

# The Influence of the Concept of Nusantara Architecture on the Architectural Concept of Aldo Van Eyck: Study of the Pastoor van Ars Church in Den Haag

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**Abstract**— Aldo van Eyck, a Dutch architect in the era of modern architecture after the second world war in the category of structuralism, his philosophy values and architectural theory supported by philosophy values when he was in the journey to Indonesia, Africa, the Far East, Mediterranean, New Mexico and Scandinavian. These values give to philosophical theories and architecture about the dimensions of the microcosm and the macrocosm, local culture and traditions, human nature and local identity. This research is to see the extent to which the concept of Indonesian Architecture influences the work of Aldo van Eyck which will be discussed through the case study 'Pastoor van Ars' Church in Den Haag. The research method was carried out by describing the architectural theory of Aldo van Eyck and the philosophy of Indonesian architecture by Romo Mangunwijaya with indicators of human relations with the macrocosm of nature and microcosm, human relations with culture and location identity. The second meeting of these theories will produce a reading tool to analyze case studies. The results of this study conclude and find that Aldo van Eyck's architectural theory was approved by the understanding of Nusantara architecture and the philosophy of Nusantara Architecture can enrich the insights for architects in Indonesia, for this reason this research is expected to be an opening for research so that Aldo van Eyck's research and knowledge and education of the world of architecture that has insight into local wisdom.

**Keywords:** Aldo Van Eyck, twin phenomena, in betweening, *Arsitektur Nusantara, Gereja Pastor van Ars di Den Haag*

## I. INTRODUCTION

Aldo van Eyck, a Dutch architect in the era of modern architecture after the second world war in the category of structuralism, which had quite influenced the world of architecture at that time. Born in 1918 from a father who works as a philosopher and poet, he received architectural education from ETH Zurich and worked professionally since 1946. Apart from being an architect, he was also a professor who taught at Delft University of Technology [1].

Aldo van Eyck was dubbed the 'Humanist Rebellion' because the concept of thought which was contrary to the

architectural concept of the era which he called a 'mechanist', when housing construction was carried out on a large scale to pursue the target of 'fulfilling housing needs' by means of repetition of design, like a printing machine [2].

Aldo van Eyck's concept of thought in his architectural work was influenced by his travel to several countries, Indonesia, Africa, the Far East, Mediterranean, New Mexico, and Scandinavia [3]. His admiration for the architectural philosophy of Nusantara, when he visited Nias and became acquainted with the concept of traditional Nias house architecture that contained noble values and was always associated with the macrocosm and microcosm realm, about the essence and culture where humans and their natural environment become actors and formers of space and mass [4]. In philosophy, there is a value of identity and the meaning of locality where it is located. The architect became the recipient of the responsibility that received the mandate from the Ruler - ontology, in contrast to the Western concept which adheres to the notion that architecture is the work of the artist to overcome a state of his environment by using existing tools and materials [5].

This meeting with Eastern philosophy gave birth to several architectural theories, among others, the in betweening, *oervorm* and the Twin Phenomena which are used as the basis of Aldo van Eyck's design in work [6].

The extent of the influence of the philosophy of Indonesian Architecture on the work of Aldo van Eyck will be discussed by first recognizing the concepts of Indonesian Architecture contained in the book *Wastu Citra* by Romo Mangunwijaya. The book summarizes the archipelago's vernacular architectural elements [5]. The discussion study was conducted by presenting the work of Aldo van Eyck at the *Pastoor van Ars* Church, located in Den Haag by bringing together the two theories of Aldo van Eyck and Romo Mangunwijaya.

The aims of this study are:

1. Knowing and understanding the architectural

theory of Aldo van Eyck which was influenced by the *Nusantara* architecture through the concept of *Wastu Citra* from Romo Mangun

2. Enriching the architectural education repertoire in Indonesia which remains rooted in the Nusantara's vernacular architecture.

## II. MATERIAL AND METHOD

### A. Material

Case Study : Roman Catholic Church 'Pastoor van Ars' at Den Haag



Figure 1. The Pastoor van Ars Church, Den Haag [7]

In 1963, the Rotterdam diocese gave the task of designing the van Ars Pastoral church with the following specifications:

1. A worship room that can accommodate a congregation of around 400 people on weekdays and reaches 600 in the summer. The worship room is used for weekly celebration ceremonies and public holidays.
2. Site is located on the side of the highway and near the sea.

The description of the assignment is then processed into a design as below:

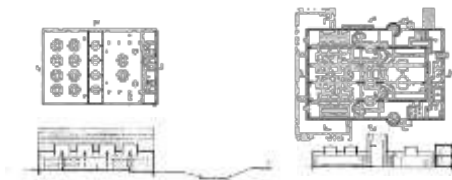


Figure 2. Floor plan, Elevation and Section plan

### B. Method

#### Theory of Aldo van Eyck

##### i. Literatur Review

##### a. The In betweening

The concept refers to Martin Buber's philosophy of '*Ich und Du*' and is translated in this theory as 'space between' namely that between two conflicting polarities in a true entity there is always space that can 'bring together' the same transitional space important with both polarities. Space is a transition between 'inside and outside' meetings, 'out and in', 'up and down', as illustrated in figure 3

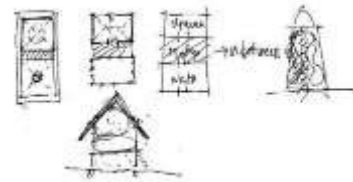


Figure 3. Inbetweening – Transition, there is a room between the two contradictory elements [4]

##### b. *Oervorm* – ancient form

The works of Aldo van Eyck always use pure geometric shapes like circles, squares and triangles, according to tribal society, the circle shape is centered on power above (macrocosm), and the square forms represent space for humans (microcosm) [2].

##### c. The Twin Phenomena

Theories that discuss the interrelationships between entities will be meaningful if there are other entities, which are referred to as ambivalent relationships - in a situation there will be contradicting relationships, for example there is no big without small or nothing inside without outside. This theory discusses identity and the relationship between place and occasion. The twin phenomena gives about two types of orientation those are, people seated concentrically in a hollow, gazing inwards towards the centre, and people seated concentrically on a hill gazing outwards towards the horizon as shown in figure 4.

The concept of Nusantara Architecture

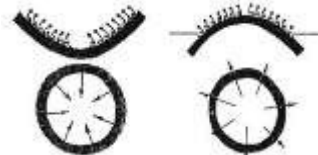


Figure 4. Illustration of the Twin Phenomena by Aldo van Eyck [6].

Architecture in Indonesia, according to Romo Mangunwijaya's book, entitled *Wastu Citra*, is divided into two natural environments of thought, namely, *Guna* and *Citra*.

a. *Guna*, discusses the use of science, mathematical logic, geometric forms, natural science to create comfortable space with appropriate, efficient spatial planning and truth thinking, processing techniques and how to work.

b. *Citra*, discusses spiritual values where humans sincerely align themselves with nature and surrenders themselves to God Almighty. *Citra* symbolizes the degree and dignity of humans, the reflection of light from the soul revealed in the cultural tradition.

Relationships that are in harmony with nature and directing oneself to the God Almighty, who forms the traditional *Nusantara* architecture, are seen in horizontal and vertical patterns of spatial distribution, selection of geometric shapes and wisdom in processing local materials [5].

ii. Relationship between Aldo van Eyck's Theory and the concept of Nusantara architecture

The discussion of these two theories produces an equation of relationship that:

A. Theory of In betweening - *oervorm* with aspects of *Citra* discusses geometry, direction, vertical and horizontal mass patterns, mass quantities, scales, proportions, functions, circulation patterns. outer and inner spatial structures.

B. Theory of in betweening - twin phenomena with aspects of *Guna* discusses climate, environmental conditions, availability of materials, and structural systems and construction.

This approach described in 3 aspects of the indicator used to discuss case studies, namely:

1. The relation between human and the universe
2. The relation between human and culture
3. Identity of location

III. RESULTS AND DISCUSSION

A. Discussion

i. Relations between human and the universe

The division of layouts in 3 dimensions of the world, the macrocosm as the place of the Most Holy (A), the transitional world as a place of human worship (B) and the world of microcosms, where humans live (C), as in figure 5



Figure 5. A. Macrocosm realm, B. Transition, C. Microcosmic realm. (Source :

<http://hiddenarchitecture.net/pastoor-van-ars-churc/>)

The relationship between humans and God has seen in 2 cylinder shapes, at the entrance and exit door, which shows the function of worship building, while the square plan has as a nave room.

The separator between the underworld and the upper world seen from the difference in height of mass where the altar section is higher than the nave room, which is equipping in 8 skylight cylinders. The meeting of a square mass flanked by cylindrical mass, the center of the natural view of the macrocosm as the direction of the entrance and exit, as in figure 6.



Figure 6. Front Elevation and Decreased floor level at the entrance (Source:

<https://www.flickr.com/photos/moritzbernoully/>)

Structuring is taken with the longest side so that the cylinder on the ceiling that functions as a skylight seems to be supported by long beams and reflects light whose lines seem to confirm the direction of the meeting between the world transition to the macrocosm realm as shown in Figure 7.

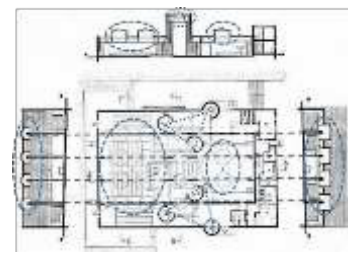


Figure 7. Cylindrical and Square mass, Vertical and horizontal beams (Source :

<http://hiddenarchitecture.net/pastoor-van-ars-churc/>)

B. The relation between human and culture

The planning of religious building gives special attention to the accommodated the number of congregations. The Nave Room divided into 2, which accommodates 400 people in ordinary days, and as additional space to accommodate 200 people in a specific season, separated by a partition wall and divided by the existence of the Altar

The journey from the entrance to exit applied to a one-way circulation pattern, one to the prayer room and one to exit from the worship room, so the congregation did not need to go back to the entrance. The journey to the altar from the entrance, experienced the ground level was lowered first then increase of 7 times to the altar, as well as the entrance to the exit for the congregation experienced a level increase of 7, each cavity containing a statue of the Virgin Mary with candelabras interpreted fourteen levels of travel in the way of Cross Ritual. The highest level towards the Altar ends with a cross symbol with light bouncing from the back while the highest level surrounding the worship room ends towards the exit, so that the highest level is in the same position, see in figure 8.

The lighting along the altar road comes from

4 cylinder skylights, which made of concrete and gave both of natural and artificial lighting. Ceiling along

the altar road seems lifted higher, as a symbol of the journey to Heaven's Light but in the Nave room, made lower which signifies a lower status. The exterior from the underworld separated by floor level games with massive walls.



Figure 8. The Altar viewed from a different level, lighting from cylinders plafon (Source: <https://id.pinterest.com/1urbanstudio/>)

A semicircular space contained a statue of the Virgin Mary at each halt with artificial lighting from above so that it reaches a solemn atmosphere in prayer, as shown in Figure 9.



Figure 9. Prayer room  
<https://www.pinterest.com/yaotma/aldo-van-eyck/>

### C. Identity of Location

The project in Den Haag, Netherlands, used a concrete structural system and massive facades and fewer windows has finished in natural stone. The site location is on the edge of the highway and near the canal riverside with flat contoured which used as part of the exterior landscaping scenery, figure 10.



Figure 10. Section plan and front elevation, from riverside (Source : <https://hiveminer.com/Tags/ars%2Cpastoor>)

## IV. CONCLUSION

a. The choice of geometric shapes with horizontal scale and proportion play to distinguish the function of the altar (sacral), worship space (transition) and exterior landscape (profane), and vertically with volume processing and height in the mass, ceiling and floor arrangement as a marker of building functions worship of the Pastoor van Ars Church.

- b. The uniqueness of the altar which divides the two Nave rooms in anticipation of the increased in the number of congregations still can use in the provisions of the Catholic church worship procedures, with circulation patterns, lighting and ceiling height that create a certain atmosphere.
- c. The use of exposed concrete material confirms geometric shapes of square and cylinder, massive and closed in response to climate and weather challenges.

### Finding :

Western architecture can only use symbolic archipelago architectural philosophy, but location identity becomes a marker in the form and building material where western architecture is a protection, while archipelago architecture is a reflection [8].

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