The dynamics of meaning in mosque architecture: A study of old and modern mosques in West Java Indonesia
Case study: Sang Cipta Rasa Mosque-Cirebon and Salman Mosque-Bandung

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ABSTRACT

Humans are homo religious with a natural desire that there is an absolute power beyond reasoning which makes them “existent”. This is observed from their religious behaviors as well as the continuous increase in their spirituality. Humans have a basic need to worship according to their religious orders and the construction of mosques is considered the fulfillment of the main needs of Muslims to conduct their prayers. The diversity of mosque forms in West Java showed that there is a mutually influencing relationship between the basic need for space to accommodate prayer rituals which tend to be dogmatic and the human desire to appreciate architectural elements of mosques as a form of contextual and dynamic spirituality enhancement. The comparison between the needs and desires in mosque architecture as indicated in previous studies was used as the main reference to understand the dynamics of the meaning in mosque architecture in order to produce new meaning reading diagrams. This was achieved through three main stages with the first being the re-description of the ideograms and typograms pairing in each mosque from the previous studies, the second is the identification of keywords that form the basis of thought for architects, users, and organizers as a series of triangulation processes to reveal new meanings and functions in the case study of mosques, and the third is the placement of the results of the analysis on the Function-Form-Meaning diagram to produce a new meaning reading diagram to identify the dynamics of meaning in mosque architecture in West Java. The contribution of this study is to enrich the theory and method of the meaning process in mosque architecture as well as to serve as a guide for architectural practitioners in designing mosques.

Introduction

Homo Religiosus refers to humans that believe in the Absolute divine power and those that initially realized their nature as humans as well as the existence of big and wide mysteries in everyday life. This led to the development of metaphors in the form of symbolization which involves perceiving everything on earth as a replica of the divine world (Pamungkas 2016). This is the basis for the knowledge on myths, religious symbols, as well as ritual and social activities affecting the lives of traditional people up to the present day (Amstrong 2019). It is further intertwined to form the building structure which can physically be categorized as a “sign” (Chandler 2002) and this...
means it is impossible to separate physical buildings from the desires of humans to communicate (P Salura 2018).

Architectural forms usually illustrate the mental pictures of the Sufistic thought (Akkach 2006; Nasr 1993) and this means that symbols and meanings are always used in architectural elements of worship buildings such as mosques. It also shows that mosques with richer elements convey more messages to illustrate the perceptive of the users behind the architectural form (Fanani 2009).

Mosque architecture is a worship building attached to the process of interpreting static ritual arrangements which are summarized as basic needs and a series of desires for dynamically moving individuals (Wirakusumah, Antariksa, and Salura 2021). The movements between static and dynamic points have the ability to show the meaning contained in a mosque building.

The studies on religious buildings are associated with ideals of cosmology. For example, Akkach (2006) linked cosmology in Islam with a Sufistic view which is closely related to the esoteric tradition and mysticism in Islam. This Sufi view was reported to have emerged in the Abbasid Islamic dynasty that lived their lives searching for sacredness and exploring true wisdom by studying the Qur'an (Karamustafa 2007).

The absolute ultimate reality conveyed through revelation embodies religious traditions within the scope of the exoteric realm – a realm that puts forward dogmatic and ritualistic traits and tends to be static. This exoteric realm is also a process of ritual activity which differentiates a religion from the others. Meanwhile, the esoteric realm refers to the values related to mysticism and contemplative nature towards the ultimate reality which is only achievable after going through the exoteric realm (Oldmeadow and Stoddart 2010). It is specific and only understood by a certain community but focuses on determining the core or the absolute (Schuon 2002).

This description shows that the creation and interpretation of the meaning of mosque architecture can be understood through the interplay between text and context. This was further strengthened by the statement that ideas (creations) and expressions (concrete) always exist in architectural formations (Purnama Salura and Fauzy 2012). Moreover, the materialization or architectural formation of a mosque as a worship building is based on a relationship between function, form, and meaning which is always expressed and acts as a text inspiring the interpretation of observers or users.

The study on the method to read architectural meaning is described in a value-free diagram that can be operated through a triangular framework consisting of the main aspects of architecture which include the function, form and meaning (Purnama Salura and Fauzy 2012). These phenomena show that the main issue is determining the method to read the meaning in mosque architecture using Function-Form-Meaning diagrams that move on a static range of needs (ideograms) and dynamic desires (typograms). This present study was conducted as a continuation of a published paper entitled "Needs and Wants in Mosque Architecture: A Study of Traditional and Modern Mosques in West Java-Indonesia" (Wirakusumah, Antariksa, and Salura 2021) in order to deepen the results from the research. Therefore, the purpose of this study is to reveal the dynamics of meaning in mosque architecture using the comparison between needs (ideograms) and desires (typograms) in mosque architecture determined through the Function-Form-Meaning reading framework in exoteric and esoteric realms from the previous study as the main reference. The benefits are to enrich the methods to be used in reading the meaning of mosque architecture in relation to needs and desires for prayer rituals and also to identify the exoteric and esoteric meanings through the exploration of property aspects and architectural composition of mosques.

**Method**

The steps used in this study starts from those used in the previous studies to juxtapose ideograms in the form of needs and typograms in the form of desires in the architecture of modern and traditional mosques in West Java (Wirakusumah, Antariksa, and Salura 2021). The concept of the ideogram contains the intention of meaning (Krenz 2010) derived from the elaboration between the rules of prayer in Islam and the scope of architectural anatomy in describing spatial properties and composition. The ideogram formulation is an interpretive process while the typogram focuses on recording the type of mosque empirically. The mosque is dissected to its properties and composition. These are
necessary because the previous study already concluded that the comparison of the properties and composition of ideograms and typograms in mosque architecture can be used to determine the dominance between the basic needs of prayer rituals and user desires.

The pairing of ideograms and typograms from previous studies to identify the layers of meaning in mosque architecture was used to develop a function-shape-meaning-free value-free diagram in this study (Purnama Salura and Fauzy 2012).

The steps used at this stage include, first, pairing ideograms and typograms from previous studies. Second, conducting a triangulation process in the form of questionnaires distribution and interviews with architects involved in the construction of mosques, users, and organizers to clarify the ideograms that previously formulated. The interview was used to identify the keywords which emphasized the meaning and function of the mosque apart from being a place for ritual prayers.

Third, placing and categorizing the results of the ideogram formulation in the Function-Form-Meaning diagram as an exoteric meaning which are the meanings associated with only the ritual needs of prayer. This step was also used to identify the esoteric meaning which includes the specific meaning understood by certain communities in relation to the deepening of spirituality.

The study focuses on West Java because the number of Muslims in Indonesia reaches 88% of the total population and 46% were observed to be currently concentrated in Java. This figure makes this island the most Muslim population among the three provinces in Java according to the Central Bureau of Statistics (Badan Pusat Statistik Provinsi Jawa Barat 2020) accessed in 2020.

The first study object is the Sang Cipta Rasa Great Mosque located on Jalan Keraton Kasepuhan, Cirebon City, West Java which is part of the Cirebon Kasepuhan Palace and is often referred to as the Great Mosque of Kasepuhan or the Great Mosque of Cirebon. The mosque was constructed based on the initiative of the consort of the Cirebon sultanate known as Nyi Pakungwati assisted by Walisongo which knowns as Sjarif Hidayatullah or Sunan Gunung Jati and the structure was designed by Architect Sunan Kalijaga assisted by Raden Sepat from Majapahit (Budi, Falah, and Putrie 2017). Its completion was found to be two versions with Negarakertagama showing it was completed in 1489 AD while the Ministry of Education and Culture states it was in 1498.

The second object is the Salman Mosque located on Jalan Ganesha, Bandung City, West Java, and widely known as the pioneer of mosques with new architectural styles as well as the pioneer of campus mosques in Indonesia (Dewiyanti and Budi 2016). Its shape that is not dominated by the domed roof is believed to be the embodiment of the modern architectural movement in Indonesia. Moreover, the mosque was constructed not long after Indonesia’s independence with reference to the periodization of modern architecture and this indicates it is in line with the modern post-war period (1950-1955) architecture which emphasizes straight lines and planes made of concrete or steel as well as a repetitive arrangement of openings (Zukowsky 2020). Intertwined with the terms “form follow function” and "ornament is a crime" as the spirit of modernism, the Salman Mosque presents an expression of forms believed to characterize modern architecture such as geometry, homogeneity, purity, lack of ornaments, regularity, and logical repetition.

These two mosques were selected for two reasons: (1) Sang Cipta Rasa Mosque, which is one of the old mosques in West Java, has proven to be actively operated and its religious activities are intertwined with the traditional activities of the surrounding community while the Salman Mosque is a modern mosque used by urban communities that are not related to certain traditional conditions. (2) The Sang Cipta Rasa Mosque is still active and relatively maintains its...
existing architectural condition, thereby, leading to its recognition as a cultural artifact (Agustina 2017) while Salman Mosque is also active with an existing architectural condition which can be analyzed in present time. Moreover, the age difference between the two mosques leads to a dynamic range of meaning reading.

The observations made on the two study objects through processed google maps and Sketchup media for 3-dimensional perspective images are presented in the following figure 2.

Figure 2. Location and 3-Dimensional perspective of Sang Cipta Mosque -Cirebon and Salman Mosque-Bandung

Result and discussion

The first step: Comparison of property and composition of mosque architecture in the scope of architectural anatomy

The process of comparing property concepts and the composition of ideograms and typograms was described in a study published in previous journal (Wirakusumah, Antariksa, and Salura 2021). The assessment strategy involves using a semantic scale as presented in table 1 with the range divided into 4 parts which include: (1) overall facts and data (typogram) of properties and mosque composition are in accordance with ideogram, (2) the properties of the mosque in line with the ideogram but adjusted to its composition, (3) the main properties based on ideogram but
some additional are being added, and (4) facts and data (typogram) of the properties and composition of the mosque do not match the ideogram at all.

**Table 1. Semantic scales to compare ideograms and typograms**

<table>
<thead>
<tr>
<th>Property Composition</th>
<th>Needs Ideogram</th>
<th>Property Composition</th>
<th>Wants Typogram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope of Environment</td>
<td></td>
<td>Scope of Environment</td>
<td></td>
</tr>
<tr>
<td>Scope of Site</td>
<td></td>
<td>Scope of Site</td>
<td></td>
</tr>
<tr>
<td>Scope of Building</td>
<td></td>
<td>Scope of Building</td>
<td></td>
</tr>
</tbody>
</table>

The results of the comparison between the property ideograms and the architectural composition of the mosque based on the needs of the prayer ritual as well as the empirical exploration of the mosques used as a case study in the form of a typogram in each scope are presented in figures 3 to 5.

The assessment aspect of the environment scope ideogram is divided into 3 which include (A) the attitude of the mosque building to the existing surrounding roads, (B) the appearance of the mosque building compared to the surrounding existing buildings, and (1) the attitude of the main entrance of the mosque site to the road.

Sang Cipta Rasa Mosque was discovered to have fulfilled 1 out of the 3 aspects while the Salman Mosque fulfills 2 as indicated in figure 3.

The site scope focuses on property valuation and composition in 6 aspects which include (1) the relationship between the main entrance of the mosque site and the orientation of the mosque, (2) the boundaries of the mosque and the surrounding buildings, (3) the open area surrounding the mosque and the lowest floor elevation, (4) the area for ablution (wudu) is divided into male and female sections and has a higher floor elevation than the open area, (5) the transition area around the prayer area is divided into male and female sections with a higher floor and roof elevation than the ablution area, and (6) the main area had the highest hierarchy which is marked by the roof covering and highest floor.

Each of Sang Cipta Rasa and Salman Mosques was observed to have met only 1 out of these 6 aspects as indicated in figure 4.
The scope of the building emphasizes the property assessment aspect and the composition based on 3 aspects which include (4) building an ablution area that requires separate male and female congregations and has a higher floor covering than the open area, (5) the transition area building has a roof covering and a floor covering which is higher than the ablution area, and (6) the main area building which has the highest floor and roof coverage indicates it is a prioritized hierarchy compared to other areas within the building scope.

The findings showed that Sang Cipta Rasa Mosque meets 1 out of the 3 aspects while the Salman Mosque meets 2 aspects as presented in figure 5.

The secondary aspect of the building scope in the main area emphasizes property valuation and the composition using 2 aspects which are (1) the main columns supporting structure of the roof and (2) the roof shape or the ceiling of the main area strengthened the horizontal axis of Qibla direction as presented in figure 6. It was discovered that the Sang Cipta Rasa Mosque does not fulfill these aspects because the tiered roof in Sang Cipta Rasa Mosque creating dual axis (vertical and horizontal) while the Salman Mosque satisfies the column-free main area aspect and the flat roof shape which confirms the horizontality of the Qibla orientation.
The results showed that the Sang Cipta Rasa Mosque satisfies 2 out of 4 while the Salman Mosque fulfills only 1 aspect as indicated in Figure 7.

Figure 7. The result of the comparison between ideograms and typograms of the main area (secondary) building scope
Source: (Wirakusumah, Antariksa, and Salura 2021)

The analysis of the elaboration between prayer procedures and the anatomy of the architectural scope showed 18 aspects of the exoteric layer related to the need to conduct prayer activities which can be used in identifying the layers of meaning in the mosque. The output of the first step is the identification of the exoteric properties and composition of the prayer ritual activity as presented in the following Table 2.

Table 2. Description of the color code, position, type of lamp, and the nature of the light

<table>
<thead>
<tr>
<th>Anatomy of the architectural scope</th>
<th>Exoteric properties</th>
<th>Exoteric composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental scope (primary)</td>
<td>a. Existing road</td>
<td>The intersection of the roads strengthens the direction of the Qibla orientation</td>
</tr>
<tr>
<td></td>
<td>b. Existing building</td>
<td>Showing a significant difference</td>
</tr>
<tr>
<td>Site scope (primary)</td>
<td>1. Site entry boundary area</td>
<td>Responding to all the roads that surround the site of the mosque</td>
</tr>
<tr>
<td></td>
<td>2. Mosque site boundaries</td>
<td>Clear and concrete</td>
</tr>
<tr>
<td></td>
<td>3. Open area</td>
<td>Covering and connecting the entire mass of buildings on the site</td>
</tr>
<tr>
<td></td>
<td>4. Ablution area</td>
<td>Separates the male and female congregation and is located after the open area</td>
</tr>
<tr>
<td></td>
<td>5. Transition area</td>
<td>Separating the male and female congregations, located after the transition area and encompassing the main area</td>
</tr>
<tr>
<td>Building scope (primary)</td>
<td>4. Ablution area</td>
<td>Massive walls, and have a floor and roof enclosure that is higher than the open area</td>
</tr>
<tr>
<td></td>
<td>5. Transition area</td>
<td>Separate activities between males and females and have a higher floor and roof covering than the ablation area</td>
</tr>
</tbody>
</table>
Anatomy of the architectural scope | Exoteric properties | Exoteric composition
--- | --- | ---
6. Main area | Separating activities between male and female congregations and having larger dimensions and the highest scope among the building masses on the site

Building scope (secondary) | Main structure of roof support | The main area is column-free
--- | --- | ---
Roof forms | Flat and emphasizes the horizontality of the direction of Qibla orientation
--- | --- | ---
a. Accessibility | Unidirectional with Qibla orientation
--- | --- | ---
b. Visibility | Massive walls to prevent distraction
--- | --- | ---
c. Lighting and air conditioning | Opening above the human eye's field of view
--- | --- | ---
d. Acoustic | Helping the aural-oral process during the prayer ritual

Second step:
Triangulation as an identification of meaning in mosque architecture

Triangulation was accomplished by interviewing three agents including (1) architects that have designed mosques, (2) users, and (3) organisers of mosques. The purpose of this step was to identify the meanings captured by these three agents in the properties and composition of functions and forms. The interviews were conducted with 3 architects while questionnaires were distributed to 30 respondents using the mosques used as a case study.

The interviews conducted with agent group 1 (architect) produced answers observed to correlate with the property aspects and exoteric composition in the ideogram of the mosque except for the exoteric composition of the building. The architects argued that the aspects of exoteric composition in the form of hierarchical symbols are not usually prioritized in mosques architecture as long as the activities in the mosques are properly accommodated.

This means the architects are more concerned about the functional aspects included in the mosque property than the symbolic aspects formulated in the mosque composition. Meanwhile, the interviews and questionnaires presented to the users and organizers of the Sang Cipta Rasa Mosque showed both the functional and symbolic meanings attached to local traditions while those presented to those in Salman Mosque produced the functional and ideological meaning of the designer as indicated in table 3.

<table>
<thead>
<tr>
<th>Table 3. The results of the triangulation process between the architects, organisers, and users</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anatomy of the architectural scope</strong></td>
</tr>
<tr>
<td>Environment (primary)</td>
</tr>
<tr>
<td>Site (primary)</td>
</tr>
<tr>
<td>Building (primary)</td>
</tr>
</tbody>
</table>
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Third step:
Elaboration of ideogram-typogram comparison results and triangulation process in function-form-meaning diagram

The results from step two were elaborated in the function-form-meaning (Fu-Fo-M) diagram to show the meaning of the exoteric and esoteric layers of the mosque as well as the dynamic range of meaning between the two mosques studied as indicated in Table 4.

Table 4. Comparison of the mosques studied based on function, form, and meaning

<table>
<thead>
<tr>
<th>No.</th>
<th>Aspect</th>
<th>Sang Cipta Rasa Mosque</th>
<th>Salman Mosque</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Forms</td>
<td>Mihrab (a niche on the wall for Imam to Stand Leading the congregational prayer)</td>
<td>Mihrab (a niche on the wall for Imam to stand leading the congregational prayer)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mimbar (pulpit)</td>
<td>Mimbar (pulpit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makasura (special room for the king to worship)</td>
<td>Mezzanine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sumar banyu cis (Banyu cis well)</td>
<td>Minaret (tower)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makam (Ggrave)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Serambi (porch)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kolam kulah (water tank)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jam istiwa (sundial)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soko guru/Rawa/Tritis (pillars)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Atap lamasan (tiered roof)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Functions</td>
<td>Pragmatic/functional</td>
<td>Pragmatic/functional</td>
</tr>
<tr>
<td>3</td>
<td>Meaning</td>
<td>Pragmatic/functional</td>
<td>Pragmatic/functional</td>
</tr>
<tr>
<td></td>
<td>Tradition</td>
<td>Designer ideology</td>
<td></td>
</tr>
</tbody>
</table>

The triangulation analysis showed other aspects besides supporting prayer rituals that can be categorized as local esoteric meanings. This is observed from the 2 similar elements supporting prayer ritual in the aspect of mosque shape which are the Mihrab and Pulpit.

There are also 8 local shape indicators found in the Sang Cipta Rasa Mosque related to tradition while 2 local elements were discovered in the Salman Mosque to be related to the tradition of the Middle East Mosque (Minaret) and the Mezzanine for women's congregational prayer activities.

Some indicators of the functions of these mosques were also observed during the triangulation of the responses to the questionnaires and interviews with the SCR Mosque reported to have produced traditional functions intertwined with the religious life of the community apart from its pragmatic function of accommodating prayer rituals. Meanwhile, the Salman Mosque is only used for prayer ritual activities.

The meaning indicator was also retrieved through the responses to the questionnaires and interviews with the Sang Cipta Rasa Mosque observed to have meanings related to the tradition of the community of its users while the Salman Mosque exhibits the ideological meaning of its designer and era. This shows that they both have meanings beyond their functional pragmatic meaning.

The overall analysis on the function-form-meaning value-free diagram (form-function-
meaning) inside the triangle by adding the symbol (S) to represent the Absolute or Prophetic sayings related to revelations from certain beliefs in conducting worship activities. Moreover, the 2 exoteric lines symbolize the properties and composition produced from interpreting the elaboration of ritual procedures within the scope of architectural anatomy as indicated in figure 8-3.

The analysis of the SCR Mosque showed the dynamics of the exoteric line with all the properties fulfilled symbolized using a thick line while the composition not fully fulfilled is represented using a dotted line. On the esoteric line, 9 elements of new forms, functions, and meanings of local traditions were observed to be supporting the prayer ritual as indicated by an inward arrow which represents the esoteric line as indicated in figure 8-4. It is important to note that the esoteric line was produced based on the phenomenon of mosque users and organizers aligning traditional and religious activities as an effort to increase spirituality value.

The analysis of the Salman Mosque also showed the dynamics of the exoteric line through the fulfillment of all the properties of the prayer ritual but not all those associated with the composition were found to be appropriate. The esoteric line was only observed in the new form which accommodate functional aspects and does not have any spiritual meaning, this is the reason the arrow moves outward as indicated in figure 8-5. This is because the exploration of the function and meaning aspects only brings out the ideology of the designer and the spirit of the Modern era and lack of spiritual fulfillment.

**Conclusion**

Islam does not concretely specify the rules for the architectural form of a mosque but there is a procession of activities in the process of conducting prayer activities that is binding and tends to be dogmatic but produces different forms of mosque architecture. This led to the description of certain steps to show the dynamics of the Function (Fu) – Form (Fo) – Meaning (M) movement in the diversity of mosque architecture.

The first stage involved comparing the ideogram properties and composition based on empirical observations of the typogram to determine the suitability of the mosques used as a case study with the ideogram of the architecture. Subsequently, the second stage involved
comparing ideograms and typograms followed by a justification through triangulation in the form of questionnaires and interviews with architects, users, and organisers, and the results were used to identify new functions and meanings other than those related to prayer ritual activities.

The third phase involved placing the results of the analysis on the Function (Fu) – Form (Fo) – Meaning (M) diagram to confirm the dynamics of the movement between the exoteric and esoteric lines. The results showed that the exoteric line of all prayer activity in exoteric properties is fulfilled in both mosques but the adjustment to the exoteric composition was observed to be moving dynamically between the mosques. Moreover, the esoteric line also moves dynamically between the two mosques, and the old mosques represented by the Sang Cipta Rasa Mosque were discovered to have a more dynamic range than the modern mosques represented by the Salman Mosque. This study provides a new reading method to show the meaning of mosque architecture which can also be used in buildings with similar functions to identify their dynamic range of meanings.

References


