



## Semiotics Analysis Method in Architectural Research

Jarwa Prasetya Sih Handoko<sup>\*1</sup> 

<sup>1</sup>Department of Architecture, Faculty of Civil Engineering and Planning, Universitas Islam Indonesia, 55584, Yogyakarta, Indonesia

\*Corresponding Author: [jarwa.prasetya@uii.ac.id](mailto:jarwa.prasetya@uii.ac.id)

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### ABSTRACT

Semiotics is the study of signs in the social life of society. While architectural semiotics is a method of analysis in architectural research that views an architectural work as a collection of signs that become a marker to convey a sign of meaning or message to its users. The objective of this study is to establish the scope of the use of semiotic analysis methods in architectural studies in terms of the variety of research topics and findings that can be obtained from these studies. This study is a descriptive exploratory study with a literature study related to the use of semiotic analysis methods in research in the field of architecture. From the results of the study note that the semiotic analysis method can be used to examine the meaning or message both visual and non-visual that exists in architectural works. There are markers and markers in the form of architecture that describe the culture of the local community. The search for meaning or message contained in an architectural work can be carried out with several semiotic analysis strategies. **Keyword:** semiotic analysis methods, social life of society, meaning, architectural research.

### ABSTRAK

Semiotika adalah ilmu yang mempelajari tentang tanda-tanda dalam kehidupan sosial masyarakat. Sedangkan semiotika arsitektur merupakan suatu metode analisis dalam penelitian arsitektur yang memandang suatu karya arsitektur sebagai kumpulan tanda-tanda yang menjadi penanda untuk menyampaikan suatu makna atau pesan kepada penggunanya. Tujuan dari penelitian ini adalah untuk menetapkan ruang lingkup penggunaan metode analisis semiotika dalam kajian arsitektur ditinjau dari keragaman topik penelitian dan temuan yang dapat diperoleh dari penelitian tersebut. Penelitian ini merupakan penelitian deskriptif eksploratif dengan studi literatur terkait penggunaan metode analisis semiotika dalam penelitian di bidang arsitektur. Dari hasil penelitian diketahui bahwa metode analisis semiotika dapat digunakan untuk mengkaji makna atau pesan baik visual maupun non visual yang ada pada karya arsitektur. Terdapat penanda dan penanda berupa arsitektur yang menggambarkan budaya masyarakat setempat. Pencarian makna atau pesan yang terkandung dalam suatu karya arsitektur dapat dilakukan dengan beberapa strategi analisis semiotika.

**Kata Kunci:** Metode Analisis Semiotika, Kehidupan Sosial Masyarakat, Makna, Penelitian Arsitektur.



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## 1. Introduction

Architecture is the result of human work that is always evolving from time to time. Every architectural work can be seen as a reflection of the culture and progress of human civilization in its time. Every architectural element, both the shape and configuration of the building form, has a message or meaning conveyed to observers or building users.

Semiotics is a science that studies the role of signs in people's social life (Saussure in Piliang, 2003). Architectural semiotics views architectural works as a collection of signs that have a message or meaning. The message or meaning of the architectural work can be observed from the signs on the elements that make up the architectural work. The formation of a sign is the result of a strong relationship between the signifier and the signified (Havet, 1978).

Therefore, it is necessary to study the semiotic analysis method in the field of architecture. The purpose of this study is to determine the scope of the use of semiotic analysis methods in architectural studies seen from the variety of research topics and findings that can be obtained in these studies.

## **2. Method**

The research method of this study is descriptive exploratory with literature review analysis or literature study to explore the use of semiotic analysis methods in research in the field of architecture. The study sources were obtained from several sources of scientific journals and reference books related to semiotic analysis in the field of architecture.

## **3. Discussion**

### *3.1 Semiotic*

Semiotics was first introduced by John Lock in the world of philosophy at the end of the 17th century. Charles Sanders Pierce (1839-1914) was the first to study semiotics so that Pierce is called a pioneer of semiotics. However, his thinking was only widely known around the 1930s. Semiotics (semiotics) comes from the Greek "semeion" which means sign. These signs deliver explanation so that it is communicative, capable to substitute something otherwise that can be thinking or conceived (Broadbent, 1980). The fields involved in semiotics are quite broad, including the world of humans, animals, and things. Meanwhile, according to Ferdinand de Saussure (in Piliang, 2003:47-49) is defined as a science that studies the role of signs (sign) as part of social life. Furthermore, semiotics is a science that studies the structure, types, typology, and relations of signs in their use in society. So, semiotics studies the relationship between these components and the community of users. This is in line with the opinion of Sudjiman and Zoest (1996: 5) which defines semiotics as the study of signs and everything related to them, to their sending and receiving them by those who use these signs. Some signs can be understood naturally, meaning that there is a natural relationship between the sign and its meaning, such as in the screams of people who are in pain. However, most of the signs that are used for communication between humans need to be studied and based on conventions, examples of the use of symbols. According to Aart van Zoest (1978) in its development semiotics emerged into three streams, namely:

1. Communicative semiotic flow. This flow is used by people who study signs as part of a communication process. What is considered a sign is a sign used by the sender and received by the recipient with the same meaning (same understanding). Regarding the sign itself, its meaning or meaning can be captured denotatively and connotatively. What is meant by denotative is the meaning or meaning can be captured directly from a sign, which has been mutually agreed upon or has become the same meaning. While connotation is the second meaning that is implied outside the first meaning.
2. Connotative semiotic flow. This flow studies the meaning or connotative meaning of signs. Connotative semiotics is widely applied to the fields of literature and architecture.
3. Expansive semiotic flow. This flow is a further development of connotative semiotics. In this expansive semiotics the meaning or meaning of the sign has been taken over completely by the meaning given. This flow seems to be taking over the role of philosophy.

### *3.2 Classification of Sign in Semiotic*

Semiotics terminologies out of the Greek term: Semion, which intends sign. Semiotics is the study of signs. These signs deliver explanation so that it is communicative. Zoest (1993) proposes that semiotics is a subsidiary of knowledge that reckons with the study of signs, and everything associated to signs, as well as sign methods and manner that adjust to the application of signs. Jacques Havet (1978) declares that the derivative of a sign (semeion) is the outcome of a robust relation during the "signifier" (signifier / semainon) and "signified" (meaning intended). Based on the basis (ground), Zoest (1978) divides signs into three types, namely:

1. Qualisign

The word quali is taken from the word quality. Qualisign is a sign that becomes a sign based on its realm. For instant, the striking nature of the red color is used in making traffic signs.

2. Sinsign

The word Sin comes from the singular. Sinsign is a sign that becomes a sign based on a unique and original occurrence, shape, or appearance. For example, we can recognize a person by their distinctive

voice. Ethnic traditional buildings can also contain sinsign because of their unique and distinctive shape and appearance.

### 3. Legisign

The word *legi* comes from the word *lex* (law). Legisign is a sign that becomes a sign because of a certain order. This type of sign is widely used in architecture for example in building structural systems. Peirce (dalam Zoest, 1978) distinguishes three types of signs, namely icons (icon), index (index, indice) and symbols/symbols (symbols).

#### 1. Icon

Is a signal that favors the object it reflects or a sign that uses the similarity of characteristics with what is intended. For instance, the sameness of the map with the geographic area depicted, the photo with the person being photographed, and so on.

When detailed, the nature of the icon is as follows: something that is certain (eg triangles, rectangles), the same as what is represented (eg naturalist paintings, photographs), relates to reality (eg letters, numbers), shows something (e.g. maps and photos)

#### 2. Index

Is a sign whose nature depends on the presence of a denotatum (marker). This sign has a causal relationship to what it represents. For example, smoke and fire, there will be no smoke without fire, so smoke is an index. The index as a sign will lose its characteristics when the object is removed but will still have meaning even if there is no observer. An example is the wind direction indicator at the airport. This object will only function when there is a wind blowing and this will continue whether there is an observer or not.

#### 3. Symbol/Emblem

Is a signal where the connection between the sign and the denotatum (marker) is determined by a generally accepted rule or collective agreement (convention). Language and mathematical signs are examples of symbols. Symbols can also describe an abstract idea where there is no resemblance between the form of the sign and the meaning.

Signs usually work in conjunction with other signs. The study of these relations is called syntactic semiotics. This science aims to find the rules that form the basis for the similarity of the functioning of the signs. The investigation which is directed to study the relationship between sign, denotatum and their interpreter is called semantic semiotics. While the investigation directed to study the relationship between the sign and the reaction of the receiver is called pragmatic semiotics

### 3.3 *A Semiotic in Architecture Research*

Semiotics in architecture was first introduced in an architectural debate in Italy in 1950, when architects began to question the international style. In the 1960s in France, Germany and England semiotics was discussed for excessive functionalism theory.

In the 1970s, a lot of architectural semiotics has grown a favourite subject among architectural theorists, and a new name has even emerged, namely: "arsemiotika" as a special term for architectural semiotics. Semiotics of architecture invites us to reflect on various matters related to architectural form and architectural spatial arrangement. Based on semiotics, architecture can be considered as a text or language that has syntax, semantics, and pragmatics grammar (Agus, 2003). Then the architectural design elements can be read as:

1. From a syntactic point of view, it can be seen as spatial marks and the cooperation between these signs.
2. From a semantic point of view, it can be seen as the relationship between the sign and its denotatum or concerning the meaning of architectural forms.
3. From a pragmatic point of view, architectural elements can be seen as signs in the form of form and space that have meaning for the wearer.

Syntax asserts knowledge about the combination of elements or design elements. Which design elements can be combined? and how? What for? (Zahnd, 2009). The formation of architectural elements is related to the

arrangement which also follows the pattern rules in architectural syntax. The architectural syntax involves morphology from four aspects directly as follows:

1. Mass syntax pays attention to the combination of all architectural elements related to mass.
2. Syntax space, pay attention to the combination of all architectural elements that are spatial or related to space.
3. Syntax function, pay attention to the combination of all architectural elements that are or are related to the function.
4. Syntax construction, pay attention to the combination of all architectural elements that are or related to construction.

In the field of architecture, it is also necessary to ask the meaning in architecture. The material is focused on the Semantic sub-field which focuses on knowledge of meaning and meaning in one element or group of formation (Zahnd, 2009). The following four important questions need to be answered architecturally. What's that? Is that important? What for? How to achieve it? The four questions discuss four semantic aspects in one object.

1. Reference: An architectural object has characteristics that can be associated with a particular code that is known to the public.
2. Relevance: an architectural object has characteristics that can be associated with a particular function that is known to the public.
3. Intent: An architectural object has characteristics that can be associated with a specific purpose that is known to the public.
4. Expression: An architectural object has characteristics that can be associated with a certain value that is known to the public.

Semantic architecture has five variables as follows: Shape / Shape, Size / Scale. Material/ Construction, Location/ Position. The pragmatic aspect is often the main criterion in the reality of architectural design. This fact determines whether architectural works are useful or not. (Zahnd, 2009). The pragmatic aspects of architecture include the following variables: building, occupants/users, function/use, time/time of construction, location of building techniques, building techniques, parties involved, facilities and infrastructure. Pragmatic aspects in general in traditional buildings are very decisive so that the results of these works make good and detailed works.

The signal system in architecture put in many cafets such as physical form, its parts, size, proportion, range amongst parts, objects, colors and so on. As a signal system, all can be interpreted (has meaning and value) and instigates a specific response (pragmatical). All disposable objects will always be a sign vehicle that provides conventional information about the function of the object. Also with architectural entities, in common it can be mentined that the building has the first information or denotation meanings, as a place of residence. But this does not mean that the building does not conceive other meanings or connotation meanings. Ogden Richard in Bradbent (1980) illustrates this relation as a semiotic triangle. In semiotic architecture, the message contained (signified) in the object is formed from the relationship between the signifier and the real function or property of the object. There is no sign that is truly single (single) because all is a combination of the elements that are coded. Therefore, in a broad sense, everything can be called basically symbolic signs.

Pierce assign a triangle theory of meaning or triangle meaning which be composes of three main matters, specifically the sign (sign), object, and interpretant. A sign is something in a physical form that can be catch by the five human senses and is something that refers to other things thereout the sign itself. Signs conforming to Pierce be composed of:

1. Index  
According to Pierce, the index is something that has a unified and causal connection midst the signifier and the signified. In architecture each sign has an indicative component. All these elements are signs that correspond to a real situation.
2. Icon  
An icon is an indication that Favors the object it deputizes or utilizes the same characteristics as what it means.
3. Symbol

The meaning of a symbol is based on an agreement or convention, so in the symbol there is a free relationship between the signified (the intended meaning) and the signifier (the form of the sign). In the field of architecture, doors can be classified as either an index or a symbol. As an index the door serves to signal that it is the way to enter or leave the room. Even though nothing was in or out, it was still a door.

Whilst the guide to this sign is called an object. The entity or guidance of a sign is the social contexture that is the guidance for a sign or whatever that the sign points to. Interpretant or mark user is the concept of thought of community who utilize signs and degrade them to a specific meaning or meaning that is in one's thought concerning the entity that is pointed to by a sign. Ferdinand De Saussure (1857-1913) put forward a theory of Semiotics in which in Saussure's theory semiotics is distributed into two, namely the signifier and the signified. Markers are visible as physical forms that can be acknowledged thru the form of architectural works, while signs are visible as meanings that are given expression through the concepts, functions and/or values contained in architectural works. The presence of Saussure's semiotics is the relation between the signifier and the signified according to agreement which is usually called meaning. Semiotics of signification is a sign system that studies the connection of the sign elements in a system based on certain rules or conventions. Social treaty is needed to be able to analyse signs. Based on Saussure, the sign composes of sound and image, which is called the signifier or signifier, and the idea of sound and image is invocation called the signified.

Further, this theory was proposed by Roland Barthes (1915-1980), in his theory Barthes promoted semiotics into 2 degrees of meaning, namely the denotation and connotation degrees. Denotation is the level of significancy that clarify the relation midst the signifier and the signified in realness, to generate an obvious, lineal, and certain meaning. Connotation is the level of meaning that explains the relationship between the signifier and the signified in which the meaning operates which is not explicit, indirect, and uncertain (Kusumarini, 2006).

Saussure was concerned with the way complex sentences are formed and the way sentence form determines meaning but was less concerned in the datum that the similar sentence can deliver distinct meanings to diverse people and situations. Roland Barthes continues this considering by emphasizing the interaction between the text and the personal and cultural experiences of its users, the interplay between the conventions in the text and the agreements impression and hope by its occupants. Bathes' thought is known as the "order of signification", which inserts denotation (actual meaning according to the dictionary) and connotation (double meaning born of cultural and personal experience).

Roland Barthes grouped these codes into five grid codes, namely hermeneutic codes, semantic codes, symbolic codes, narrative codes and cultural codes or cultural codes (Barthes, 1974).

1. Semantic code is code that contains connotations at the level of markers.
2. The Symbolic Code is a code related to psychoanalysis, antithesis, ambiguity, contradiction between two elements, schizophrenia.
3. Narrative Code or Proairesis is a code that contains a story, sequence, narrative, or anti-narrative.
4. Code of Culture or Cultural means collective, anonymous voices. (Tinarbuko, 2008)

In addition to the three theories above which discuss semiotics, you can also use the theory of Hjelmslev's model in semiotics located in the form of content (content) and form of expression (expression). Content and expression are further divided into two sub-levels, respectively. Each part of Hjelmslev's sub theory (Broadbent, 1980) is described as follows:

- a. Substance of Content (Cs) shows meaning that contains values or philosophical ideas and the meaning behind the concept of designating architectural works. This meaning may not necessarily be transformed entirely into the form of architecture;
- b. Form of Content ( Cf) as the meaning that composes the design concept that can be transformed into the physical form of architecture;
- c. Form of expression (Ef) as a physical form of the overall architecture (system) and its components (components);
- d. Substance of expression (Es) shows the division and arrangement of elements that make up the physical form and components of the architecture.

### 3.4 Architectural Research with Semiotic Analysis Method

The field of residential architecture studies is a field of study that is widely carried out by researchers. Related to this, below are some studies related to housing with semiotic analysis methods discussed related to the research objectives, methods and findings resulting from these studies.

Table 1. Summary of Research Objectives, Research Methods and Findings Obtained by Research with Semiotic Analysis Methods An example of a table.

No.	Research Title	Research Objective	Research Method	Result
1	Sari GP., (2010)	Javanese architecture is a meaningful building. In the X PB period, there was an encounter between Javanese architecture and European architecture. So it is possible to change the meaning of Javanese architecture at that time. This research proves that there is a change in meaning by using semiotic analysis, especially semantics (the relationship between signs and their meanings) as research subjects.	<ul style="list-style-type: none"> <li>- Identification of the components of the pendhapa Ageng Sasana Sewaka building based on the analysis of architectural components by Umberto Eco (Broadbent, 1980: 2013)</li> <li>- The reading of the signs of the architectural components of the building uses the semantic theory of Hjemsley.</li> </ul>	Semantic reading of Hjemslev's 3 components of the Sasana Sewaka Building (roof, pillars, and floor) as a signifier of meaning based on the sub-theories of Content Form (Cf), Content Substance (Cs), Expression Form (Ef) and Expression Substance (Es).
2.	Amiuza,CB., (2017)	Local identity in an architecture that grows in the community has hidden meanings, both visually and non-visually. It takes a syntactical, pragmatical and semantical approach in reading the messages that are written or inserted in traditional architecture. This research purposes is to read the connection of the configuration of the visual composition of features, purposes and meanings to community, the surrounding and its culture, using a syntactic, pragmatic and semantic oncoming.	Exploring architectural objects and their meanings following the flow of local understanding can use a qualitative approach.	Traditional house architecture in Sumbawa Regency still has a connection between layout design, aims and meanings for the society, neighborhood and culture.
3.	Ishak MT., Sir MM., (2005)	This study aims to read the semiotics of the Evry cathedral architecture with the	Reading of 5 (five) Barthes semiotic codes in Mario Botta's Evry Cathedral Architecture.	a. Hermeneutic Code, the Evry Cathedral building is a post-

		semiotic code of Roland Barthes including the reading of the Hermeneutic, Proairetic, Cultural, Semitic and Symbolic Codes.		modern architectural style building because it no longer follows the modern style. b. Proairetik code, the shape of the cathedral is the result of Mario Botta's empirical experience of religious buildings. c. Code of Culture, the architectural style of the Evry cathedral with a post-modern architecture. d. Semitic Code Symbolic Code
4.	Muktiono A., (2020)	This study aims to determine the semiotic messages conveyed by the shapes and decorations found in Pitung's house.	The researcher analyzes the message of the sign form on the architecture of the Pitung house, the researcher starts from the shape and sign of the Pitung house itself which is then interpreted by the approach through Roland Barthes' semiotic theory with interpretation using a qualitative cultural approach.	a. Analysis of Roland Barthes' semiotic theory, obtained for denotative and connotative in every part of Javanese building. b. Description of denotative meaning. c. Description of connotative meaning. d. Description of the meaning of Myth.
5.	Iskandar, Suprapti A., Rukayah RS., (2017).	Carahulu Komerling House is one of the vernacular houses in the province of South Sumatra. This research purposes to establish the meaning of the elements of the Carahulu Komerling dwelling form with a semiotic approach.	This research uses a qualitative research method with a rationalistic or post-positivistic approach. Consists of three variables: independent variables namely icon, index, and symbol: dependent variable: roof, room, main door, main window and decoration; control variables: form, rhythm, scale, technological aspects, aspects of natural conditions, historical aspects, religious aspects and cultural aspects.	The object of analysis is the shape of the roof, room, main door, main window, and decoration. Semiotics analyzed as Icon, Index and Symbol. The findings of the meaning of the elements of form are the meaning of nostalgia as a mountain man, the meaning of life regeneration, the meaning of Islamic beliefs, philosophical meanings and the meaning of moral messages thru the realm of flora, geometric and calligraphy characters.
6.	Yunianti E., (2015).	This research purpose to recognize architectural parts of the Great Mosque of Surakarta and explore	This research uses qualitative methods through semiotic studies using syntactic theory from Carles Sander Pierce and Roland Barthes to find	- The architectural elements of the Great Mosque of Surakarta have visual features conformable to the

the meaning contained in these architectural elements

meaning/messages both denotative and connotative through the signs contained in the architectural elements of the Surakarta Grand Mosque building. Syntactic theory is one of three approaches to the meaning of space according to Van Zoest, namely syntactic, semantic, and pragmatic.

traditional Javanese house, Rumah Joglo.  
- There is a combination of Islamic teachings and Javanese culture, this is the result of an analysis of the syntactic aspects of the building elements of the Great Mosque of Surakarta followed by an analysis of the semantic aspect.

## 5. Conclusion

Research using semiotic analysis methods can be used to examine the meaning or message, both visual and non-visual, in architectural works and can produce findings in the form of the meaning of architectural elements. There are markers and markers in architectural forms that describe the culture and local wisdom of the local community.

The research method with semiotic analysis begins by identifying the architectural elements of an architectural work in the form of a configuration of visual elements (forms, decorations, spatial layouts) then tracing the meaning or messages contained with several semiotic analysis strategies; Approach to the analysis of architectural elements as Icon, index and Symbol, The approach to the meaning of space according to Van Zoest is syntactic, pragmatic and semantic, Roland Barthes' semiotic code includes the reading of Hermeneutic, Proairetic, Cultural, Semitic and Symbolic codes, Descriptive approach to denotative, connotative and mythical meanings, Hjelmslev's semantic theory is the analysis of architectural elements based on the sub-theories of Content Form (Cf), Content Substance (Cs), Expression Form (Ef) and Expression Substance (Es).

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