The architecture of the Catholic Church in the modern movement in Indonesia

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ABSTRACT

Catholic church architecture is part of the development of architecture, especially in Europe. The rationalism and density of iconic Catholic church buildings in Europe raise the allegation that the architecture of the Catholic church during the modern movement was not found in Europe but appeared in missionary areas, including Indonesia. Queen Wilhelmina adopted the ethical policy in 1901 was a driving factor for the emergence of modern-style buildings in Indonesia, including the Catholic church building. Symbols and ornaments are part of the architecture of the Catholic Church; this is contrary to the anti-ornament school of modern architecture. This research looks at the architecture of the Catholic Church in Indonesia during the 1890 - 1945 period of the modern movement. The research method used descriptive qualitative with secondary data collection. The results showed that the architecture of the Catholic Church in Indonesia during the modern movement had an identity: geometric shapes on the facade, simple symbols and ornaments and a three-dimensional roof.

Introduction

The church had a significant influence on changes in European human thought, as seen in studies of changes in thinking dominance starting from theology philosophy and God, which further strengthened rationalism and its relevance to differences in architectural styles (Vitruvius 2012; Banham 1980; Magee 2008; Djaja 2012). The architecture of the Catholic church is full of rules and symbols (Chrisyila 2016); the next question is how the rationalism that occurs in the world influences the architecture of the Catholic church. This research aims to discover how the architecture of the Catholic Church in Indonesia was during the modern movement and its comparison with the architecture of the Catholic church in the world. Initial allegations emerged that rationalism in the world strengthened during the modern movement, the church’s influence weakened, and the construction of church buildings possibly stopped (Fajariah and Suryo 2020; Robinson, Kimball, and Edgell 1920). Meanwhile, in Indonesia, Queen Wilhelmina’s politics of reciprocation coincided with modernisation. Politics in the Netherlands affected the weakness of the Kalvanis religion in Indonesia (Tjahjadi 2014; Gunawan 2019); on the other hand, the Catholic church strengthened. The construction of educational facilities accompanied by missionaries occurred between
1990 - 1945. This research aims to discover the adaptation of Catholic church architecture in Indonesia, especially in the symbolisation of facades at that time. Hopefully, this research will begin a more in-depth study related to the allegation that Catholic church architecture during the modern movement was found in Indonesia or mission areas, not in Europe.

Figure 1. Conceptual framework

The modern movement that occurred in the world in 1900 was a movement to change the way of thinking in all aspects of human life. “In the twentieth century, architecture, urban planning and landscape during a brief, exhilarating and unique period were transformed in parallel with the theory of relativity, cubism and abstraction in art, twelve-tone music, scientific method, rational philosophy, economic and social theory, medical science and industrialism” (Goldblatt, B. Brown, and Patridge 2017; Loos 2017).

The driving factors for the modern movement are (1) science and technology and (2) the tension between religious factors (dogma) and rationalism. Humanism encourages the tendency to believe in God is no longer translated by building church buildings but with architecture that respects nature. The general characteristics of architectural styles at the end of the 19th century or early 20th century are (1) asymmetrical, (2) geometric (all sides in the composition and unity of form), and (3) building elements united in the composition of the building. Architecture has a style that the world agrees with the term International Style, where the form shows purity without ornamentation (Loos 2017; Banham 1980; Daliman 2022; Lake 2019).

Liberalism encouraged Dutch investors to invest in Indonesia. From 1870–to 1885, the Dutch made considerable profits in the plantations of coffee, sugar and quinine. In 1885 Europe was able to produce its sugar which resulted in the price of coffee dropping drastically, resulting in the Dutch economy slumping. At the same time, Great Divergence strengthened in the Netherlands, where politically, Liberalism and Socialism controlled all aspects of life. Politicians' scepticism of religion corners Christianity. In Indonesia, the economic condition and public education are terrible (Broadberry and Gupta 2006; Pomeranz 2009; Daliman 2022).

When the VOC went bankrupt the Dutch East Indies Government took over the government in Indonesia. Queen Wilhelmina launched the Ethical Policy on September 17, 1901, after Van Deventer wrote about his concerns in an article published in the Dutch magazine De Gids in 1899 titled "Debt of Honor". Ethical politics include (1) irrigation, (2) immigration (3) education (Vladimir 1967; Djaja 2012; Sanjaya 2017; Renaldi 2017; Muhammad Fakhriansyah and Intan Ranti Permatasari Patoni 2019). Education is an area that looks conspicuous and gets attention. The process coincided with the modern movement in Europe (Daliman 2022). Many missionaries constructed a school and religious facilities to accommodate indigenous people. The entry of Catholics into Indonesia through the Jesuit Union began in 1540. Still, the movement in fighting for economic justice and education for
indigenous Indonesians began in 1920, starting from the city of Jogjakarta (Linden 1993).

The construction of a school and religious facilities was mainly carried out by missionaries to accommodate the natives to school. Modern civilisation began to enter Indonesia in all aspects (Daliman 2022; Vladimir 1967). In the order of time in Indonesia, according to Handinoto and Hartono (2006), when the Dutch architects entered, they were divided into (1) Architecture of the Indische Empire 1800-1890, (2) Transitional architecture 1890 – 1915 and (3) Indo-European Architecture 1920-1930. Meanwhile, in Europe, the architectural styles move in (Ashadi 2016); (1) Eclecticism 1850 – 1890, (2) Art Neuvou 1890-1910, (3) Art Deco 1920 -1939, and (4) Modern 1939 – 1972.

The architecture of the Catholic church developed according to the journey of the educational mission in Indonesia during the modern movement (Haryono 2009). Socialists and rationalists hit conditions in the Netherlands or Europe, so Christianity was divided into several parts. The line that is still the same as the Great Church line is the Catholic Church. Thus, it is essential to know the architectural characteristics of Catholic church buildings in Indonesia as a reference for church architecture during the modern movement because the construction of Catholic churches in Europe experienced a saturation period and even stopped. On the other hand, the Catholic Church building has the principle that symbols and ornaments are expressions of faith and form a religious (sacred) atmosphere. The symbols in the form of two-dimensional and three-dimensional objects are arranged and beautify the church and have a spiritual meaning.

Architectural development

The development of European architecture started in the Prehistoric Period, 3500 BC - 4 AD, with a typology of temple buildings, colours, and palaces. The typology applies to Europe, Asia and Arabia (Ching, Jarzombek, and Prakash 2017). Then continued the Classical Architecture period 4 AD - 15 AD, where the building typology was palaces, colosseums, synagogues, cathedrals and iconic churches. In 400 AD, Constantian built the Haga Sophia or Constantinople in Istanbul to escape Roman influence in creating a place of worship for Christians. Since then, the church’s power has grown enormously and influenced all aspects of religious, political and economic life (Ashadi 2020). Furthermore, the Renaissance in the 15th century AD was born in Italy and then spread to Europe. The renaissance movement is a resistance to the church’s domination in all areas of life and a reaction to deteriorating economic conditions. The typology of buildings during the renaissance was influenced by the development of secularism, individualism and humanism (Djaja 2012; Ashadi 2020). From the description above, buildings designed for human needs are a priority over religious-oriented development.

The first industrial revolution, with the invention of the steam engine in the Netherlands, also influenced the development of world architecture.

The ease of transportation of goods causes positive impacts, including (1) increased welfare for the rich, (2) the emergence of industrial cities, (3) the emergence of ship, train, and car transportation, and (4) the emergence of mass industrial factories. The industrial revolution also negatively impacted the emergence of slums and increased poverty among the workers.

Cholera outbreaks and fires exacerbated these negative impacts in London and Chicago (Banham 1980; Frampton 1981; Fajariah and Suryo 2020). The negative effects and influences of that condition gave birth to neoclassical architecture.

Neo Classics began in the 17th century AD with baroque art nouveau styles. Neoclassical lasted only a short time because the decoration in the neoclassical style was considered too excessive. The typology of buildings is used in addition to residential houses resembling palaces, ballrooms for parties, government buildings, and public facilities. The Neoclassical ends because of the emergence of rationality in human thinking, which is getting stronger (Rawes 2007; Djaja 2012). Modern architecture emerged through a long journey with the development of human thought and rationality (Banham 1980; Ikaputra 2020). There are driving factors that began with the development of the human mindset since the 16th century AD when the renaissance emerged against the influence of the church and rationality began to move from neoclassical to 18th AD. Ikaputra (2020) wrote as follows:
In the 18th century AD, within 100 years, several events became the driving factor for the emergence of modern architecture (Ikaputra 2020); (1) Innovation of Technology (discovery of tools for manufacturing), (2) Innovation of the machine (invented steam engine and transportation equipment), (3) Industrial revolution (mass production), (4) Classical heritage and social issues and (5) Social, political issues and others (changes in the dominance of church influence on humanism and rationalism).

Years 1900 – to 1972, the same time, architects and artists brought forth their manifestos. Adolf Loss, with his Ornament and Crime manifesto, are one of the three architects who have a significant influence. Adolf Loss thought that Humanity should be kept in slavery for decoration (Loos 2017). The next character is Van De Rohe’s manifesto Simplicity of Form; Less is More. Mies’ thoughts on Rationality and Functionalism, Space and Function, Form and Geometry, and Technology of Structure and Materials as a theme were then translated into concepts and variables that produced Mies’ (initial) theory, namely the theory of form, space, circulation and structure-construction. In this case, the honesty of the state becomes a crucial point; the shape of the building is derived from and a reflection of the essential needs of humans (Venkatesh, 2017).

The third character is Frank Llyod Wright, with his manifesto Design for Democracy, architectural principles to provide its clients with an environment that is not only functional but also fluent and humane. Architecture is not just about buildings but about nurturing the lives of the people in them. Nature’s Principles and Structures; mean that the building must be organically developed from the inside out and thus be in harmony with the time, place and occupants (Frank Lloyd Wright Foundation, n.d.).

The definition of modern architecture is a manifestation of philosophers’ and scientists’ profound ways of thinking about efficiency, environmental contextuality and rationality. Rationalism was part of a long process of medieval impact on architecture. Architecture is the interpretation of a dynamic human way of thinking. The period of new-age architecture towards modern architecture during 100 years is human-centred. Thus, the existing buildings are buildings to improve the quality of human life and pleasure.

The movement towards modernity started in the 15th century AD with the renaissance, then strengthened in the 16th century AD, 17 AD and began to show full power through architectural works in the 18th century AD to the 19th century AD. The process is called the Modern Movement. The peak is in modern architecture with characteristics (1) Anti-ornament, classic (important function), (2) Prioritizing scientific thinking and technological innovation, (3) Generating a new form of architecture or a new
form in architecture. The development of linear architecture with the development of the history of human thought, as stated in the chart (figure 3).

Figure 3. Schematic of the relationship between the development of architecture and the development of the philosophy of science and building typology
Source: Author's Analysis 2022 based on Ching, Jarzombek, and Prakash (2017); Ashadi (2016); Frampton (1981); Banham (1980); Hardiman (2015)

The architecture of the Catholic Church in Europe and its development

The history of human thought changed social, political and economic life (Loos 2017; Rosenberg and McIntyre 2019), which later impacted the architecture of the Catholic church.

The thought of Rene Descartes (1956-1650) was a thought that revolutionised philosophy and all affected aspects of the human way of thinking. The ratio is the centre of reality; observation is the handle of truth, and humans are the source of history (Hardiman 2015).
Although the architectural form of the place of worship changed from Constantian’s 600th century to modern times, the appearance and image of the Catholic church’s symbols did not change.

Changes in the liturgy of the Catholic church’s altar layout occurred during the Second Vatican Council, where Pope John XXIII gave a sermon at the 21st ecumenical council on October 11, 1962. It momentum for the Catholic Church to open up to diversity on earth, including religious differences, Europe’s restoration of world war II, the start of the Cold War, and the readiness of the Catholic Church to enter the modern world. Cultural inculturation is allowed (culture, dances, traditional ceremonies) as long as it does not change Catholic values (Dokumen Konsili Vatikan II 2009).

The Second Council at the Vatican impacted church architecture, becoming more dynamic and developing but still believing that symbolic language is used by the Catholic church in preaching, both in scripture and in its architectural form. The liturgical celebration of God's work of salvation occurs in symbols or signs because God encounters humans through logos or characters. Humans are symbolic creatures, so liturgical celebrations are the text of symbolism; be humans carry them outmans (Suryanugraha 2006; Martasujita in (Hidayat 2019).

The concept of a Catholic church building is a sacred place, not just a gathering place. The architecture of the Catholic Church must be able to bring people to the belief that they are entering a sacred space, which makes people aware that, in reality, they are entering a holy area where God lives, not joining an ordinary house but a room that has cosmological value in the form of an orientation point and is related to religious experience, containing spiritual values, holiness, and rituals (Wardani 2006; Lake 2019; Chrisylla 2016).

The existence of symbols and symbolic ornaments is a basic design that must be fulfilled at the discretion of a Catholic church (Hidayat 2019; Wardani 2006). Ornaments and symbols attached to the architecture of the Catholic church are:

1. Rose Window; Abbot Suger underlines how a spiritual and emotional bond comes through the play of light passing through stained glass (rose window). Rose windows display images of goodness and badness, according to saints, the Bible, etc. Rose windows are not only a feature of the Gothic style; during the Renaissance and Baroque times, a rose window was also used as an ornament (Häring and Tilaar 2002; Windows 2013).

2. Cross; is a Christian identity. The cross symbol is made in many forms (Hidayat 2019).
3. Statue; Sculpture fills the slopes or is exposed as a unit of facade filler elements. The statue in the church is the statue of the Holy Family (Jesus, Mary and Joseph). The figures outside the building are of the Popes, Angels and Saints (Suryanugraha 2006).

4. Building proportions; The proportions of buildings and facades that are dominated by compositions towards the vertical as a symbol of respect and offerings to God.

The architecture of the Catholic church in the modern movement in Europe is seen by aligning the facades of Catholic churches in Europe from the Classical, Renaissance, Neo-Classical to Modern periods below:

![Various shapes of the cross symbol](source)

**Figure 5.** Various shapes of the cross symbol
Source: (Rambe 2004)

![Facades of classical, renaissance, neoclassical and modern churches in Europe](source)

**Figure 6.** The facades of classical, renaissance, neoclassical and modern churches in Europe

Observations produce data on the movement of the role of symbols, namely crosses and rose windows and statue ornaments. The cross, as a symbol of Christian identity, is present in all church buildings from classical to modern times. Rose Window is still found from classical to modern times but has undergone various forms. Sculptures as ornaments on the facade of the building were found until the Neoclassical architectural period. At the same time, the vertical composition, which symbolises orientation to God, did not change until the modern architectural period.

<table>
<thead>
<tr>
<th>ORNAMENT</th>
<th>CLASSIC</th>
<th>RENAISSANCE</th>
<th>NEOCLASSIC</th>
<th>MODERN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rose Window</td>
<td>Point of interest at fasad.</td>
<td>It simplified ornamental variety with smaller shapes and the number of more than one.</td>
<td>It simplified ornamental variety with smaller shapes and the number of more than one.</td>
<td>It simplified ornamental variety. Combined as a functional element of the fasad, not as decoration.</td>
</tr>
</tbody>
</table>
Cross | She is seen as the identity of the church building at the top of the tower. | She is seen as the identity of the church building at the top of the dome. | She is seen as the identity of the church building in gebel. | She is seen as the identity of the church building at the top of the tower or wall.

Sculpture | Statues of holy figures, angels and other decorations. | Statues of holy figures, angels and other decorations. | Statues of holy figures, angels and other decorations. | No Statues of holy figures, angels or other decorations.

Vertical Proportion | Single or double towers. | The vertical composition of the dome in the middle of the building. | The vertical composition of Gebel. | The tower becomes a reinforcement of vertical proportions.

**Method**

The study used a qualitative descriptive method with secondary data mining. The selection of a qualitative approach is because, in the research process, phenomena are obtained by the author based on observations of literature studies. The descriptive technique here is used to reveal and analyse the data. Data in the form of pictures and visual photos of the facade of the church building.

**Research stages:**

1. The formulation of the initial problem is the identification of the architecture of the Catholic church in the modern movement. Descriptively, the author identifies architecture based on the development of human thinking from theocentric to rationalistic. The result of human thinking is linear with the development of architecture because architecture is a form and container for the history of human thought that manifest itself;

2. Doing a literature search related to the history of architecture in Europe and its characteristics, then the development of human thinking, and then looking for its relevance to developments in architecture. Next, explore the architecture of the Catholic Church in Europe as a basis for observations and reinforcement of the initial hypothesis;

3. Formulate the initial hypothesis;

4. Data collection through secondary data collection techniques with restrictions on facade visual data;

5. Analyse data;

6. Concluding the research results.

**Result and discussion**

The relationship between the philosophy of science, the history of European architecture and the typology of its buildings.
Architecture is the result of human thought in the form of a building with a housing typology, a building with the fulfilment of elements of resilience, comfort and beauty that has a happy soul as well as imaging its function and design.

The architecture of the Catholic Church in Indonesia during the modern movement:

Architecture from Europe entered Indonesia through the Portuguese in 1500 during medieval European architecture. Ternate’s first Catholic Church was in line with the missionary journey of Saint Francis Xavier (Heuken 2009). In 1600 the VOC entered Indonesia and built a fort and a Protestant church. In 1822 a Catholic church building was constructed in Surabaya (Heuken 2009; Daliman 2022).

The table for the alignment of church building facades is done with locations in big cities in Indonesia. These church buildings have become iconic in their respective cities and are still in good condition. The cathedral church building in Makassar was built in 1900 and underwent renovations in 1935 with a modern façade. However, it is not included in the identification table, as its authenticity is questionable. Identification is limited from 1800 to 1945, according to the Dutch entering Indonesia until the end of the Dutch East Indies government in Indonesia. It is also a note that in the Netherlands, from 1917 to 1925, architect Berlage strongly influenced architecture with the De Stijl school.
which had a modern philosophy (UDA and IRIE 2011; Banham 1980).

The addition of time to the range written by Handinoto and Hartono (2006) reasons that the construction of a Catholic church by the Dutch had a phenomenon of stopping in 1940-1945 because, after 1945 to 1972, the direct influence of Dutch architects who represented Europe at that time had ceased to exist. Because of the political condition, when Indonesia became independent, the Indonesian government focused more on infrastructure development to show Indonesia’s identity and position in the world (figure 9).

**Figure 9.** The architecture of the Catholic church in Indonesia in 1870-1945

**Conclusion**

1. The modern movement is a period of tension between the notion of the simplicity of form and anti-ornament and Catholicism regarding the function of symbols and ornaments. While rationalism and science strengthened in Europe, Theosophy influence remained strong in Indonesia. Catholic church architecture with an early modern architectural style can be found in Indonesia from 1890 – 1945, whereas in Europe, there were no new church constructions; 2. Characteristic features of the architecture of the Catholic church in the modern movement in Indonesia has:
   a. Symbolism:
      i) The cross with the position attached to the building serves as a symbol and ornament with a simple and geometric shape.
      ii) Rose windows from circle shapes with fillers are transformed into windows with rectangular or square geometric shapes that can also function as windows.
   b. Ornament:
      In 1890, the ornaments on the facades were organic in shape, but from 1890 to 1945, the decorations were geometric and integrated into the building elements; 3. The Catholic Church has a dominant roof shape compared to the body or walls. The roof becomes 3-dimensional or pyramidal with the addition of a trellis to adapt to natural factors; 4. Vernacular architectural styles that take traditional local architectural forms emerged in 1935 in Jakarta and 1936 in Kediri.

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Author(s) contribution
Rosalia Rachma Rihadiani contribute to the research concepts preparation and literature reviews, data analysis, of article drafts preparation and validation.
Ikaputra contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.