

Transformation of Architecture of Rumoh Aceh: An Encoding Process Through Semiotic

Riza Aulia Putra^{1*} and Agus Suharjono Ekomadyo²

¹Universitas Syiah Kuala, Banda Aceh, Indonesia

²Institut Teknologi Bandung, Bandung, Indonesia

Corresponding Author: rizaauliaputra@unsyiah.ac.id

Abstract

Keywords:

Rumoh aceh;

encoding; semiotic

Rumoh aceh is a Acehnese traditional house that is one of the products and artifacts of the Acehnese culture. Efforts to preserve rumoh aceh often focus on physical aspects or aspects of form that are seen directly. It is has led to the discovery of many new buildings that now adopt the architectural form of rumoh aceh without a more comprehensive elaboration and transformation process. A concerted effort is required to present rumoh aceh architecture in a modern context. Transformation is one of the methods in architectural design to be able to present new ideas that are creative and innovative. The transformation in this paper is obtained through an encoding process that employs a semiotic approach as a method for bridging the rumoh aceh architecture transformation process. The encoding process is carried out by reinterpreting the values of rumoh aceh architecture obtained from previous research. This paper aims to gain knowledge regarding the architectural design process that can present a creation that represents regional culture, in this case, to present rumoh aceh architecture in a modern context.

©2023 The Authors. Published by
University of Merdeka Malang, Indonesia.

Article History	Received	:	Marc 3, 2022
	Accepted	:	Sept 16, 2022
	Published	:	Jan 15, 2023



1. Introduction

Culture defines a region's identity and character (Zakaria Umar et al., 2018). Each region certainly has the urge to assert that identity. Architecture is one of the easiest strategies to express and represent a culture or identity of a city or region (Jashari-Kajtazi & Jakupi, 2017; Mahgoub, 2007). Architecture can also express local cultural values as well as other symbolic meanings (Sukada & Salura, 2020). Numerous modern buildings adopt the design of traditional architecture, but the coming result is merely a replica of the traditional design. It also occurs in Banda Aceh (a city in the Province of Aceh, Indonesia), where several government offices and private buildings directly adopt rumoh aceh architecture, to preserve cultural and heritage values (Dewi et al., 2019). Therefore, a process is needed to develop and explore the *rumoh aceh* to produce a new and more modern design and retain the character of *rumoh aceh*.

Rumoh aceh is the Acehnese traditional house. The rumoh aceh architecture, as one of the cultural products, is an embodiment of local wisdom in responding to the nature

and beliefs (religiosity) of the Acehnese people (Izziah et al., 2021; Kevin et al., 2021; Meutia et al., 2021; Mirsa, 2013). *Rumoh Aceh*, as a residential place for the people of Aceh, has historical and philosophical values that represent the culture of Acehnese society, similar to many traditional houses in other regions (Putra et al., 2021; Salura et al., 2020).



Figure 1. *Rumoh Aceh* in Lubuk Sukon, Aceh Besar

Transformation is one method for transforming traditional architectural designs into newer designs (Ashfina, 2015). There are numerous conceivable outcomes for architects to present new creative ideas through the transformation strategy (Antoniades, 1992). This research intends to use a semiotic approach to transform *rumoh Aceh* architecture into a new design that is more modern, dynamic, and aesthetically pleasing while retaining the character of traditional architecture. The aim is to appreciate and preserve local wisdom as a cultural product in the form of traditional architecture to be translated into the modern context (Putra & Ekomadyo, 2015).

Generally, the semiotic method is used as a sign of reading and decoding as previously done by Ekomadyo (Ekomadyo, 1999) while studying and reading the Memet Sengkalan in Javanese Architecture, as well as Putra and Ekomadyo (Putra & Ekomadyo, 2015) while studying and understanding values contained in the traditional Acehnese architecture. In this study, researchers tried to use the semiotic method for architectural transformation to obtain alternatives in designing architecture. This process was accomplished by forming the cultural values and nobility found in the *rumoh aceh* architecture as a sign or shape in the architecture (encoding).

2. Methods

Semiotics is knowledge that learns about signs as part of social life (Marotta et al., 2017). Ferdinand de Saussure was a figure who pioneered the field of semiotics as a science and theory (Tavşan & Akbarzadeh, 2018). Semiotics is the study of the structure, type, topology, and relationship of signs in their use in society (Piliang, 2012). Semiotics is frequently used in cultural studies. It is due to a societal phenomenon in which cultural

**Transformation of Architecture of Rumoh Aceh:
An Encoding Process Through Semiotic**

Riza Aulia Putra and Agus Suharjono Ekomadyo

objects are viewed as a language phenomenon containing messages and meanings (Piliang & Jaelani, 2018).

Ferdinand de Saussure defines semiotics as the study of signs in life in society. In Saussure's view, something that one person uses to express something to another is a sign with a signifying element (signifier) and a signified element (signified). According to de Saussure, the meaning of language signs occurs when humans associate the signifier with the signified. The correlation between the signifier and the signified is not personal but is based on mutual agreement or the existence of social conventions (Hoed, 2014).

Sign (tanda)	
Signifier (Penanda)	Signified (Petanda)

Figure 2. Sign-forming elements in Saussure's view (Piliang, 2012)

Semiotics can be used not only as a sign reading or decoding method but also as an encoding method. It is possible because there is a current trend to regard various social, political, economic, cultural, art, and design discourses as linguistic phenomena. According to the semiotic viewpoint, if all social practice can be considered a linguistic phenomenon, it can also be viewed as a sign (Piliang, 2012). Using semiotics as a sign formation method is expected to be able to process architectural ideas to produce creative ideas that present new architectural designs while maintaining value and meaning.

This research is a follow-up study from previous research entitled Elaboration of Sign (Decoding) of *Rumoh Aceh* Using Semiotics Approach, carried out by Putra and Ekomadyo (Putra & Ekomadyo, 2015). This research was carried out in several stages, including data collection, interpretation, and design elaboration. The data were obtained through a literature review and direct observation of the object, *Rumoh Aceh*. The obtained data is then used as a framework for interpreting the design elaboration process data (encoding). The values contained in the *Rumoh Aceh* architecture are the result of the decoding carried out in previous studies (Putra & Ekomadyo, 2015). The signifier and signified patterns in *rumoh aceh* can be seen in Table 1.

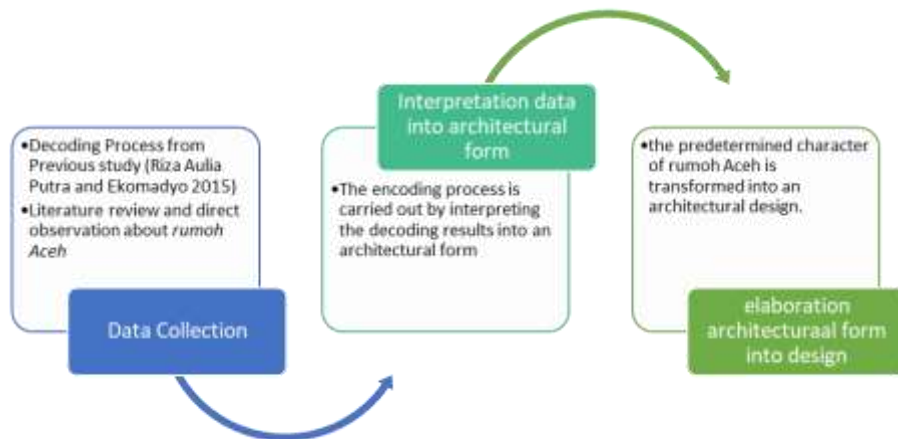
Table 1. Signifier and Signified patterns in *rumoh aceh*

No.	<i>Signifier</i>	<i>Signified (1)</i>	<i>Signified (2)</i>
1	The building elongates from east to west	Facilitate the orientation in performing prayer	The embodiment of Islam in daily life
2	<i>Rumoh Aceh</i> layout is divided into three rooms	Private and non-private room functions	limitation of space between men and women
3	The room function is more dominant for women	Women spend the majority of their time at home.	A form of appreciation for the woman (feminism)
4	<i>Rumoh Aceh</i> stage design	Protection from both natural and social factors	As social control to maintain norms
5	The middle room (<i>tungai</i>) has a higher floor	Regarding the location of the bedroom	A form of respect for the owner of the house and a very private function of rooms
6	Short entry door	To enter the door must bow the head	A form of respect for homeowners

No.	Signifier	Signified (1)	Signified (2)
7	The number of stair steps is an odd number	Islamic influences often use odd numbers	A form to remember and get closer to God
8	Water jars in front of the house	Tools for cleaning up	<i>Thaharah</i> teachings (purification) in Islam.
9	<i>Tulak angen</i> (traditional louver)	Elements of air circulation and architectural identity of <i>rumoh</i> Aceh	A form for displaying translucent carving art possessed by Acehese people
10	Red and white cloth on <i>tameh raja</i> and <i>putroe</i>	Related to the meaning of bold red cloth and holy white cloth	Symbolizing the brave nature of the Acehese people
11	Religious ornaments	Presenting the form of Islam in daily life	A form to remember and get closer to God
12	Flora ornaments	Symbolizes closeness and love for plants	An effort to preserve nature
13	Nature ornaments	Symbolizes closeness and love for nature	An effort to preserve nature
Conclusion			
Rumoh aceh architecture		Religiosity, femininity, masculinity, human interaction with nature	

Source: Putra & Ekomadyo, 2015

The signifier and signified patterns in the preceding table serve as a basis for researchers to carry out the process of architectural interpretation. The interpretation stage into architectural form is based on the researcher's understanding of the context of the form and meaning of architecture that has been generally agreed upon. The following step is to carry out an elaboration process in order to obtain an architectural design. The stages of this research can be briefly seen in the following diagram.



**Transformation of Architecture of Rumoh Aceh:
An Encoding Process Through Semiotic**
Riza Aulia Putra and Agus Suharjono Ekomadyo

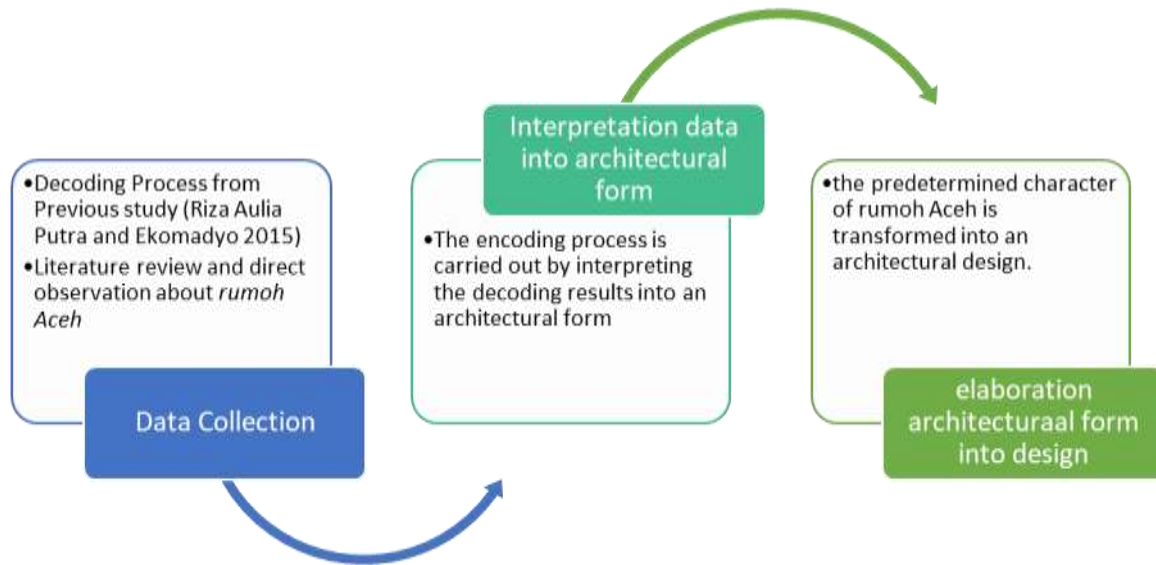


Figure 3. Diagram of stage research

3. Result and Discussion

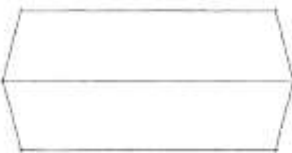
Encoding the values of Rumoh Aceh architecture

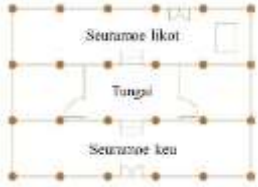
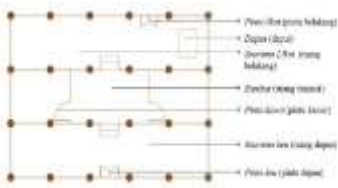

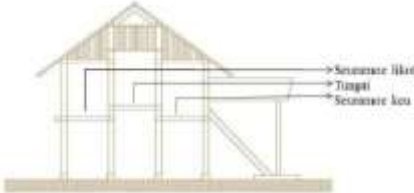

Encoding is forming codes or messages derived from the decoding process. In the process of transforming from one initial design to another, encoding can be an alternative option for architects or designers. In this process, the architect or designer's background and understanding of the message or code that will be formed are critical. Therefore, like the decoding process, encoding is also very open, so it can produce shapes or designs that depend on the architect or the individual who forms this code.

In this study, the researcher attempted to encode the values obtained from the previous decoding process in *rumoh Aceh* architecture. This aims to obtain an alternative design or form of new architecture that has *Rumoh Aceh* architectural values. The process described by the authors in this article is also an alternative design proposal that is not absolute and can be developed with various other interpretations.






The process of sign/code reconstruction is carried out by incorporating the message or meaning into the architectural design. The semantic encoding process will be used in this design process. Hence, the encoding process begins by interpreting the value or meaning obtained from the previous step into the architectural form. This process is carried out based on the authors' interpretation from an architectural point of view.



Table 1. Interpreting the message into an architectural form

No.	Signifier	Signified (2)	Interpretation into architectural form
1	The building elongates from east to west 	The embodiment of Islam in Acehese daily life	Monumental design, design accessibility

No.	Signifier	Signified (2)	Interpretation into architectural form
2	<p>Rumoh Aceh layout is divided into three rooms</p> 	<p>Limiting the room between men and women</p>	<p>Separation of private and non-private areas, combination of solid and non solid area.</p>
3	<p>The room function is more dominant for women</p> 	<p>A form of appreciation for the woman (feminism)</p>	<p>Use of dynamic shapes and layout</p>
4	<p>Rumoh Aceh stage design</p> 	<p>As social control in an effort to maintain norms</p>	<p>Geometric shapes that are rigid/angular norms</p>
5	<p>The middle room (<i>tunggal</i>) has a higher</p> 	<p>A form of respect for the owner of the house and a very private function of rooms</p>	<p>More important rooms are placed at the top</p>
6	<p>Short entry door</p> 	<p>A form of respect for homeowners</p>	<p>Use of a scale at the entrance</p>

**Transformation of Architecture of Rumoh Aceh:
An Encoding Process Through Semiotic**
Riza Aulia Putra and Agus Suharjono Ekomadyo

No.	Signifier	Signified (2)	Interpretation into architectural form
7	The number of stair steps is an odd number 	A form to remember and get closer to God	Monumental design
8	Water jars in front of the house 	<i>Thaharah</i> teachings (purification) in Islam.	Monumental design
9	<i>Tulak angen</i> (traditional louver) 	A form for displaying translucent carving art possessed by Acehnese people	The geometry of the triangle as the main identity
10	Red and white cloth on <i>tameh raja</i> and <i>p</i> 	Symbolizing the brave nature of the Acehnese people	The application of firm lines, rigid and exposed structures
11	Religious ornaments 	A form to remember and get closer to God	Monumental design

No.	Signifier	Signified (2)	Interpretation into architectural form
12	Flora ornaments 	An effort to preserve nature	Vegetation as part of the design
13	Nature ornaments 	An effort to preserve nature	Design that responds to nature
Conclusion			
Architecture <i>rumoh Aceh</i>		Religiosity, femininity, masculinity, human interaction with nature	Monumental form, curved shape, angular shape, interaction space (gathered), responds to nature

Based on the interpretation process outlined in Table 2, it can be concluded that the value or meaning contained in Rumoh Aceh architecture, when transformed back into architectural design, will exhibit the following characteristics.

- a. Triangle geometry as dominant identity;
- b. Balance between the solid and transparent surface in design;
- c. Balance between curved (feminine) and angular/rigid (masculine) shapes;
- d. Response to nature;
- e. monumental design.

The five characteristics listed above will be used in the process of forming a design or elaborating architectural designs, which is a series of transformation processes to present a new architectural design with Rumoh Aceh architectural values. This study tried to provide design alternatives in order to obtain a new architectural form or design. This process is by no means absolute and only serves as an alternative design that does not rule out the possibility of obtaining more diverse architectural designs.

Elaboration of Architectural Designs

During this elaboration process, an attempt was made to form a building mass based on predetermined codes. At this phase, the predetermined character of rumoh Aceh is transformed into an architectural design.

The basic shape of the building mass uses a triangular geometric shape (*tulak angen*) that has become a feature of Acehnese architecture. Rigid straight line elements dominate the mass's shape, and the structure is exposed as the embodiment of masculinity. However, in terms of creating a balance between masculine (*meunasah*) and feminine (*rumoh inong*), it is done by presenting a curved shape in the landscape design.

**Transformation of Architecture of Rumoh Aceh:
An Encoding Process Through Semiotic**
Riza Aulia Putra and Agus Suharjono Ekomadyo

The upward-pointing design of the building is a translation of the efforts to get closer to God (*hablun minallah*) by presenting a monumental building design. The process of elaborating architectural designs can be seen in the following sketch diagram in figure 3.

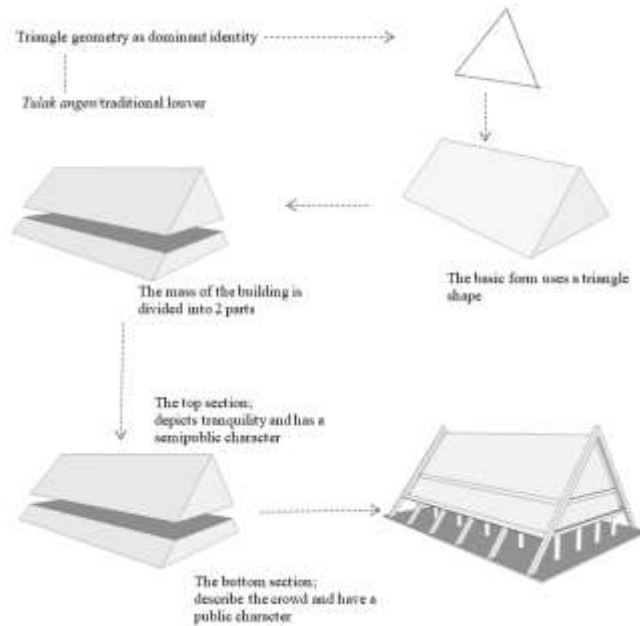


Figure 4. The process of elaborating architectural design (1)

The use of exposed structures is also a manifestation of masculinity. The use of double skin on the facade with natural ornament motifs from Aceh (*bungong seulanga*) and several other motifs is an attempt to protect from direct light, a form of response to nature, and an attempt to present translucent carving of *tulak angen*.

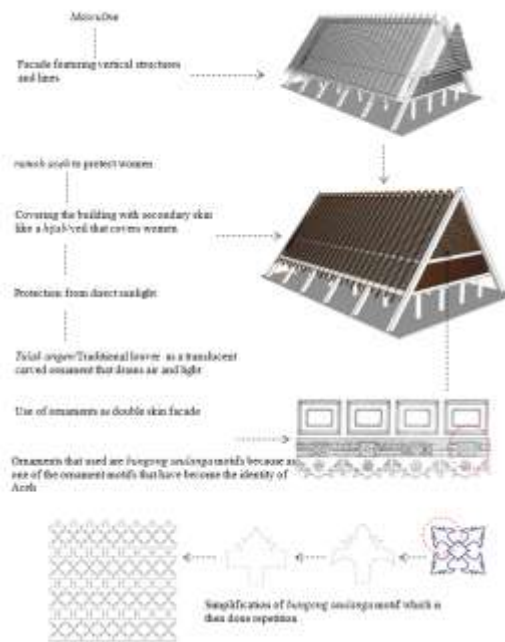


Figure 5. The process of elaborating architectural design (2)

Based on the elaboration process described above, the process of transforming rumoh aceh architecture is an alternative for acquiring a new architectural form or design with characteristics and values derived from rumoh aceh itself. As a result, rumoh Aceh architecture can exist in the modern context without being directly replicated. The flow of the transformation process that the author has carried out in this study can be summarized in a diagram as shown in Figure 5

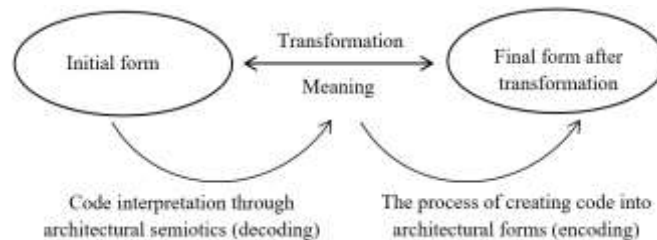


Figure 6. Transformation process diagram

4. Conclusion

Some conclusions from the research on the transformation process of rumoh aceh architecture that can be summarized are, firstly, the semiotic approach can be used as a transformation method in architectural design. Secondly, the use of a semiotic approach in the architectural design process is not limited to the decoding process but can also be used for the creation or encoding process, which ultimately aims to obtain an architectural design. Thirdly, the semiotic approach to architectural design is an attempt to incorporate signs into the design so that the design can communicate and convey a message to visitors. And the last, The ability of the architect to master references related to the object being referred to, as well as the architect's ability to interpret cultural values into architectural designs, will be required for the use of a semiotic approach in the architectural design transformation process.

References

- Antoniades, A. C. (1992). *Poetics of Architecture: Theory of Design*. Van Nostrand Reinhold.
- Ashfina, T. (2015). Redefining Cultural Identity Through Architecture. *International Journal of Scientific & Engineering Research*, 5(7), 159–164.
- Dewi, C., Izziah, Meutia, E., & Nichols, J. (2019). Negotiating Authorized Heritage Discourse (AHD) in Banda Aceh after reconstruction. *Journal of Architectural Conservation*, 25(3), 211–227. <https://doi.org/10.1080/13556207.2019.1635768>
- Ekomadyo, A. S. (1999). Pendekatan Semiotika Dalam Kajian Terhadap Arsitektur Tradisional Di Indonesia. Kasus : Sengkalan Memet dalam Arsitektur Jawa. *Seminar Nasional Naskah Arsitektur Nusantara: Jelajah Penalaran Arsitektural Institut Teknologi Sepuluh November Surabaya 9 September 1999*, 1–17.
- Hoed, B. H. (2014). *Semiotik dan Dinamika Sosial Budaya*. Komunitas Bambu.
- Izziah, Sari, L. H., Meutia, E., & Mirza, I. (2021). Evaluation of spatial comfort on vernacular architecture in Aceh Besar District as a form of local wisdom in adapting surrounding environment. *IOP Conference Series: Earth and Environmental Science*, 881(1), 012051. <https://doi.org/10.1088/1755-1315/881/1/012051>
- Jashari-Kajtazi, T., & Jakupi, A. (2017). Interpretation of architectural identity through landmark architecture: The case of Prishtina, Kosovo from the 1970s to the 1980s.

**Transformation of Architecture of Rumoh Aceh:
An Encoding Process Through Semiotic**
Riza Aulia Putra and Agus Suharjono Ekomadyo

- Frontiers of Architectural Research*, 6(4), 480–486.
<https://doi.org/10.1016/j.foar.2017.09.002>
- Kevin, M. A., Fuady, M., Izziah, Wulandari, E., & Dewi, C. (2021). Green structure and green technology in preserving traditional architecture of Rumoh Aceh. *IOP Conference Series: Earth and Environmental Science*, 881(1), 012036. <https://doi.org/10.1088/1755-1315/881/1/012036>
- Mahgoub, Y. (2007). Architecture and the expression of cultural identity in Kuwait. *Journal of Architecture*, 12(2), 165–182. <https://doi.org/10.1080/13602360701363486>
- Marotta, A., Spallone, R., Turco, M. Lo, Zich, U., Vitali, M., Marchis, E., & Pavignano, M. (2017). Visual Images and Language in Architecture: Signifier Semiotics and Meaning Semiotics. *Proceedings*, 1(9), 964. <https://doi.org/10.3390/proceedings1090964>
- Meutia, E., Rauzi, E. N., Sahputra, Z., & Maryana, D. (2021). The assesment of thermal comfort of sustainable modifying Rumoh Aceh in hot humid climate. *IOP Conference Series: Earth and Environmental Science*, 881(1), 012052. <https://doi.org/10.1088/1755-1315/881/1/012052>
- Mirsa, R. (2013). *Rumoh Aceh*. Graha Ilmu.
- Piliang, Y. A. (2012). *Semiotika dan Hipersemiotika: Gaya, Kode dan Matinya Makna*. Matahari.
- Piliang, Y. A., & Jaelani, J. (2018). *Teori Budaya Kontemporer “Penjelajahan Tanda dan Makna”* (U. Rahmah (ed.)). Aurora.
- Putra, R. A., & Ekomadyo, A. S. (2015). Penguraian Tanda (Decoding) Pada Rumoh Aceh Dengan Pendekatan Semiotika (Elaboration of Sign (Decoding) of Rumoh Aceh Using Semiotics Approach). *Tesa Arsitektur, Journal of Architectural Discourses*, 13(1), 1–14. <https://doi.org/10.24167/TESA.V13I1.354>
- Putra, R. A., Zahrah, A., Dewi, C., & Izziah. (2021). The influence of architecture of Umah Pitu Ruang on Gayonese modern housing in Takengon. *IOP Conference Series: Materials Science and Engineering*, 1087(1), 012008. <https://doi.org/10.1088/1757-899x/1087/1/012008>
- Salura, P., Clarissa, S., & Lake, R. C. (2020). Reflecting the spirit of modern-indonesia through architecture: The icono-symbolical meanings of jengki architectural style case studies: Bandung polytechnic of health building and bumi sangkuriang meeting hall in bandung, west java, indonesia. *Journal of Design and Built Environment*, 20(2), 13–26.
- Sukada, N. Q., & Salura, P. (2020). *Ekspresi-dasar arsitektural pada bangunan pusat kebudayaan Objek studi : Volkstheater Sobokartti di Semarang , Indonesia*. 17–26.
- Tavşan, C., & Akbarzadeh, N. (2018). The effect of language patterns on architectural forms (From the perspective of semiotics on zaha hadid’s works). *Cogent Social Sciences*, 4(1), 1–13. <https://doi.org/10.1080/23311886.2018.1507085>
- Zakaria Umar, M., Faslih, A., & Rosyidah, S. (2018). the Identity of Buton Maradika Traditional Houses in Baubau City. *DIMENSI (Journal of Architecture and Built Environment)*, 45(1), 55. <https://doi.org/10.9744/dimensi.45.1.55-62>