

## Architectural semiotics to uncover the denotative and connotative meanings of buildings in Malioboro, Yogyakarta

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ARTICLE INFO	ABSTRACT
<p><i>Article history:</i>                      Received June 04, 2025                      Received in revised form Aug. 08, 2025                      Accepted September 27, 2025                      Available online December 01, 2025</p> <p><i>Keywords:</i>                      Architectural semiotics                      Connotation                      Denotation                      Malioboro                      Roland Barthes</p> <p>*Corresponding author: B. Sumardiyanto                      Department of Architecture, Faculty of Engineering, Universitas Atma Jaya Yogyakarta Jl. Babarsari 44, Yogyakarta, Indonesia                      Email: <a href="mailto:b.sumardiyanto@uajy.ac.id">b.sumardiyanto@uajy.ac.id</a></p>	<p><i>This study examines the denotative and connotative meanings of architectural elements in historical buildings on Malioboro Street, Yogyakarta, using Roland Barthes' semiotic approach. The Malioboro shopping area has undergone modernization, impacting the function and public interpretation of its buildings. This research aims to understand the existing visual forms in logos, exteriors, and interiors contribute to constructing architectural meaning and how visitors interpret these signs in cultural and historical contexts. The research method involves direct observation and structured interviews with 12 respondents, consisting of both new and returning visitors. The analysis focuses on six selected buildings that have retained their original architectural form. The findings indicate that denotative meaning is more easily recognized than connotative meaning. Logos and exteriors play a more significant role in communicating explicit meanings, while interiors contribute more to conveying symbolic meanings. These findings emphasize the importance of preserving historical architectural elements to maintain cultural identity and symbolic heritage in Malioboro through visitors' collective experience and perception of the area. Implications for architectural science, this research enriches architecture by bridging the gap between physical form and socio-cultural meaning. This approach not only optimizes the function of space but also makes architecture a medium of communication that is relevant to the context of the times.</i></p>

### Introduction

Architecture is a tangible manifestation of cultural expression that exerts a significant impact on social life. Every building is able to reflect values, traditions, and the identity of a community group, while simultaneously becoming evidence of the development of civilisation over time (De Lourdes Luz and Dos Santos 2004; Wing 2015). Furthermore, through a built environment, it is possible to trace patterns of life, belief systems, as well as aspirations that shape a community, both

in historical contexts and in the dynamics of the present day (Jasim and Al-Majidi 2024).

One of the ways of reading signs in buildings is through the semiotic approach, which constitutes the study of signs and meanings contained in an object or event, as well as how those signs are interpreted within a social and cultural system (Hamel 2011). In the architectural context, semiotics plays a role in understanding how visual elements, building forms, and spatial arrangements are able to communicate meaning to their users (Widodo and Artiningrum 2022; Rambe and Nasution 2023).



The application of semiotics in architecture has become an essential aspect in comprehending the relationship between the built environment and cultural identity. This approach not only assists in designing functional buildings but also enriches the understanding of historical values embedded in architectural elements. By recognising the signs in architecture, it can be revealed how a building is not merely a place of activity, but also a symbol of social and cultural journeys (Pellegrino 2006; Ashadi Ashadi 2018; Hoed 2011).

This approach enables observers to identify the interrelation between space, culture, and history, so that architectural signs can be collectively interpreted by society. In the traditional architecture of Yogyakarta, the concept of semiotics is closely related to the philosophy of *Catur Gatra Tunggal* and the Imaginary Axis, wherein city elements function not only as parts of the physical landscape, but also possess profound symbolic meanings (Kuswalastri 2021).

Yogyakarta is recognised as a city with a series of historical buildings rich in cultural meanings. One of the areas that has become the centre of history and culture in Yogyakarta is the Malioboro Trade Area, which functions not only as a commercial centre but also as a space for social interaction and cultural activities. This area possesses deep historical values, which were subsequently acknowledged globally with its designation as a World Heritage Site by UNESCO in 2023 (Kardanardi and Syahdani 2024). This recognition further affirms that Malioboro is one of the cultural centres that reflects the distinctive identity of Yogyakarta (Septirina, Takeo, and Satoru 2016; Cahya, Mahendra, and Damanik 2017).

However, along with the progression of time, the Malioboro Trade Area has undergone modernisation that has had an impact on the transformation of building functions and forms. This shift occurs not only in the economic and social context, but also affects the structure of urban spaces and historical buildings. The physical changes that occur can threaten the preservation of cultural values that have been inherited across generations, particularly as many buildings undergo functional adaptation that results in shifts of their symbolic meanings. Therefore, an understanding of architectural signs within the buildings in Malioboro becomes

crucial in observing how these changes influence the identity of the area.

This research aims to uncover the meanings embedded in the architectural signs of six selected buildings along Malioboro Street. The study seeks to provide deeper insights into the philosophical meanings implied within the building elements, as well as to compare visitors' perceptions of those buildings based on their experiences. The findings of this research are expected to become a significant reference in the efforts to preserve architectural elements that possess cultural and philosophical values, so that the identity of the Malioboro area can be maintained amidst the dynamics of temporal changes.

## Methods

Several studies have employed the semiotic approach, among others: a study of the facades of commercial buildings in Makassar (Mall Ratu Indah, Hotel Horison, McDonald's) using Peirce's theory, which emphasises three principal elements: icon, index, and symbol. The analysis was carried out to uncover meanings and architectural expressions based on the type of ownership and the function of the buildings (Nuryuningsih, Syuaib, and Rahim 2022).

In addition, research has also been conducted employing Peirce's structural semiotics approach, which analyses the structure of signs and symbols on the façade and architectural elements of the IMAX Keong Mas Theatre building. This study highlights how architectural signs construct visual communication and social meaning (Ibrahim and Ashadi 2020).

The research applies a semiotic approach grounded in Roland Barthes's theory to reveal the denotative and connotative meanings embedded in architectural works. According to Barthes, human space is a space full of meaning, in which the city can be understood as a form of writing, and buildings function as texts that may be read (Terzoglou 2018). Meanwhile, individuals who interact within it are regarded as readers who interpret the meanings of the space. Urban architecture not only represents physical form but also embodies ideology, values, power relations, emotions, and cultural meanings that are materialised through various strategies of writing (Barthes 1986).

In depth, Barthes proposed that semiotics consists of two levels of meaning, namely denotation and connotation (Barthes 1964; 1957). Denotation refers to the explicit or direct meaning conveyed by a sign, while connotation represents the meaning constructed culturally and ideologically within a particular social context. This approach is employed in the research to understand how visual elements in the buildings along Malioboro contain deeper layers of meaning beyond their mere physical forms.

The study applies both primary and secondary data. The primary data were obtained through direct observation of architectural elements, including logos, building appearances, and interior spaces of selected buildings (Rahayu et al. 2023). Furthermore, structured interviews were conducted with 12 informants, consisting of six respondents who visited the building for the first time and six respondents who had visited more than once, also referred to as long-term visitors. The interviews aimed to explore how visitors comprehend the denotative and connotative meanings of the building elements based on their experiences and perceptions. The secondary data were derived from previous research, historical archives, as well as literature related to semiotics and the history of buildings in Malioboro. A total of six buildings were chosen as objects of study, based on the criterion of having undergone minimal physical alterations, thereby maintaining architectural elements suitable for semiotic analysis. Three of the buildings had experienced functional transformations, namely Jogja Library Center, Nam Hien Store, and Sari Ilmu Store, while the other three buildings, namely Kimia Farma Pharmacy, Enteng Store, and Sumber Husodo Store, retained both their original forms and functions.

Jogja Library Center was formerly a printing and bookshop belonging to the Dutch private company N.V. Boekhandel en Drukkerij Kolff-Buning. During the Japanese colonial period in the 1940s, the building was converted into the office of the Japanese Domei news agency and, in the early independence era, functioned as the site for the printing of the Indonesian Republic's currency. At present, the building operates as a library and archival centre managed by the Special Region of Yogyakarta's local government.

Nam Hien Store, which was constructed in the 1930s, originally served as a high-quality leather

shoe shop. However, due to declining demand, its function shifted into a souvenir store.

Sari Ilmu Store, previously known as Hien Ho Sing, functioned as a book publisher during the 1950s. Following an inheritance system in 1996, its ownership was divided into two parties, although the unity of its external architectural space was preserved. Initially a bookshop, since 2010 it has shifted to a souvenir store, a transformation similar to that of Nam Hien Store.

Kimia Farma Pharmacy in Malioboro represents the transformation of the pharmaceutical industry during the Dutch colonial period. The building was formerly known as Apotheek Ratkhamp en Co, later renamed Apotek Raja Farma after independence.

Enteng Store and Sumber Husodo Store, constructed around the 1920s–1930s, have long been recognised as Chinese traditional medicine and Javanese herbal stores. Before the nationalisation policy of 1966, Enteng Store was known as Eng Njan Hoo Medicine Store, while Sumber Husodo Medicine Store was identified as Tek An Tong.

The research methodology aims to reveal the meanings embedded within architectural elements through a semiotic approach, in order to understand how these buildings are perceived and how their meanings have evolved amidst the modernisation of the Malioboro Trade Area.

## **Results and discussion**

Based on the findings, visitors' understanding of denotative meanings was more dominant than connotative meanings across various building elements, including logos, building appearances, and interior spaces. Most visitors, particularly those who had visited frequently, could recognise the denotative meanings of building elements because they explicitly reflected the functions of the place. However, connotative meanings were more difficult to comprehend, with only a few buildings, such as Sari Ilmu Store, Nam Hien Store, Enteng Store, and Sumber Husodo Store, possessing sufficiently strong visual elements to assist visitors in capturing the symbolism embedded within them.

In general, building façade elements were more easily recognised in terms of denotation due to the presence of building logos. Understanding of connotative meaning was easier for visitors in

the interior spaces, given the presence of equipment supporting the function of the building. These results indicate that comprehension of a building's meaning heavily depends on visitors' experiences as well as the existence of visual elements that support the building's identity and historical narrative.

#### Building Logo

Most visitors could understand the denotative meaning reflected in building logos, particularly those who had visited the site multiple times. This understanding was based on symbols and trade names that reflect the building's function or previous experiences with the store. However, connotative meanings were more challenging to grasp and were only found in certain buildings. Sari Ilmu Store, Nam Hien Store, and Enteng Store serve as examples where visitors were able to capture connotative meanings, whereas other buildings were mostly understood merely in terms of their functional purpose (figure 1).

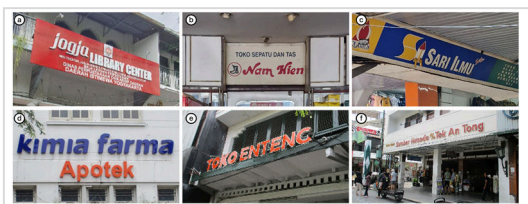


Figure 1. Logos, (a) Jogja Library Center, (b) Nam Hien, (c) Sari Ilmu, (d) Kimia Farma, (e) Enteng, and (f) Sumber Husodo

At Jogja Library Center, the denotative meaning was understood by all respondents due to the use of the word "Library" in the logo. Conversely, the connotative meaning could not be comprehended as the logo only featured the emblem of D. I. Yogyakarta as the building manager, which did not reflect its function as a library.

Only repeat visitors understood the Nam Hien Store logo, which conveyed the denotative meaning through the presence of a shoe icon and the description "Toko Sepatu dan Tas" (Shoe and Bag Store). In terms of connotation, the shoe logo reinforced the understanding that the building, now a souvenir shop, was previously a retailer of shoes and bags.

Similarly, the Sari Ilmu Store logo was only understood by frequent visitors. The denotative meaning was evident in the pencil motif, particularly for repeat visitors, who interpreted it

as reflecting the building's function as a bookshop.

Kimia Farma Pharmacy utilised the company name as the primary element, without a symbolic image. Denotatively, all respondents understood the building functioned as a pharmacy; however, in terms of connotation, the historical narrative of the building's function was not comprehensible through the logo.

Denotatively, Enteng Store was understood as a pharmacy by all visitors due to prior knowledge and experience with the building's function. Yet, regarding connotative meaning, only repeat visitors could interpret the word "enteng" as implying a feeling of relief or lightness after receiving treatment.

Likewise, all respondents understood the denotative meaning of the Sumber Husodo Store logo based on prior knowledge. The connotative meaning, however, was not conveyed because the logo was entirely textual and lacked symbolic imagery, leaving visitors unable to grasp deeper connotative meanings.

#### Building Appearance

All visitors could understand the denotative meaning reflected in the building façades or main exteriors. Visitor comprehension was generally influenced by the presence of the store logo. Regarding connotative meaning, only Sari Ilmu Store could be read. Visual elements such as owl, book, and pen graphics aided visitors in interpreting the connotative meaning contained within the façade (figure 2).

All visitors were able to understand the denotative meaning reflected in the building façades, which was generally influenced by the presence of logos and store signage as primary identity markers. Clear and familiar logos assisted visitors in directly recognising the building's function, such as Jogja Library Center being identified as a library, Kimia Farma as a pharmacy, and Sumber Husodo and Enteng Stores as medicine shops. These three stores were mostly understood in terms of function only, without deeper connotative interpretation.

Understanding of connotative meaning was more limited. Only at Sari Ilmu Store were visitors able to capture symbolic meanings from visual elements such as the owl, book, and pen, interpreted as representations of knowledge and education. In contrast, at Nam Hien Store, although the shoe logo remained, the connotative meaning of a shoe and leather bag store had faded,

replaced by the new understanding that the building now functions as a souvenir shop. Visitor comprehension of building façades was strongly influenced by visual elements and collective experience, whereby changes in function and appearance could shift previously established perceptions. This indicates that the persistence of a building's connotative meaning requires strong visual elements and a narrative maintained in the façade's identity.



**Figure 2.** Building Exterior, (a) Jogja Library Center, (b) Nam Hien, (c) Sari Ilmu, (d) Kimia Farma, (e) Enteng, and (f) Sumber Husodo

All visitors could read the denotative meaning of Jogja Library Center due to the presence of the logo indicating the building's function as a library. However, none of the visitors could comprehend the connotative meaning inherent in the building. The exterior of Jogja Library Center lacked visual elements that explicitly communicated its function or identity to visitors.

At Nam Hien Store, both new and repeat visitors understood the exterior denotatively as a souvenir shop, no longer as a shoe and bag store. This was due to the numerous tourist-oriented products displayed in the front windows, such as food and local items commonly purchased as souvenirs by visitors to Jogja, particularly in the Malioboro area. On the other hand, no visitor could capture the connotative meaning of Nam Hien's exterior as a former leather shoe and bag store; the presence of the shoe logo did not reinforce this connotative understanding.

The exterior of Sari Ilmu Store was positively interpreted by visitors for both denotative and connotative meaning. The presence of engravings of an owl, book, and pen on the façade was acknowledged by visitors. Furthermore, all visitors interpreted these visual motifs as sources and symbols of knowledge or education (figure 3).



**Figure 3.** Nam Hien Store Exterior, (a) Full view and (b) Engraving detail

Similarly to Jogja Library Center, the exterior of Kimia Farma Pharmacy was interpreted denotatively as a pharmacy by all visitors, due to the presence of a large and iconic Kimia Farma logo. Regarding connotation, however, no visitor could grasp deeper meaning from the building's exterior.

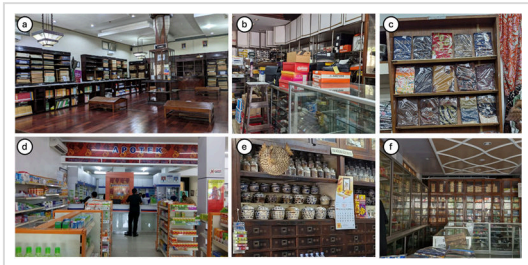
The exterior of Enteng Store was interpreted differently by new and repeat visitors. New visitors perceived it as a Chinese medicine shop, whereas repeat visitors recognised it as a pharmacy. This difference relates to the characteristics of Chinese medicine shops, which typically employ a *sinse*, a traditional practitioner, unlike modern pharmacies usually operated by a pharmacist (Gumilar 2023). Nonetheless, neither new nor repeat visitors could capture connotative meaning from Enteng Store's façade.

Meanwhile, the exterior of Sumber Husodo Store was also understood denotatively as a pharmacy by both new and repeat visitors, due to the presence of signage indicating the store's function. Conversely, no visitor could discern deeper connotative meaning from this building's exterior.

#### Interior

The interior elements present in the six buildings indicate that, generally, denotative meanings were more easily recognised by visitors compared to connotative meanings. Regarding visitors' understanding of connotative meaning, only at Enteng Store and Sumber Husodo Store were visitors able to perceive the connotation of interior elements, reflecting the long history of these buildings as traditional medicine shops. The use of jars, mortars, and pestles was understood not merely as tools for storing and preparing medicine but also as representations of the cultural identity and historical significance of the buildings. Meanwhile, at Jogja Library Center, Nam Hien Store, Sari Ilmu Store, and Kimia

Farma Pharmacy, interior elements were mostly interpreted according to their functional purpose, without deeper consideration of historical or symbolic meaning. This demonstrates that understanding interior meaning within a building depends not only on the visualisation of existing elements but also on the engagement of visitors' experience and the information received to interpret the history and identity of the place (figure 4).



**Figure 4.** Building Interiors, (a) Jogja Library Center, (b) Nam Hien, (c) Sari Ilmu, (d) Kimia Farma, (e) Enteng, and (f) Sumber Husodo

Source: [Google Image 2022](#); [Dinas Perpustakaan dan Kearsipan Provinsi DKI Jakarta 2023](#)

At Jogja Library Center (JLC), the observed interior elements included bookshelves on the first floor. Denotatively, both new visitors and those who had visited several times understood these elements as bookshelves. However, no visitor could grasp the connotative meaning of the bookshelves within the building.

At Nam Hien Store, behind the front display, shoe racks were still present. Although quantitatively fewer than the souvenir display racks, all visitors recognised denotatively that Nam Hien Store sold shoes. Regarding connotative meaning, no visitor perceived the historical significance of the shoe racks within the context of the building's history.

At Sari Ilmu Store, the observed interior elements were bookshelves, which have now been repurposed to display batik cloth. Neither new visitors nor repeat visitors understood the denotative or connotative meaning of these elements. All visitors directly perceived the building as a souvenir shop, without any narrative embedded within the shelves.

At Kimia Farma Pharmacy, visitors denotatively understood the presence of medicine racks, which reflected the function of the pharmacy in storing medicines. However, no

visitor could capture connotative meaning within the interior space.

At Enteng Store, jars were still observed in display cases, containing traditional Chinese medicine and herbal remedies. The observed interior element included a wooden cabinet behind the medicine storage display. Denotatively, both new and repeat visitors understood the jars as medicine containers. More profoundly, the presence of jars enabled visitors to understand the connotative context of the long-standing history of the pharmacy.

At Sumber Husodo Store, from a denotative perspective, first-time visitors recognised display racks containing Hanzi or Chinese character engravings, indicating that the place was a pharmacy. Visitors who had visited more than once recognised the presence of mortars and pestles used to grind medicine. Consequently, the presence of Hanzi engravings, mortars, and pestles allowed visitors to perceive the connotative meaning of the long-established pharmacy.

## Conclusions

Buildings can reflect cultural expression across time, including those located along Malioboro Street, Yogyakarta. Understanding denotative and connotative meanings was conducted on architectural elements visually observable on the buildings along Malioboro Street.

Denotative meaning was more easily recognised by visitors compared to connotative meaning. Building façades, logos, and interior spaces played significant roles in communicating the function and identity of the place, particularly through the presence of logos for visitors familiar with the area.

Connotative meaning tended to be more difficult to interpret and was only found in certain buildings, such as Nam Hien Store, Sari Ilmu Store, and Enteng Store, where distinctive visual elements helped construct deeper meaning. Interior elements played a crucial role in conveying connotative understanding, communicating and reflecting the long history of these buildings as traditional medicine shops.

This study also found that the meaning of a building does not rely solely on its physical form but also on the collective experiences and perceptions of visitors regarding the place.

Therefore, efforts to preserve architectural elements with symbolic meaning are essential to maintain the cultural identity and historical significance of the Malioboro area amid ongoing development.

The study offers significant implications for architectural scholarship, particularly in understanding the relationship between form, meaning, and function of buildings. Key implications include: (a) Strengthening Cultural Identity. Architecture serves not only as a physical container but also as a medium to communicate cultural values; (b) Enhancing Functionality through a Pragmatic Approach. Architectural design should consider ergonomic, psychological, and sociological aspects of users; (c) Architectural Transformation as a Visual Language. Architects need to design with awareness that every element (colour, material, form) functions as a “word” in the architectural “sentence” communicating with users or observers.

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- B. Sumardiyanto** contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.
- Y. Djarot Purbadi** contribute to the research concepts preparation and literature reviews, data analysis, of article drafts preparation and validation.
- Prisca Bicawasti B. Sutanty** contribute to methodology, supervision, and validation.
- Maria Immaculata RIC** contribute to methodology, supervision, and validation.
- Yeremia Rangga Aditya** contribute to methodology, supervision, and validation.