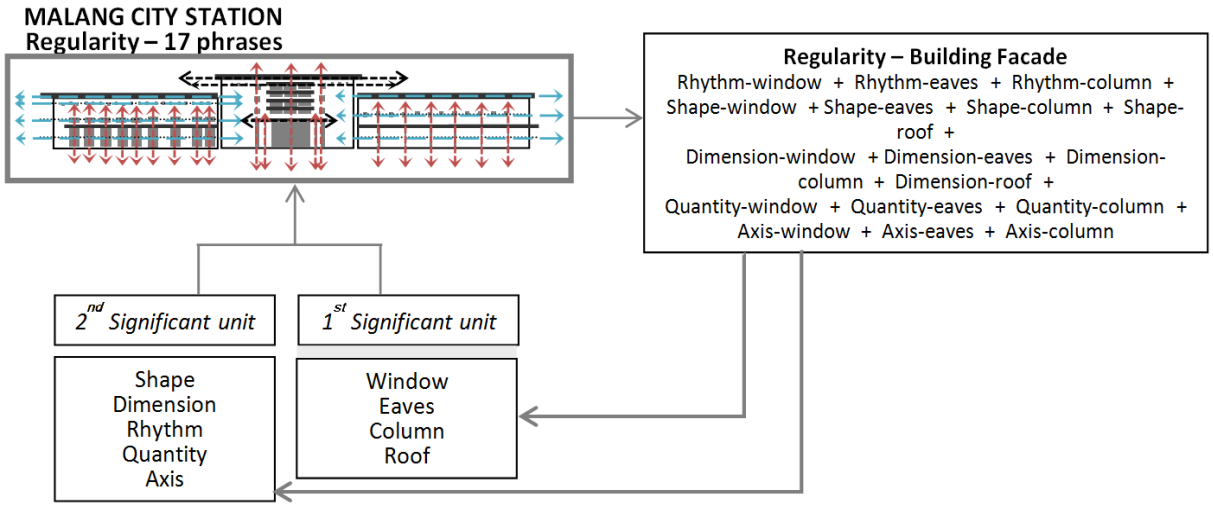


**Figure 5.** The Combination of Visual Elements in the Theme of the Regularity of the City Station Building's Facade

**Table 1.** The Number of Phrases for Each Compositional Theme in Each Building

| Composition Themes | Number of Phrases | | | | | | Total Number of Phrases |
|---|---|---|---|---|---|---|---|
| | City Station | PLN Office | Toko Oen | City Hall | Fratera n School | KPKN | |
| **Regularity** | **17** | **22** | **42** | 26 | 22 | 9 | 138 |
| **Balance** | 15 | 4 | 33 | **36** | **42** | 8 | 138 |
| **Dynamism** | 5 | 18 | 10 | 5 | 17 | **19** | 74 |
| Firmness | 3 | 9 | 5 | 16 | 20 | 8 | 60 |
| Dominance | 4 | 4 | 5 | 11 | 8 | 10 | 42 |
| Monotony | 3 | 6 | 8 | 11 | 6 | 4 | 38 |
| Total Number of Phrases | 47 | 63 | 103 | 105 | 115 | 58 | - |

**Table 2.** The Compositional Themes and Visual Elements Determine the Formal Aesthetics of the Building Facade

| Formal Aesthetics | Composition Themes | | | | | |
|---|---|---|---|---|---|---|
| | Regularity | | | Balance | | Dynamism |
| | City Station | PLN Office | Toko Oen | City Hall | Frateran School | KPKN |
| Visual Element | Window<br>Column<br>Eaves<br>Shape<br>Dimension | Façade plane<br>Shape | Façade plane<br>Shape<br>Color<br>Proportion<br>Axis | Façade plane<br>Shape<br>Dimension<br>Axis | Façade plane<br>Axis<br>Shape<br>Dimension<br>Proportion<br>Quantity | Roof<br>Rhythm<br>Proportion |
| | 5 of the 9 significant units | 2 of the 16 significant units | 5 of the 15 significant units | 4 of the 15 significant units | 6 of the 15 significant units | 3 of the 13 significant units |

The number of phrases in each compositional theme of the overall six compositional themes for every building shows how each building has the strongest compositional theme. The strongest compositional theme in a building is formed by the combination of the 1st significant unit – the 2nd significant unit with the largest number of phrases. It is the compositional theme that gives the biggest contribution to shaping the visual and aesthetic qualities of the building

facade. The formal aesthetics of the facade of the City Station, Perusahaan Listrik Negara (PLN) Office, and Toko Oen are formed by the strength of the theme of regularity, the City Hall and Frateran School buildings by the power of the theme of balance, the Kantor Perbendaharaan & Kas Negara (KPKN) building by the strength of the theme of dynamism (Table 1). These themes are explained through a series of the smallest combination units between the 1st significant unit and the 2nd significant unit which is very detailed because it is produced through the maximum possible combination of existing visual elements to achieve the largest number of phrases.

The compositional theme that plays a principal role in shaping the formal aesthetics of the facade in each building is formed by the presence of specific visual elements. Of the existing eight 1st significant units and eleven 2nd significant units, not always all elements are used and combined in producing a compositional theme. On the other hand, there are visual elements used repeatedly in the overall 1st significant units and 2nd significant units combination set. The visual elements with the greatest frequency of occurrence play a principal role in shaping the theme of the composition. So they are the determinants of the formal aesthetics of the building facade. Table 2 shows the visual elements that determine the formal aesthetics of the building facade. These visual elements are the most frequently used visual elements in constructing the strongest compositional theme for the facade design of a public building with the Dutch East Indies architecture in Malang City.

### 3.2. Authentic, Representative and Inclusive Visual Elements in the Context of Regularity as a Representation of the Building and its Visual Dynamics

Based on the results of section 3.1 above, the theme of regularity in the three research object buildings, namely City Station, PLN Office, and Toko Oen is the largest phrased theme compared to five other compositional themes in each building. In the context of regularity as a representation of these three buildings, there are visual elements that play a hierarchical role in shaping the formal aesthetics of the building's facade. Therefore, the main visual elements that determine the formal aesthetics in each building that have been identified in Table 2 need to be further specified hierarchically. Determination of the significance of visual elements in contributing to the formation of the formal aesthetics of the building is done by looking at the paradigmatic-syntagmatic relation so that three categories of visual elements are produced.

Visual elements are divided into three categories, namely authentic, representative, and inclusive visual elements. In every building, the determination of the three categories of elements is carried out based on a paradigmatic analysis, namely the juxtaposition of all identified visual elements (paradigms) in the overall map of the six compositional themes (syntagms). Authentic visual elements are visual elements that are dominant or main in one particular theme but do not appear in many other themes. Representative visual elements are visual elements that are dominant in one particular theme, while in other themes, they seem to thrive but are not the main visual elements. While the inclusive visual element is a visual element that also thrives in many themes, in this case, it also acts as the main visual element in many themes, not just in one particular theme.

Based on the juxtaposition of the visual elements in the City Station building in forming the overall six themes of the existing composition, the three categories of visual elements, namely authentic, representative and inclusive, are as follows (Figure 6). Three elements are inclusive, namely the façade plane, window, and rhythm. What this means is that these three elements play the greatest role in the formation of the overall theme of the composition because they are almost present in every existing theme narrative, and at the same time become the main visual elements not only in one theme but in many themes. For example, rhythm plays a role in five themes and becomes the main visual element in three themes: balance, dynamism, and monotony.

Meanwhile, in the context of regularity as a representation of the City Station building, five main visual elements that have been identified as seen in Table 2 are windows, columns, eaves, shapes, and dimensions. Windows are inclusive visual elements that act as the main visual elements in giving the impression of regularity in the facade of the City Station building as well as contributing to other themes. While the shape is a representative visual element because it becomes the main visual element only on the theme of regularity and does not become the main visual element in other compositional themes. The last category, namely authentic visual elements in the context of the regularity theme, is the eaves, dimensions, and columns because these three elements do not appear or play a role in the formation of the other five themes (Figure 7).

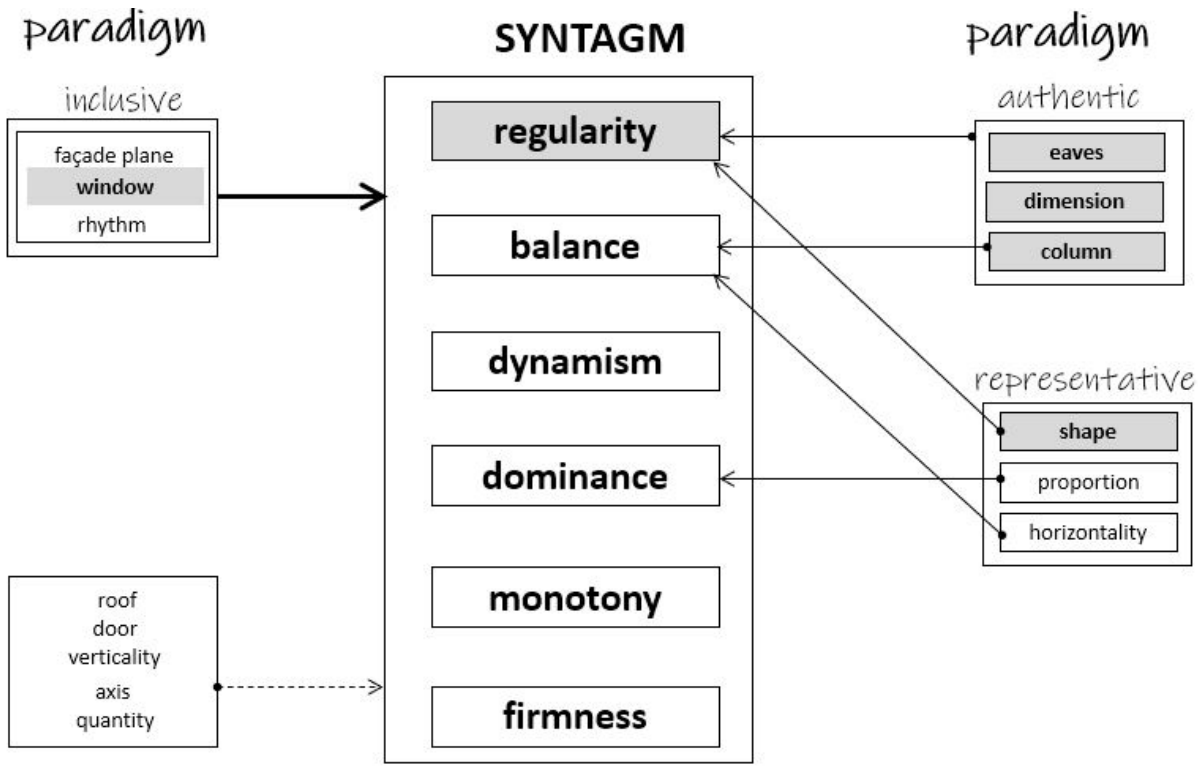


**Figure 6.** Mapping of Visual Elements in the Paradigmatic-Syntagmatic Relation of the City Station Building's Facade

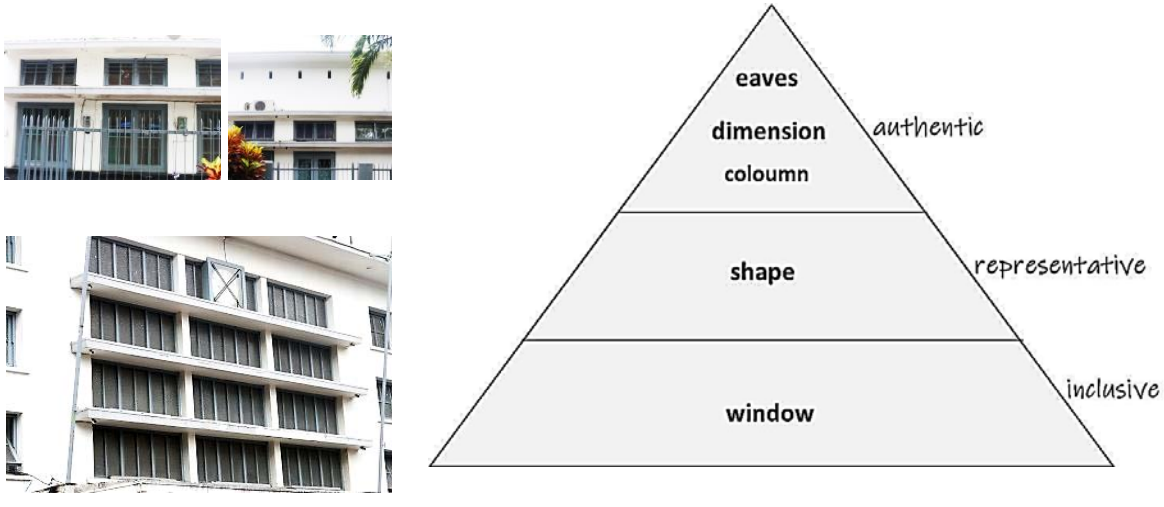


**Figure 7.** Authentic, Representative, and Inclusive Visual Elements in the Context of Regularity as a Representation of the City Station Building

Based on the authenticity, representation, and inclusivity of visual elements forming the formal aesthetics of the facade of the City Station building in the context of the theme of regularity as a representation of the building, the treatment of visual elements to preserve buildings as heritage buildings of the past that need to be preserved can refer to the three categories of elements. The aspect of shape representing the regularity of the composition of the facade of the City Station building is the most important in maintaining the formal aesthetics of this Dutch East Indies architectural building. While the authenticity and inclusivity of visual elements, in this case, are on the eaves, dimensions, columns, and windows occupy the next priority. This applies, of course, on the scale of individual building preservation. It will be different when the preservation of the facade of the City Station building is in the context of a wider scale of preservation when there are other heritage buildings of the past in a certain spatial scale together with the City Station building itself.

Similar to the City Station building, the PLN Office building has the main visual elements that are authentic, representative, and inclusive. However, when the formal

aesthetic quality of the building that is put forward is more in the context of regularity as a representation of the building, it can be seen that the facade of the PLN Office building does not necessarily have all three categories of visual elements. In this case, the PLN Office building's facade has an inclusive main visual element only, consisting of only two elements, namely the facade plane and shape (Figure 8 and Figure 9).

When viewed from the syntagmatic paradigmatic relation of the facade of the PLN Office building in the Figure 8 chart, the potential for visual quality indicating the presence of representative and authentic visual elements is more directed to the dynamism theme, although in terms of the number of phrases the theme of regularity is still the theme with the largest number of phrases (22 phrases, while dynamism theme 18 phrases). The absence of authentic and representative visual elements on the regularity theme, and vice versa on the dynamism theme shows that in this PLN Office building there is a dynamic visual quality that enriches the visual impression of the building itself. Therefore, the priority of preserving the facade of the PLN Office building as a heritage building from the past can still refer to several possible choices of compositional themes, between regularity and or dynamism.

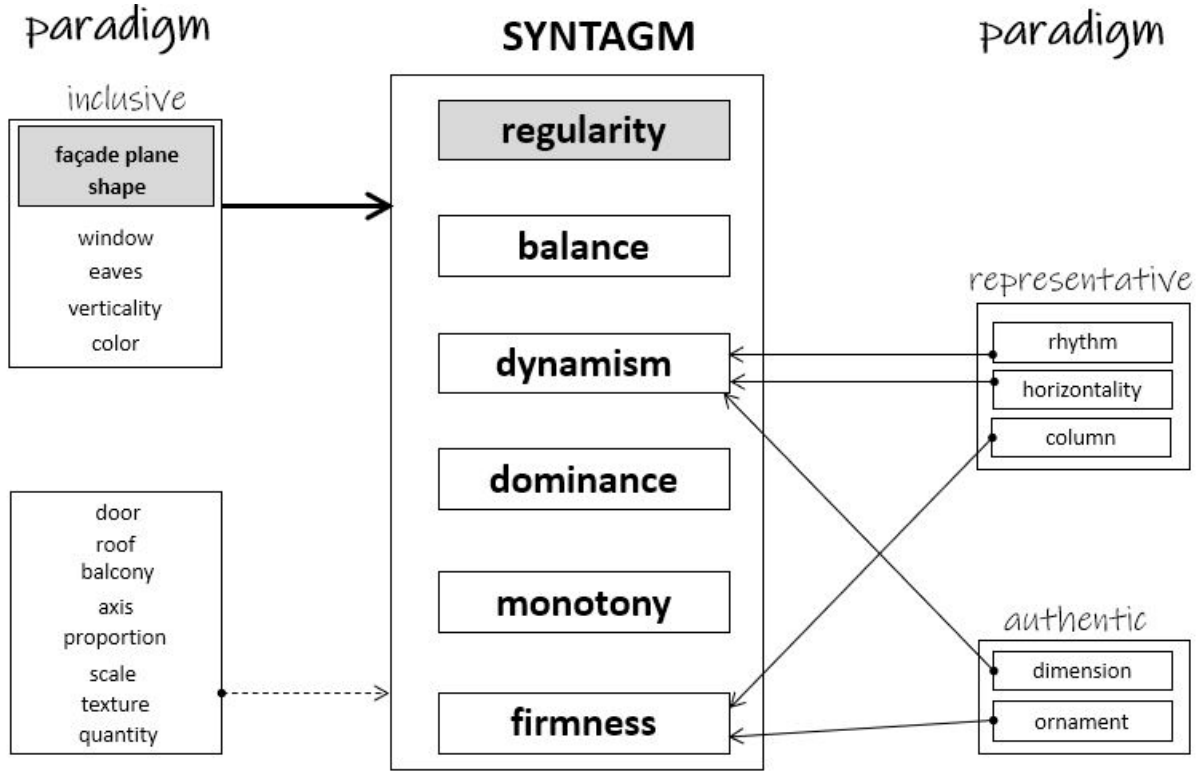


**Figure 8.** Mapping of Visual Elements in the Paradigmatic-Syntagmatic Relation of the PLN Office Building's Facade

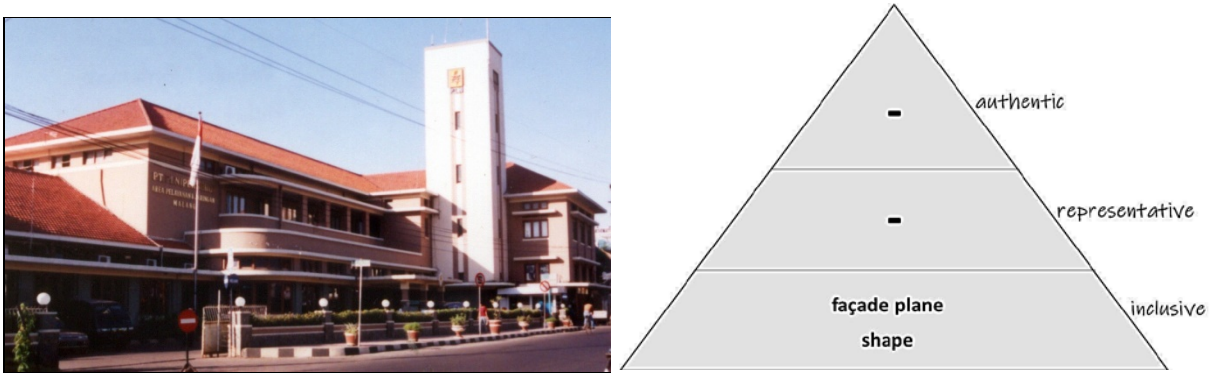


**Figure 9.** Inclusive Visual Elements in the Context of Regularity as a Representation of the PLN Office Building

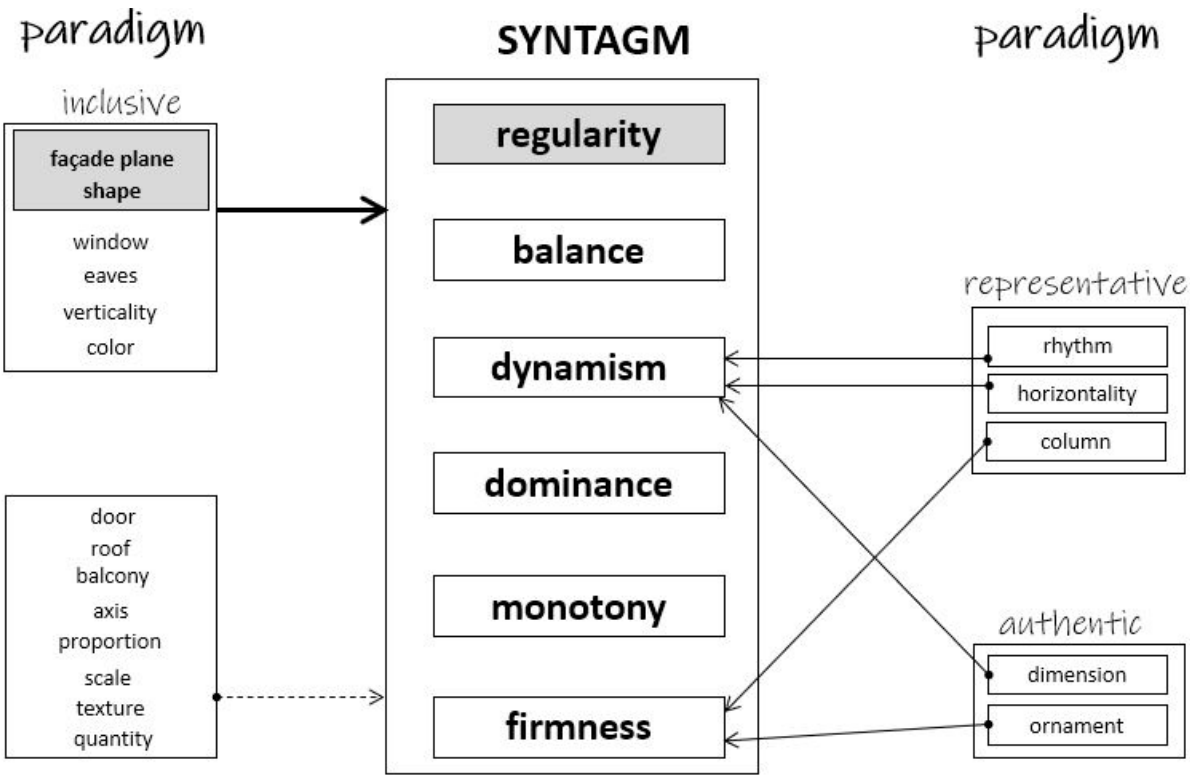


**Figure 10.** Mapping of Visual Elements in the Paradigmatic-Syntagmatic Relation of the Toko Oen Building's Facade

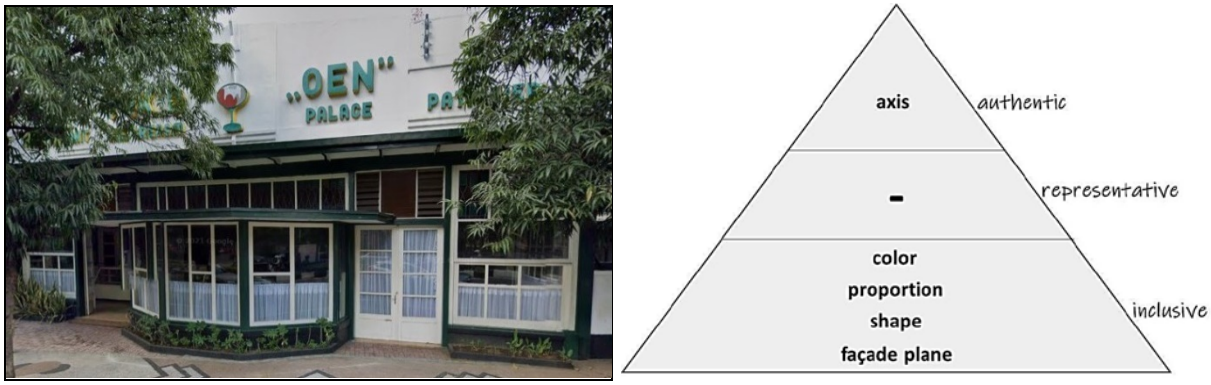


**Figure 11**. Authentic and Inclusive Visual Elements in the Context of Regularity as a Representation of the Toko Oen Building

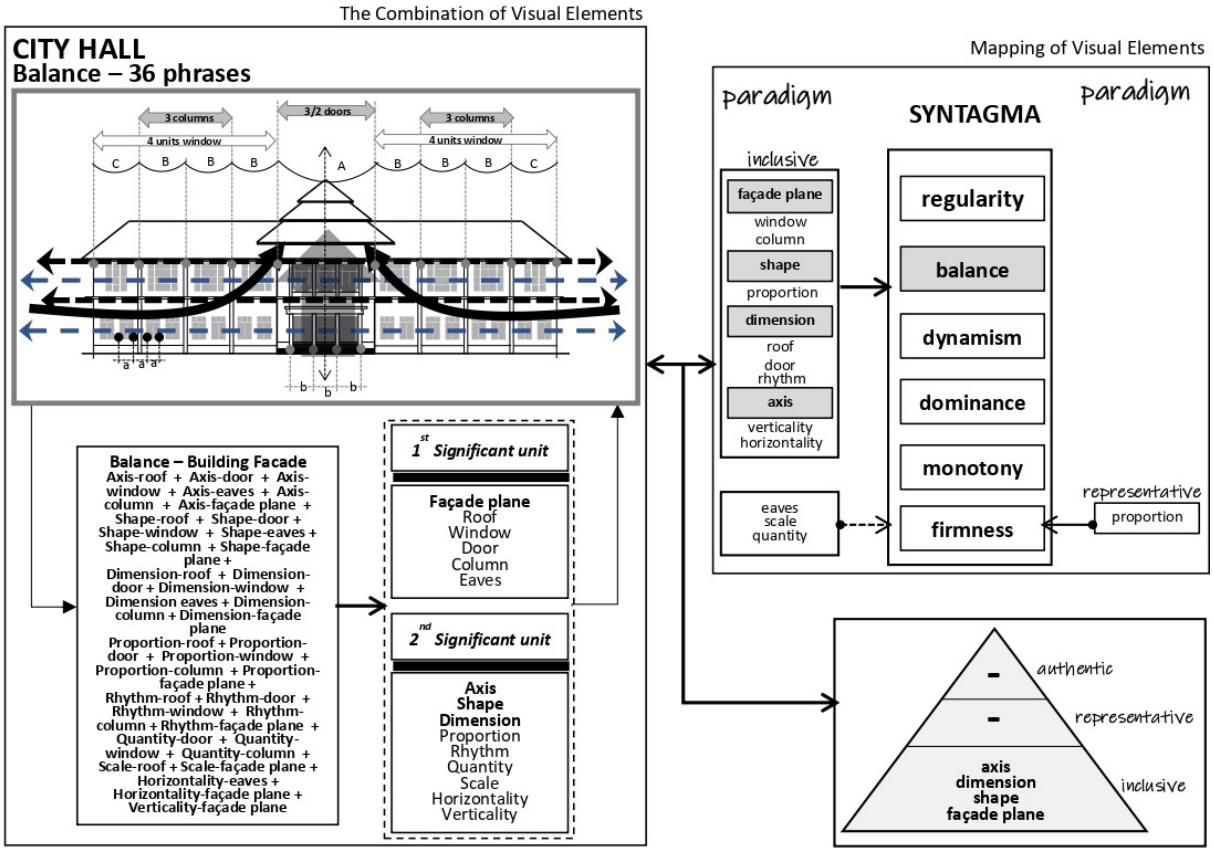


**Figure 12.** Inclusive Visual Elements in the Mapping Result and the Context of Balance as a Representation of the City Hall Building

It is different in the Toko Oen building, the main visual elements included in the formal aesthetics of the building with the theme of regularity as the strongest theme and the largest number of phrases making it a representation of the building, consisting of two categories of elements, namely inclusive and authentic, without the presence of representative elements (Figure 10 and Figure 11). The dynamics of visual quality can be seen from the chart in Figure 10 when the balance theme is the second largest number of phrases after the regularity theme (42 phrases regularity, 33 phrases balance, see Table 1). The balanced theme has complete visual element categories, both authentic, representative, and inclusive. Therefore, the possible choice of themes that can be put forward to carry out building preservation efforts to maintain the formal aesthetics of the building facade is regularity and or balance. When the two themes are considered simultaneously, the point of concern is the existence of an authentic element that contributes simultaneously to the two themes, namely the axis, so that it should be a top priority to be maintained for its sustainability.

### 3.3. Authentic, Representative and Inclusive Visual Elements in the Context of Balance as a Representation of the Building and its Visual Dynamics

Based on the results of research related to the six compositional themes of the building facade (section 3.1), it can be seen that the theme of balance in the two research object buildings, namely the City Hall and the Frateran School, is the largest phrased theme compared to the other 5 compositional themes in each of these buildings. The facade of the City Hall and Frateran School has main visual elements that are both authentic, representative, and inclusive in the context of balance as a representation of the building. These three categories of elements indicate a hierarchical role in shaping the formal aesthetics of the building facade.

Referring to Table 1, the main visual elements that determine the formal aesthetics of the City Hall building facade with balance as a representation of the building are the facade plane, shape, dimensions, and axes. From the results of the syntagmatic paradigmatic relation, it can be seen that all elements are inclusive visual elements (Figure 12).

Similar to the PLN Office building in the context of regularity, the facade of the City Hall building in the context of balance only has the inclusive main visual element, without any authentic and representative elements. The visual quality of the facade of the PLN Office building is still more dynamic with the presence of another, richer theme, namely the dynamism theme because there are three categories of elements in it. Meanwhile, the consistency of the theme of balance in the City Hall building is more stable because there is no other theme that stands out more

in terms of the number of phrases and the completeness of the three categories of visual elements. This can also be seen from the existing syntagmatic paradigmatic relation (Figure 12 - top-left chart) when inclusive visual elements dominate the overall map of the six compositional themes. The existence of the primacy of inclusive visual elements as a determinant of the formal aesthetics of the City Hall building facade shows that the composition of visual elements is produced through a proportional arrangement between one element and another in all six existing compositional themes. This causes no visual elements to be seen as dominant and stand out individually.

Meanwhile, the main visual element that determines the formal aesthetics of the Frateran School building in the same context as the City Hall building, namely the context of balance is not only inclusive but covers visual elements both authentic and representative (Figure 13). Formal aesthetics as a result of the balance in the composition of the facade of the Frateran School building is largely determined by the elements of shape and proportion as representative elements. These two elements become the main determinants, due to their role as the main element only on the theme of balance and not on the other five compositional themes. The visual elements with the next level of contribution are authentic elements: quantity; and inclusive elements: facade planes, axes, and dimensions.

The hierarchy of the visual elements of the facade of the Frateran School building is more specific because of the completeness of the three categories of visual elements in it compared to the City Hall building. Therefore, the treatment of visual elements as an effort to maintain the formal aesthetics of the building as part of the effort to preserve heritage buildings is becoming more complex in the Frateran School building. The impression of balance in the composition of the facade of the Frateran School building does not only pay attention to the issue of axes which is usually the main concern in a balanced composition but also needs to focus on aspects of proportion and shape.

### 3.4. Authentic, Representative and Inclusive Visual Elements in the Context of Dynamism as a Representation of the Building and its Visual Dynamics

Two categories of elements, namely inclusive and representative elements play a potential role in shaping the formal aesthetics of the KPKN building. It can be seen from the results of syntagmatic paradigmatic relations (Figure 14 – upper-right). The absence of authentic visual elements and the dominance of inclusive visual elements can be seen in the overall map of the six compositional themes. The composition of visual elements is produced through a proportionately balanced arrangement between elements. This shows that there is no visual element that is very dominant and stands out individually.

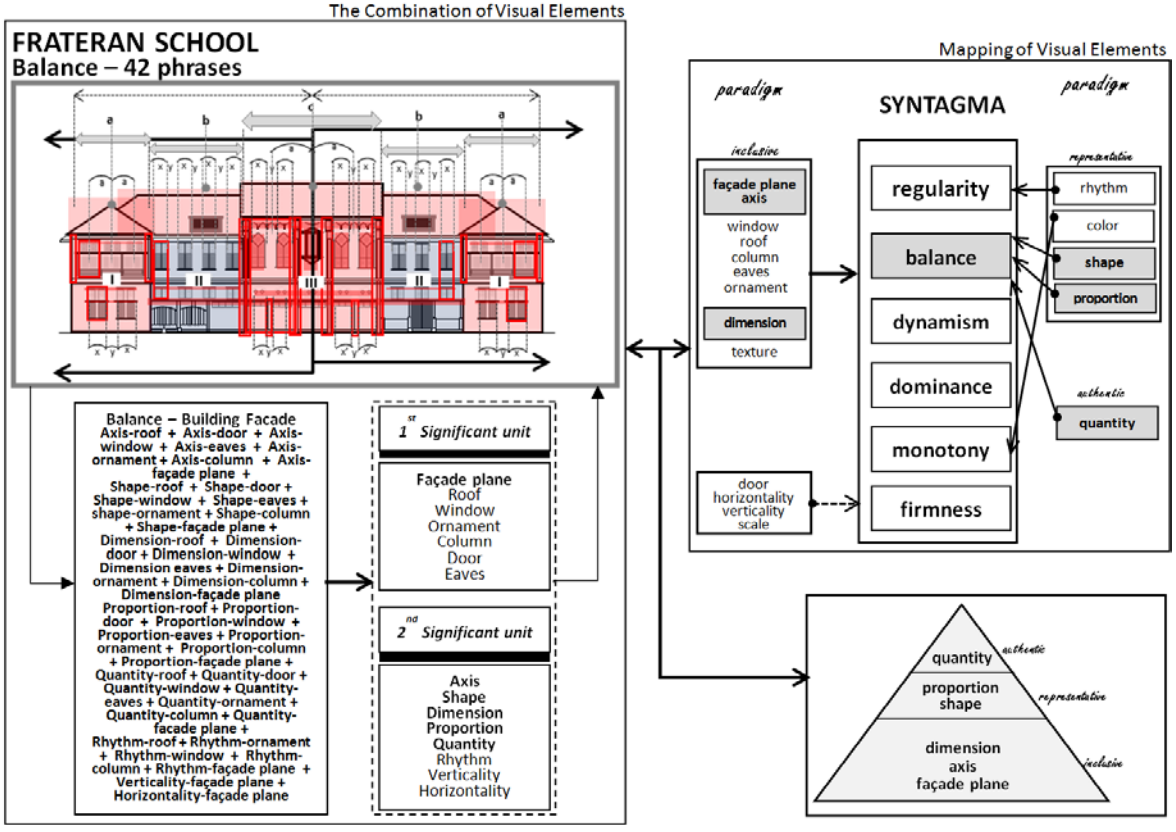


**Figure 13.** Three Categories of Visual Elements in the Mapping Result and the Context of Balance as a Representation of the Frateran School Building

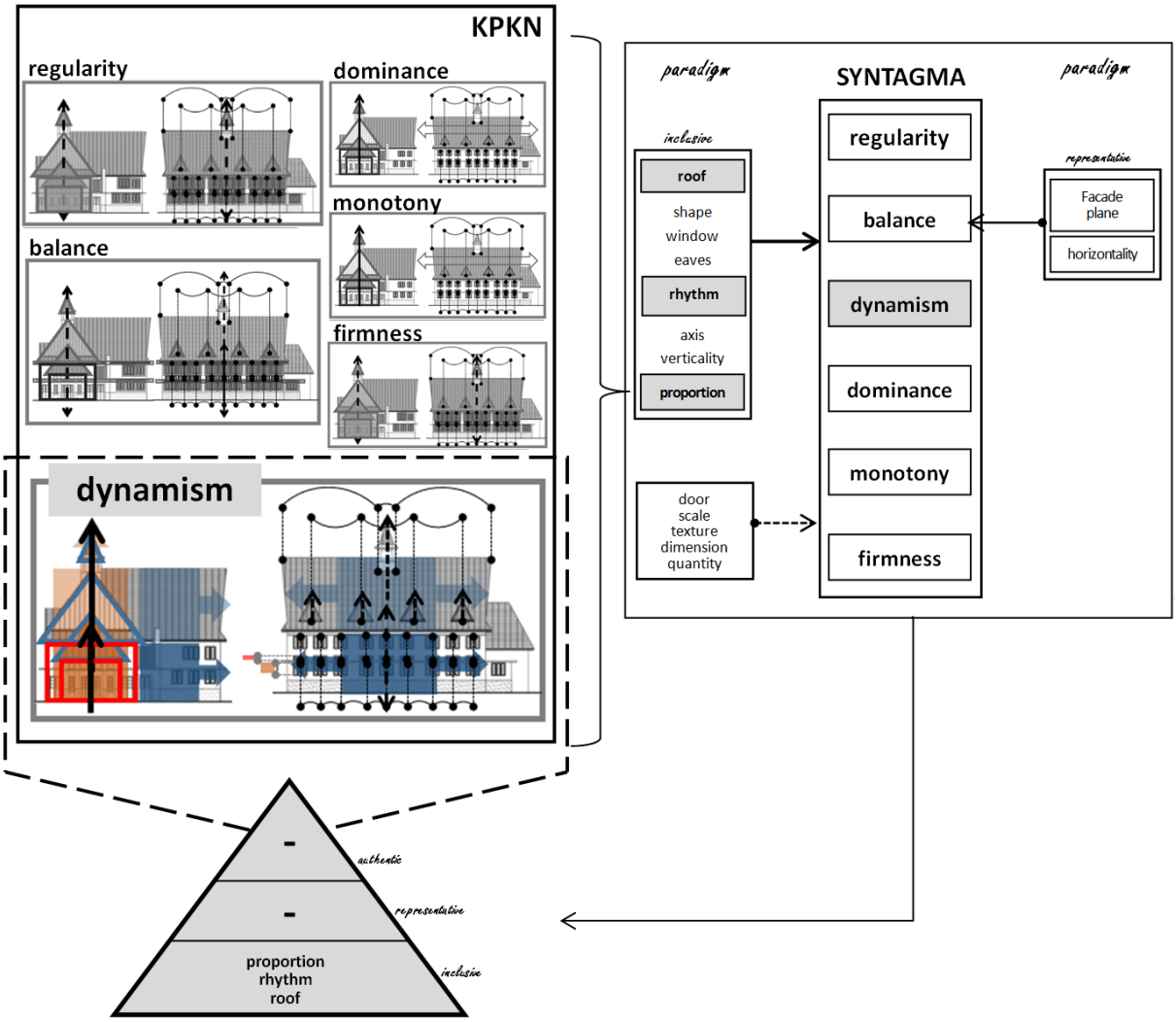


**Figure 14.** Inclusive Visual Elements in the Mapping Result and the Context of Dynamism as a Representation of the KPKN Building

### 3.5. The Quality of the Visual Elements in Shaping the Formal Aesthetics of the Building Facade

Based on the identification of three categories of visual elements as the basis for determining the role of one hierarchically in the formation of the formal aesthetics of the building, it is clear that there are differences between Table 2 and the following table (Table 3). In Table 3, the main visual elements that exist in each building with the context of the theme of their respective compositions, the category specifications can be determined, so that the specifications of the level of importance can be determined in forming formal aesthetics. If the building contains three categories of visual elements, then the representative visual element is the most important element with the description as described in sections 3.2 to 3.4 above. Then followed by authentic and inclusive elements.

If we compare one building to another, not all formal aesthetics of a building are formed by the most important visual elements in the form of representative elements. Even from the six research object buildings, only two buildings whose most important elements are elements of the representative category. In addition, not all buildings have the completeness of three categories of elements, only two of the six buildings with the most complete formation: City Station with regularity as a representation of the building and the Frateran School with balance as a representation of the building. With the completeness of this element category, the two buildings have visual quality with a more detailed and varied level of elaboration of the combination of visual elements in producing a unified pattern of visual order. **Diversity in unity** is a concept that can be represented in its embodiment by the two buildings.

In contrast to the two buildings, the City Hall building and the KPKN building only have inclusive elements as a determinant of the formal aesthetics of the building. Reinforced by the identification of inclusive visual elements that dominate the overall map of the existing six compositional themes, the two buildings have high harmonization in producing a unified pattern of visual order. **Harmony in unity** is a concept that can be represented in its embodiment by the two buildings.

The PLN office building has two themes that influence

each other in producing an expression for the facade of the building. With these two themes, the building has a high visual quality complexity. The two themes, namely regularity as a representation of the building and the theme of dynamism indicate visual dynamics, but from these two different themes, it turns out that the axis element is the most important visual element in producing the aesthetics of the building's facade. Thus **complexity in unity** is a concept that can be represented in its embodiment by this building. These three concepts ultimately show the dynamic concept behind the existence of three categories of elements in the formal aesthetics of the facade design of a public building with the Dutch East Indies architecture in Malang. Visual dynamics that can occur and affect the increasing variety of visual impressions that can be caught by the eye of the observer from the largest to the smallest are complexity, diversity, and harmony.

### 3.6. The Role of Authenticity, Representation, and Inclusiveness of Visual Elements in Maintaining the Formal Aesthetic Qualities of Buildings

The six buildings that are the object of this research are heritage buildings with Dutch East Indies architecture in Malang City. If the three categories of visual elements in the formal aesthetic formation of buildings are placed in the context of the building's status as heritage buildings, the results of the identification of visual elements in this study are closely related to architectural preservation efforts. Architectural preservation is carried out by maintaining the architectural quality of an architectural object (building) through efforts to maintain the aesthetic aspect of the building. Aesthetics as an important aspect in the criteria for evaluating a heritage building makes the preservation of heritage buildings inseparable from the preservation of elements that are significant for the formation of the aesthetic quality of the building.

Based on the basic understanding of authenticity, representation, and inclusion in this study, the understanding of the three concepts in terms of how visual elements shape the formal aesthetics of a building is as follows. The authenticity of a visual element is the limited and special coverage of a visual element in a certain compositional theme only due to its absence from other compositional themes. For example, the authenticity of the visual elements in the Frateran School building shows that the quantity as an authentic visual element is a special and distinctive significant unit in producing a balanced composition in the facade of the building, and does not become significant in other themes.

In the context of the individual building, the strength of the authenticity of the visual element is still weaker than the power of representation of the one in forming formal aesthetics. Because the representation of the visual element is prominently included in a particular theme compared to other themes but is not limited to because it is a determinant of other themes even though it is not significant. The prominence of this category element is tested by its role as the main visual element in that one theme. Therefore, when the formal aesthetic quality of heritage buildings is considered as part of its preservation efforts, the significance of this representative element becomes a top priority to be maintained.

Inclusive visual elements belong to many themes so when a building has an inclusive visual element of a certain theme as a representation of a building forming a formal aesthetic, this element is not only significant for this theme but also for other themes. This is what causes the level of importance to be not as large as the representative element or the authentic element. Based on this, inversely proportional to the hierarchy of elements' importance levels, the level of tolerance for changes in elements from high to low, respectively, is inclusive, authentic, and representative elements. This means that the greatest effort to strictly maintain the existence of the element must be made to the representative element. Overall, the qualifications of visual elements in the formal aesthetics of the facade design of historic public buildings in Malang City which are represented by six buildings with Dutch East Indies architecture are as follows (Table 4).

**Table 3.** Three Categories of Visual Elements in the Formal Aesthetics of Building Facades

| **Formal Aesthetic** | | **Composition Themes** | | | | | |
|---|---|---|---|---|---|---|---|
| | | **Regularity** | | **Balance** | | | **Dynamism** |
| | | **City Station** | **PLN Office** | **Toko Oen** | **City Hall** | **Frateran School** | **KPKN** |
| Visual Element Category | Inclusive | Window | **Façade plane**<br>**Shape** | Façade plane<br>Shape<br>Proportion<br>Color | **Axis**<br>**Dimension**<br>**Shape**<br>**Façade plane** | Dimension<br>Axis<br>Façade plane | **Roof**<br>**Rhythm**<br>**Proportion** |
| | **Representative** | **Shape** | - | - | - | **Proportion**<br>**Shape** | - |
| | Authentic | Column<br>Dimension<br>Eaves | - | **Axis** | - | Quantity | - |

**Table 4.** Visual Elements Qualification

| Visual Dynamic | Building | Building Representation | The level of element's importance maintains the formal aesthetics & visual quality of the area | | | Hierarchy of Buildings as a reinforcement of the visual quality of the area | |
|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | dynamism | unity |
| Harmony in unity | City Hall | Balance | - | - | √ | III | I |
| | KPKN | Dynamism | - | - | √ | | |
| Diversity in unity | Frateran School | Balance | √ | √ | √ | I | II |
| | City Station | Regularity | √ | √ | √ | | |
| | Toko Oen | Regularity | - | √ | √ | | |
| Complexity in unity | PLN Office | Regularity | - | - | √ | II | III |

# 4. Conclusions

The formal aesthetics of the building facade are shaped and determined by the presence of three categories of elements, namely authentic, representative and inclusive. These three categories are accompanied by a hierarchical level of importance, from the most important: the representative element, then followed by the authentic element and the inclusive element. This level exists in the context of the individual building or includes the micro meaning of the building. What it means is that the formal aesthetic power which is already contained in the object itself is a prerequisite for the existence of these three elements. Thus, when the scope of the meaning of the building is in the context of a wider environmental scale due to the presence of other buildings in the vicinity, the level of hierarchical importance can be different between the three elements. This requires further research.

In the context of a public building with the Dutch East Indies architecture in Malang City, the formal aesthetics of building facade design with six research cases shows the concept of visual dynamics due to the presence of three categories of visual elements: authentic, representative, and inclusive. The concept of visual dynamics is divided into three small concepts, namely 1) diversity in unity, 2) harmony in unity, and 3) complexity in unity. When visual dynamics can occur in the formal aesthetics of a building, the depth and breadth of the concept of dynamics can of course be higher and wider when the aesthetics of the building reach beyond the formal aesthetics themselves, into the domain of sensory aesthetics and symbolic aesthetics. This also requires further research.

With the context of the Dutch East Indies architectural building as a heritage building, determining the level of importance of the visual elements of the building in this case based on three categories of authentic, representative, and inclusive elements can assist efforts to assess heritage buildings from the aesthetic aspect of the building differently from existing assessment methods. The results of categorization can help preserve heritage buildings through their visual elements more accurately because, with different levels of importance, tolerance for changes between three elements categories can be different. This provision especially applies to the expression of the building's appearance from the outside (building facade) as the unit of observation. Further development can be done through research with observational units in the form of visual elements in the expression of the appearance of the building in the interior or interior spaces so that they complement each other.

# Acknowledgements

This paper and the research behind it would not have been possible without the exceptional support of LPDP, the Ministry of Finance, Republic Indonesia for providing financial support during the research.

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