

## The meaning of the relationship between *bale nyungcung* roof and inner room in architectural design of Mosques at Sunda Tatar

### A case study of Majalaya, Manonjaya, and Banten Great Mosques

Roza Rahmadjasa Mintaredja, Purnama Salura\* , Bachtiar Fauzy

Architecture Study Program, Faculty of Engineering, Universitas Katolik Parahyangan  
Jl. Ciumbuleuit no. 94, Bandung, Indonesia



ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received May 19, 2020 Received in revised form June 26, 2020 Accepted October 11, 2020 Available online April 01, 2021</p> <p><i>Keywords:</i> Bale nyungcung Inner room Meaning relationship Mosque Sundanese architecture</p> <p>*Corresponding author: Purnama Salura Architecture Study Program, Faculty of Engineering, Universitas Katolik Parahyangan, Indonesia Email: <a href="mailto:purnamasalura.ps@unpar.ac.id">purnamasalura.ps@unpar.ac.id</a> ORCID: <a href="https://orcid.org/0000-0002-3652-7192">https://orcid.org/0000-0002-3652-7192</a></p>	<p><i>There has been a decline in the form and function of Sundanese vernacular architecture for large buildings due to the absence of artifacts in village houses. The data on palace or keraton and terraced roofs are only found in lontar and from outside observers in the XVI century. Meanwhile, the phenomenon of the bale nyungcung roof emerged on the mosque in the XVI-XIX centuries at West Java after disappearing for more or less two centuries. The reappearance makes it interesting to study this concept, especially with the focus on its relationship with the inner room of the mosque. This research was conducted on the Great Mosque spread in Sunda Tatar such as the West Java and Banten Provinces with buildings of Majalaya, Manonjaya, and Banten used as case studies. It was conducted qualitatively and interpretatively using the building anatomical theory to analyze the scope of shape and the bale nyungcung roof. The results showed the relationship between the roof and the inner space is a reflection of the adjustment in the mosque's basic reference with the Bale Nyungcung roof used as one of the Sundanese local building features.</i></p>

## Introduction

The difference between humans and other living things is their ability to give meaning to life. The term 'homo sapiens' means wise creatures and it shows human does not only act on sensory perception but also capable of interpreting and abstracting the perception (Danesi 2007; Harari 2014). This unique ability enables humans to create a culture which distinguishes them from animals (Hurford 2007; Pinker 2018) and this also means all aspect of their lives are attached to meanings.

Architects experts and academics started to note the importance of the aspects of meaning in architecture in order to overcome the failures of

modern architecture which are considered to be completely uniform (Broadbent 1987; Jencks 1997; Bonta 1979; Salura 2015). There have been attempts by several academics to reexamine the essence of architecture through the vernacular architecture diversity which was considered very interesting because several buildings are built in locations with similar climates. Their findings showed vernacular architecture or culture is precisely the main factor influencing the shape of buildings while technology only plays a supporting role (Rapoport 1969; 2005). This further confirms the importance of meaning in architectural form.

Religion has been posited as the channel humans interpret transcendent realities outside



their scope (Eliade 2013). This means the meaning aspect is also inherent in the architectural designs of their worship centers as a means of supporting religion. These explanations, therefore, show it is interesting to discourse mosque architecture due to its diverse shapes in each country and variations from other religious buildings (Paramitha and Salura 2020). According to historical records, the Walisanga did not merely "import" mosque architectural form in the Arabian Peninsula but also adapted it to the local community at the beginning of its presence in Indonesia (Ashadi 2012). Their hallmark is usually highlighted through the tiled roofs commonly known as overlapping roofs and also as bale nyungung in Tatar Sunda.

Research has been conducted to comprehensively review Sundanese culture, especially from the anthropological perspective (Rosidi 2010; Lubis 2000). Unfortunately, none has discussed the meaning of bale nyungung despite its important historical value and its use in the interior of the oldest vernacular mosques in Sunda Tatar. Moreover, there are also very rare academic publications conducted to comprehensively examine Sundanese vernacular architecture, especially as a worship building.

This research was conducted to fill this research gap by exploring and uncovering all the meaning relationships between the bale nyungung roof and the inner room shape in the architectural design of the mosque. Based on these objectives, this study is expected to be beneficial to architectural scholarship by providing input with the ability to academically explain this relationship. It also enriches the rare Sundanese architecture concept and serves as an inspiration for further and detailed research on Sundanese architecture.

## Method

The research steps are written sequentially although, in reality, they are not always linear according to the writing. It is also possible to run the analysis steps simultaneously.

The first step was to record all the case studies followed by redrawing the whole to examine the building carefully. The results were analyzed based on theoretical anatomy (Salura 2018) to classify the parts of the building anatomically and

comprehensively to ease the search for the shape and material in the roof and inner room.

The second step involved using the Sundanese cosmology theory (Budimansyah 2019; Kurniawan 2014; Nurwansyah 2013) and exploring the architectural meaning contained in the shape and material of the roof and room in the case study (Salura 2007; Salura and Fauzy 2012).

The third step was linking all anatomical analysis by relating the meaning of the bale nyungung roof with the shape of the inner room in each case study.

The case study was selected based on certain criteria with the first being the fact that the mosque architecture uses a bale nyungung roof, second, is the oldest, historic, and classified as a conservation building, third, the capacity is relatively equal, and fourth, still functioning properly.

Those found to have satisfied these requirements are (1) Majalaya (2) Manonjaya, and (3) Banten Great Mosques as shown in figure 1.



Majalaya Great Mosque



Manonjaya Great Mosque



Banten Great Mosque

Figure 1. Three Mosques in the case study

## Result and discussion

The first case study was analyzed using architectural anatomy theory with a focus only on the aspects relating to the scope of the form. This involved a comprehensive analysis of each element in the building scope to fit the research focus. This was followed by elucidating the meaning of the bale nyuncung roof and its relation to the meaning of the inner room.

### Majalaya Great Mosque

The main interior of the Majalaya mosque has a square shape with an additive linear room on the North, South, and East sides functioning as an additional area when the main room is full. The square shape refers to the typology of the

mosque's basic form in general as shown in figure 2. Moreover, the prayer room is oriented towards the Qibla and emphasized by the axis formed by the main entrance with the mihrab room which symmetrically divides the plan. The floor is in the form of cement pavement with a ceramic finish and covered with carpet to provide a warm impression in the room. Furthermore, the main room enclosure walls have considerable large window holes indicating its connectivity with the additional room on its three sides. The main columns supporting the contrast roof are visible in the main room, and their presence rather disturbs the pilgrims' view towards the pulpit position.

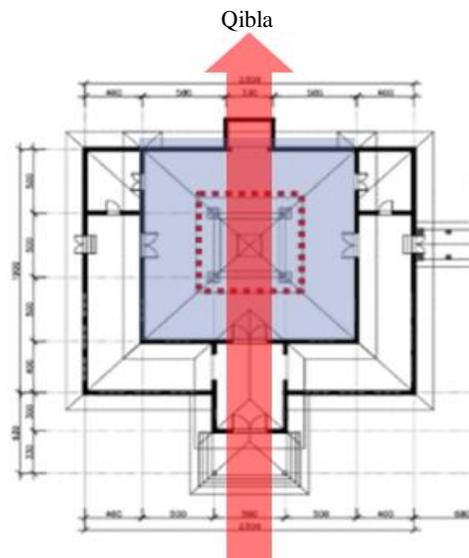


Figure 2. Floor plan of Majalaya Grand Mosque

The structure and construction of the roof, exposed as aesthetic elements in the inner room of the Mosque



The hole in the upper part of the bale nyuncung roof transmits light to the main hall of the Mosque

Figure 3. The lower room on the bale nyuncung roof which blends with the main room to create a vertical room which provides sacred meaning to the main room of the Mosque

At the top, the vertical room radiates reflected light gently into the main hall of the Mosque to create a very strong sacred atmosphere in the Mosque. This, therefore, strengthens the divinity (*Illahi*) meaning which reflects the human relationship with its creator as shown in figure 4.

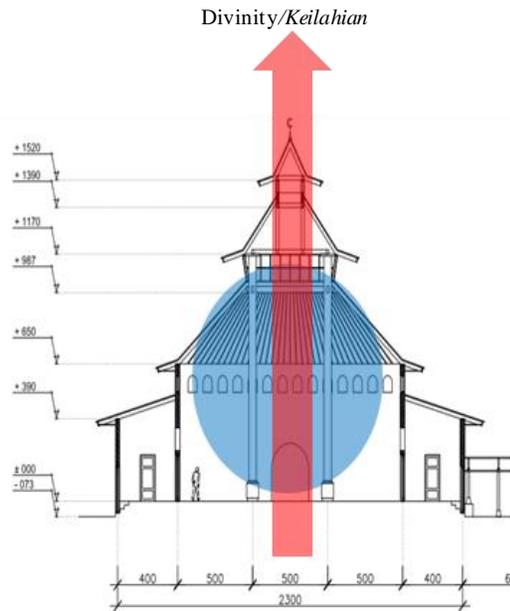


Figure 4. Section of the Majalaya Grand Mosque building

The outside view of the mosque shows the roof proportion is very dominant against the wall with three stacks separated by a wall and provided with a light hole as indicated in figure 5. The incoming light is reflected to gently illuminate the entire main hall and provide a sacred meaning to the room. The Mosque is generally dominated by vertical elements and this indicates the message being delivered leads to divinity (*Illahi*).

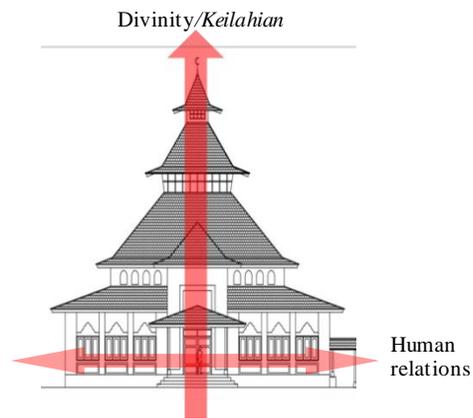


Figure 5. Front view of the Majalaya Grand Mosque

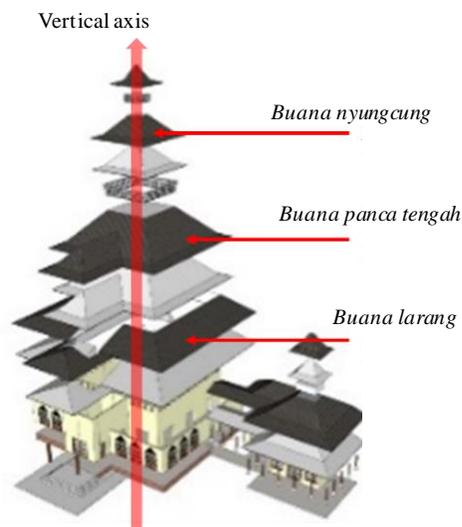


Figure 6. Decomposed isometry of the *bale nyungcung* roof in the Majalaya Great Mosque

#### Manonjaya Great Mosque

It is also in the basic form of a square plan with the North, South, and East sides surrounded by additive linear room. The floor is in the form of pavement with a ceramic coated carpet to provide a warm impression. Moreover, the main room enclosure wall is a wide opening created to ensure natural light enters the main room. The upper room enclosure is a flat ceiling designed to cover the entire main upper room and distinguishes its relationship between the main room from the *bale nungcung* roof room. The main room is, therefore, expressed as strongly horizontal as indicated in figure 7. Moreover, there is no sacred meaning attached to the relationship of the *bale nyungcung* roof with the inner room as depicted in figure 8. The meaning associated with the room is to express the relationship between humans while

the spiritual meaning shows their relationship with God as shown in figure 9.

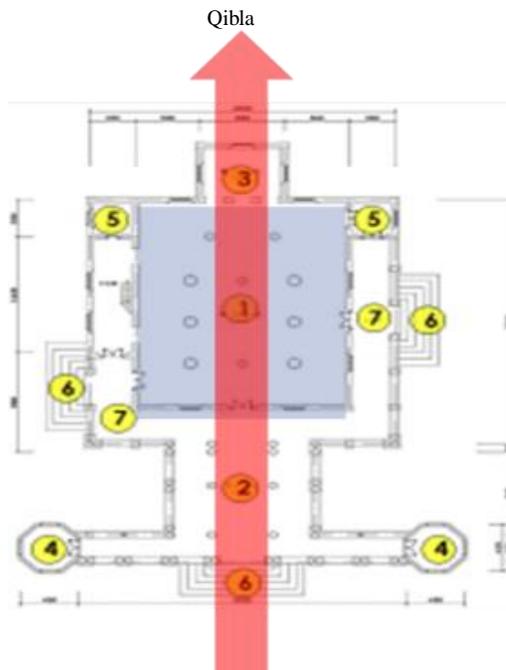


Figure 7. Floor plan of the Manonjaya Great Mosque

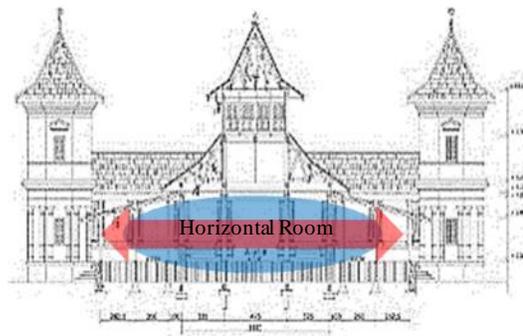


Figure 8. Section of the Manonjaya Great Mosque building

The exterior shows a different perspective with the proportion of the building roof and body observed to be relatively balanced as presented in figure 9. The balance in the horizontal-vertical element indicates the equilibrium in human life in the world such as their relations with others as well as with God.

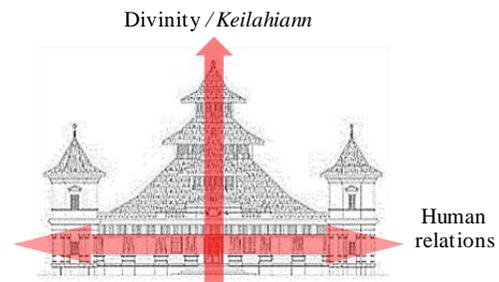


Figure 9. Front view of the Manonjaya Great Mosque

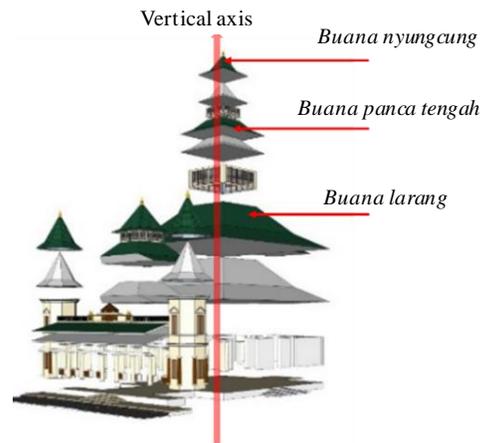


Figure 10. Decomposed isometry of the bale nyungcung roof in the Manonjaya Great Mosque

#### Banten Great Mosque

The layout of the main room is square and there is an increase in the congregational room on the East and South sides. Moreover, the *Qibla* orientation is characterized by the mihrab room even though there is little variation in their dimensions as shown in figure 11. The visualization of the inner room is dominated by large columns and this disturbs the pilgrims' view of the *mihrab*. The floor is also in the form of pavement with ceramic finish covered with carpet while the main room enclosure walls are observed to be thick and massive with several entrances to the main hall. The natural light entering through the doorholes is, however, relatively small.

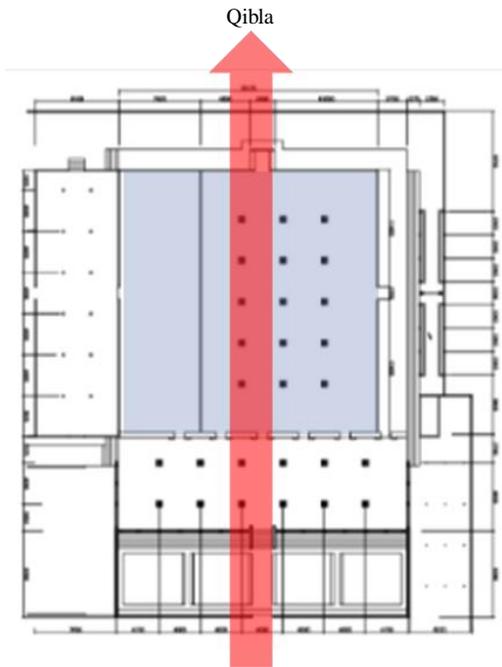


Figure 11. Floor plan of Banten Great Mosque

The upper room enclosure in the form of a ceiling follows the shape pattern of the *bale nyungcung* roof. This, therefore, creates a strong vertical room at the center of the main room. There is also a window at the top separating each *bale nyungcung* roof structure and the light entering from the roof adds to the lighting quality in the main room while providing sacred meaning as indicated in figures 12 and 13.

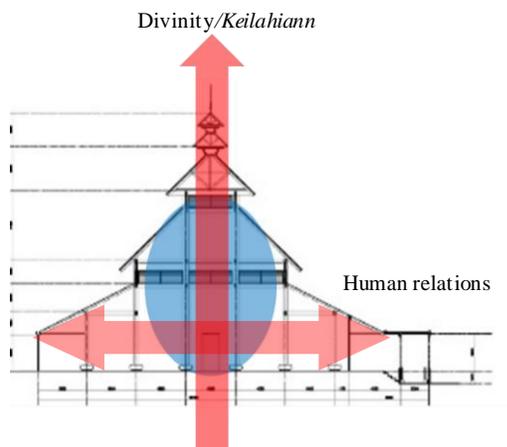


Figure 12. Section of the Banten Great Mosque building

The hole in the upper part of the *bale nyungcung* roof transmits light to the main room of the Mosque



The structure and construction of the roof are exposed as aesthetic elements in the main room

Figure 13. The main room interior of the Banten Great Mosque

The horizontal and vertical expressions are relatively balanced from the exterior view. The repeated dimension of the listplank line element is able to balance the vertical direction of the three-umpak pyramid on the *bale nyungcung* stacking roof. Moreover, the aesthetic ornament on the top in the form of two small roof umpak reinforces the vertical axis on the *bale nyungcung* roof and symbolizes the five prayer times of Islamic teachings as indicated in figure 14.

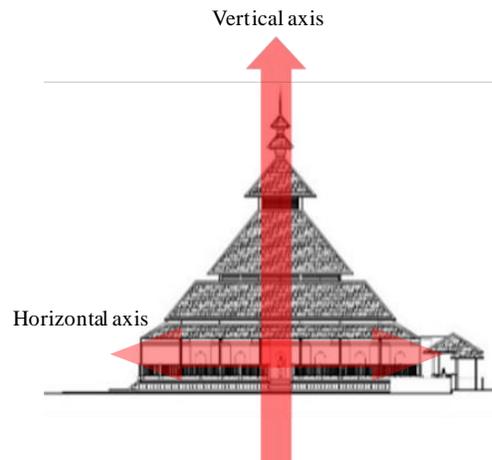
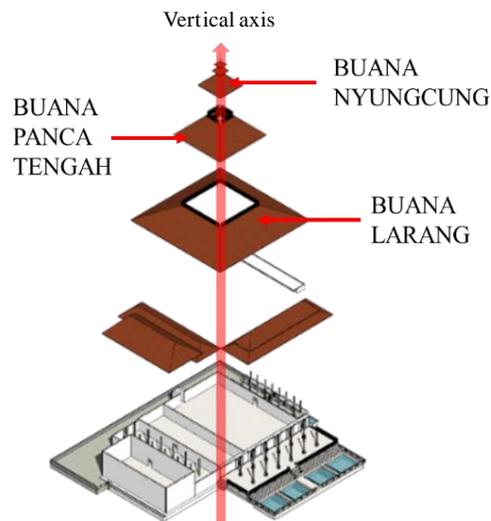


Figure 14. Front view of Banten Great Mosque

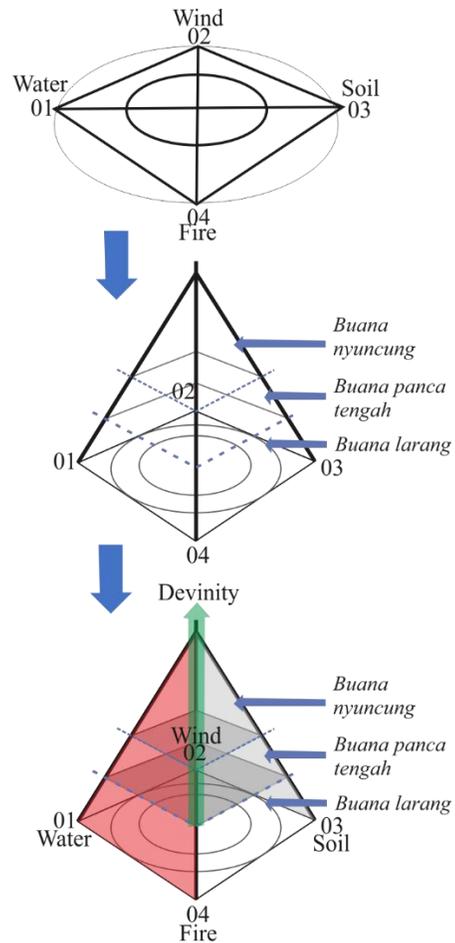


**Figure 15.** Decomposed isometry of the *bale nyungcung* roof in the Banten Great Mosque

#### The cosmology of *bale* roofs

The shape of the *bale nyungcung* roof is influenced by Sundanese cosmology (Sumardjo 2009; Lubis 2000; Kurniawan 2014) which outlines three realms (*Buana*). Firstly, the *buana nyungcung* which involves the divine realm, natural world or *awang-uwung* nature (wilderness) and occupies the highest position in natural systematics. Secondly, the *buana panca tengah* or *ambu tengah* describes the womb as a human home or *Sanghyang* creature as the intermediate nature processing human *waruga* (body) or the *wayang-wayang* universe (*wayang* realm). Thirdly, *Buana larang* or *ambu handap* which means the underworld, as a place where humans return, or land of death (Anisa, Satwikasari, and Saputra 2019).

The *bale nyungcung* roof shape was created on two basic benchmarks which are *tri buana* which indicates the existence of three natures and *wa opat* indicating the *papat kalima pancer*'s explanation of four natural elements such as water, wind, fire and land on earth and in the human body. Meanwhile, the center (*pancer*) is observed in human beings as the micro-nature and in the universe as macro-nature. These two benchmarks are symbolized in the form of a three-stacking roof with the basic shape of a square geometry as shown in figure 16.



**Figure 16.** The basic philosophy of forming a *bale nyungcung* roof

## Conclusion

Several conclusions were drawn from the analysis and they are as follows: (1) The basic reference of the mosque's architectural building is the *Qibla* orientation which is marked by the placement of the *mihrab* room on the wall facing the prayer direction as observed from the three mosques studied. Meanwhile, the *Qibla* orientation at the Majalaya Mosque is further strengthened by the axis created due to the *mihrab* position in line with the main entrance having a larger dimension. (2) The shape of the *bale nyungcung* roof is clearly expressed in the main room of Majalaya and the Banten Mosque and this means a strong vertical room is formed at the center. This shows the spiritual connection between humans and God while the sacred meaning of the two rooms is obtained from the inclusion of soft light through

holes in the *bale nyungcung* roof. Meanwhile, it was impossible to obtain the vertical room and sacred meaning using the roof at the Manonjaya Mosque. This is due to the enclosure at the top of the mosque in the form of a flat ceiling which explicitly separates the main room from the room under the roof and this leads to the loss of the Divinity expressions and sacred meanings. The concept of combining the main room with the room formed by the *bale nyungcung* roof is able to provide a deep understanding of relations between humans as well as with God. It also has the ability to strengthen the sacred meaning of the mosque's main room. (3) The exterior view showed the use of the roof successfully expresses verticality interpreted as the spiritual relationship between humans and God. This is in line with the basic philosophy of the *bale nyungcung* roof form which is *tri buana* and *wa opat kalima pancar*. (4) The use of roofs on the mosque building is due to a compromise between the rules of Islamic rituals and Sundanese cosmology or inculturation which has become a local tradition.

## References

- Anisa, Anggana Fitri Satwikasari, and M. Sahrlil Adhi Saputra. 2019. 'Penerapan Konsep Arsitektur Tradisional Sunda Pada Desain Tapak Lanskap Dan Bangunan Fasilitas Resort'. In *Seminar Nasional Sains Dan Teknologi*, 1–10. Jakarta: Fakultas Teknik Universitas Muhammadiyah Jakarta. <https://jurnal.umj.ac.id/index.php/semnastek/article/view/5227/3506>.
- Ashadi. 2012. 'Perkembangan Arsitektur Mesjid Walisongo Di Jawa: Perubahan Ruang Dan Bentuk'. *Nalars: Jurnal Arsitektur FT-UMJ* 11 (2): 143–60. <https://jurnal.umj.ac.id/index.php/nalars/article/view/587/548>.
- Bonta, Juan Pablo. 1979. *Architecture and Its Interpretation: A Study of Expressive Systems in Architecture*. 1st ed. New York: Rizzoli International Publication Inc.
- Broadbent, Geoffrey. 1987. *The Deep Structure of Architecture Dalam, Sign, Symbol and Architecture*. Edited by John Wiley Sons. New York.
- Budimansyah. 2019. 'Rekonstruksi Kota Galuh Pakwan (1371 - 1475 M) Dan Kota Pakwan Pajajaran (1482 - 1521 M)'. Universitas Padjadjaran. <http://repository.unpad.ac.id/frontdoor/index/index/docId/28666>.
- Danesi, Marcel. 2007. *The Quest for Meaning: A Guide to Semiotic Theory and Practice*. Canada: University of Toronto Press, Scholarly Publishing Division.
- Eliade, Mircea. 2013. *The Quest: History and Meaning in Religion*. Chicago, United States: University of Chicago Press.
- Harari, Yuval Noah. 2014. *Sapiens: A Brief History of Humankind. The Guardian*. London: Harvill Secker.
- Hurford, James R. 2007. *The Origins of Meaning (Oxford Studies in the Evolution of Language)*. 1st ed. Great Britain: Oxford University Press.
- Jencks, Charles. 1997. *Theories and Manifestoes of Contemporary Architecture*. Edited by Karl Kropf. London: Academy Press.
- Kurniawan, Aris. 2014. 'Kajian Historis Dan Filosofis Kujang'. *Rekarupa: Jurnal Desain Dan Seni Rupa* 2 (1): 29–40. <https://core.ac.uk/download/pdf/267848988.pdf>.
- Lubis, Nina Herlina. 2000. *Tradisi Dan Transformasi Sejarah Sunda*. Bandung: Humaniora Utama Press.
- Nurwansyah, Ilham. 2013. 'Naskah Lontar Sunda Kuna Sanghyang Siksa Kandang Karesian (624): Sebuah Anomali Pada Pemaskahan Sunda Kuna'. *Jumantara: Jurnal Manuskrip Nusantara* 4 (1). <https://doi.org/https://doi.org/10.37014/jumantara.v4i1.408>.
- Paramitha, Nadya Wicitra, and Purnama Salura. 2020. 'Relasi Antara Sakralitas Ritual Peribadatan Berjamaah Dengan Konfigurasi Spasial Arsitektur Masjid Sulthoni Plosokuning'. *ARTEKS: Jurnal Teknik Arsitektur* 5 (2). <https://doi.org/10.30822/arteks.v5i2.103>.
- Pinker, Steven. 2018. *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress*. New York: Viking Penguin. <https://books.google.co.id/books?id=J6grDwAAQBAJ&printsec=frontcover&dq=Pinker,+2018+ENLIGHTENMENT+NOW&hl=id&sa=X&ved=2ahUKewiV3r6BocTqAhVUub30KHdnfC3MQ6AEwAHoECAMQAq#v=one>

- page&q=Pinker%2C ENLIGHTENMENT NOW&f=false. 2018
- Rapoport, Amos. 1969. *House, Form, and Culture*. New York: Prentice Hall.
- . 2005. *Culture, Architecture, and Design*. Chicago, United States: Locke Science Publishing Co., Inc. [http://www.egyptarch.gov.eg/sites/default/files/pdf/Books/Culture Architecture%20Design.pdf](http://www.egyptarch.gov.eg/sites/default/files/pdf/Books/Culture%20Architecture%20Design.pdf).
- Rosidi, Ajip. 2010. *Mencari Sosok Manusia Sunda: Sekumpulan Gagasan Dan Pikiran*. Jakarta: Dunia Pustaka Jaya.
- Salura, Purnama. 2007. *Menelusuri Arsitektur Masyarakat Sunda*. Bandung: Cipta Sastra Salura.
- . 2015. *Sebuah Kritik: Arsitektur Yang Membodohkan*. Bandung: Gakushudo Publisher.
- . 2018. 'Anatomy of Architecture Based on the Creation of Space for Activity'. *International Journal of Engineering & Technology* 7 (2.14): 205–7.
- Salura, Purnama, and Bachtiar Fauzy. 2012. 'The Ever-Rotating Aspects of Function-Form-Meaning in Architecture'. *International Journal of Basic and Applied Scientific Research*.
- Sumardjo, Jakob. 2009. 'Kosmologi Dan Pola Tiga Sunda'. *Jurnal Imaji Maranatha* 4 (2): 101–10. <https://media.neliti.com/media/publications/218259-kosmologi-dan-pola-tiga-sunda.pdf>.

