

Application of Traditional Javanese Architecture in Modern Buildings: a Study of the Continuity of Symbolic Meanings

Annisa Zahira Isma¹, Dedes Nur Gandarum*² Endhi Ibhindar Purnomo³

¹(Architecture Department, Universitas Trisakti, Indonesia)

²(Architecture Department, Universitas Trisakti, Indonesia) ³(Architecture Department, Universitas Trisakti, Indonesia)

Email address: annisazahira05@gmail.com¹ dedes@trisakti.ac.id*² endhipoernomo59@gmail.com³

*Corresponding Author: [Dedes Nur Gandarum, dedes@trisakti.ac.id](mailto:dedes@trisakti.ac.id)

ABSTRACT: This study aims to identify traditional Javanese symbols and meanings that are still being applied to modern buildings that can produce traditional Javanese design guidelines for modern buildings. This research uses a descriptive analysis method with a quantitative approach and a systematic review of precedents with 20 precedents. The results of this study showed that the application of traditional Javanese architecture in modern buildings is still consistent in its application. Eighty to one hundred percent (80-100%) of traditional Javanese symbols consisting of roofs, walls, windows, ornaments and colors or four to five traditional Javanese symbols are consistently or continuously applied to modern buildings with respect for local materials, functional meaning (in Javanese meaning), simplicity, material and functional meanings (in modern meaning).

Keywords:– Continuity, Symbolic, Meaning, Javanese Values, Modern Architecture

I. INTRODUCTION

Indonesia is a country that has a pluralistic culture and various ethnic systems. Each region in Indonesia has cultural characteristics that are a strong part of local identity. Among the various ethnic cultures in Indonesia, the Javanese are one who has a rich variety of cultures. Basically, Javanese culture has existed since prehistoric times. The variety of Javanese culture itself occurs from many factors, one of which is religious belief. The arrival of religions such as Hinduism, Buddhism, Islam, Christianity actually gave birth to Javanese culture capable of uniting pre-Hindu, Hindu-Javanese, Islamic and other elements in a syncretistic manner. Therefore, religion and culture have a very strong relationship, where both have values and symbols.

In cultural studies such as the view of James P Spardley, that all human behavior is full of symbols and symbols. Culture itself is a unity of ideas, symbols and values that underlies the work and behavior of humans, so it is not an exaggeration to continue that culture is so closely related to the symbols created by humans that humans can be called *homo symbolicum* [1]. The symbol actually takes part in the reality of life which makes it understandable, by distinguishing what is high in a substance along with the idea presented. The symbol more or less connects two entities. Each symbol has the property of referring to what is highest and ideal. Dillistone argues that an effective symbol is a symbol that gives light, its power is emotive and stimulates people to act [2].

Javanese people in living their lives manifest their feelings and behavior by involving things that are symbolic. The culture and traditions believed by certain people from generation to generation are also related to the environment in which they live. Particularly in architecture, there are traditional values that are still maintained by the community because of the meaning and philosophy in each of its elements. Buildings in traditional Javanese architecture are a form of self-expression of the community, seen in the use of symbols, the stylization of various decorative symbols and the way to give color patterns [3]. Symbolic is believed to unite everyone's perception of a design. In traditional Javanese architecture, the house is an embodiment of one of the symbols of Javanese culture which consists of: centralism, dualism (G. Tjahjono, 1988) (S.R. Ju, D.Y. Kim, and R.B. Santosa) and cosmology (G. Tjahjono, 1988) (R. Waterson, 1990). These three aspects show that traditional Javanese houses are full of symbolic as well as pragmatic meanings [4].

Along with the development of the times, the past culture experienced backwardness and demands for a change from some communities. Modern culture brings consequences and movements of change that began at the end of the 19th century. During this period there was a revolution in industry, technology, building

materials, and machinery. As a result, there is a shift from traditional building construction to functional buildings with new technology. Modern culture brings consequences of social, cultural, economic and political changes. In this case, these consequences can be learned from the concepts of effectiveness and efficiency in terms of both economic value and spatial value, namely the high price of land, causing limited land available as a place to live or for a building. This has an effect on changes in the flow of traditional Javanese architecture regarding the concept of the shape of a building [5]. So the problem that arises is that there are still few applications of traditional Javanese architectural characteristics in modern buildings efficiently.

Therefore, design guidelines are needed to maintain and maintain the characteristics of traditional Javanese values in modern buildings. This paper aims to find out what traditional Javanese symbols are still being used today, which can produce traditional Javanese building design guidelines that are effectively and efficiently applied to modern buildings. The purpose of this writing is to be able to provide knowledge of the meaning of traditional Javanese symbols in modern buildings as well as material for consideration for further research. In this regard, the questions that arise are a) how to maintain the value of traditional Javanese architecture in modern buildings?; b) how to synergize traditional Javanese local wisdom values in modern buildings?; and c) what traditional Javanese symbols are still being used in modern buildings?

Value and Symbol of Traditional Javanese Architecture

Traditional Javanese architecture views buildings not only as physical objects but as interpellations of complex symbols and rituals. Soedigdo conveyed that the mindset of the Javanese people related to architecture is embodied in the symbolic meaning of Javanese houses and other building forms. This means that the Javanese have wisdom in carrying out everyday life in architecture [6]. Based on this, in the view of the Javanese people there is still a belief in the unification of mystical elements with aesthetic elements. Because all forms of idealism of life and forms of residential buildings are the fruit of their mystical nature [3].

The architectural form of traditional Javanese buildings is a unity and identity of the Javanese people. That is, the form of traditional Javanese architecture is strongly influenced by the goals to be achieved in terms of usability as well as non-functional goals, for example for authority, showing social strata status and so on. Javanese traditional architecture is one of the elements of culture that always develops through a long process of accumulation of time and is a reflection of the shape and adaptation of people's behavior which is implemented into the aesthetic value of the building.

Budihardjo (1987) explains that each tribe has its own characteristics related to the form of traditional houses and traditional houses used as residences by certain individuals and groups of people[7]. In the concept of symbols, a traditional Javanese building or Javanese classical building has 4 kinds of symbols based on the shape of the roof, namely the joglo, limasan, kampung and Panggang pe roofs (fig.1), while the tajug is used for the functions of worship buildings [5]. Each shape of the roof is a symbol of traditional Javanese architectural values that represent the social hierarchy in Javanese society.

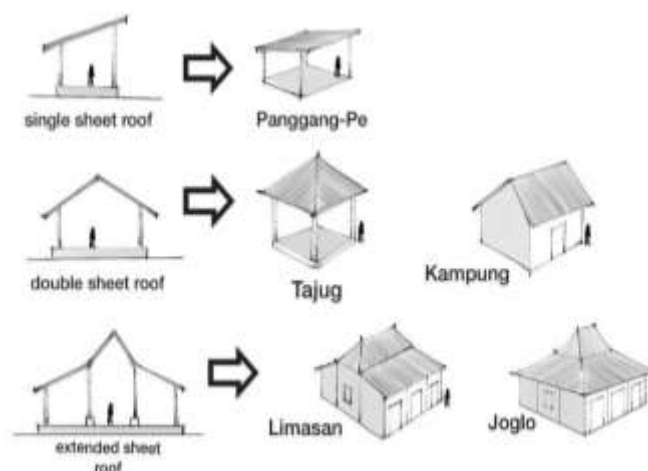


Fig 1. Traditional symbol of Javanese buildings

(Source : redrawn from https://www.researchgate.net/figure/The-many-shapes-of-Javanese-Traditional-Houses-2_fig1_334062599)

The Panggang-pe roof is the simplest house, the shape of the roof is sloping and only has four to six pillars, so it is often used only as a temporary (non-permanent) building. Cosmologically, the grilled roof is the embodiment of the symbol of simplicity. The Kampung roof is considered a refinement of the Panggang-pe roof, a house with a Kampung roof has four to eight pillars. In the past, it was usually found in small and rather

simple houses belonging to the "ordinary" people who made up the majority of Javanese society[8]. Limasan roof, a house with this roof has the characteristic of a rectangular or rectangular plan with a lower roof than the Joglo house. Usually used for larger houses of middle-class families. The tallest of all types of traditional roofs is the Joglo, which is the most famous Javanese traditional house among the Javanese people because it was once dedicated to the Javanese palace and aristocrats. The steep central part (tumpang sari) of the roof is supported by four pillars which form the deepest and most sacred part of the building.

Value and Symbol of Modern Architecture

Modern architecture in Indonesia was first defined during the Dutch invasion. There are changes in traditions and cultural patterns, which in turn change physical patterns, including the form and function of buildings. The new building form is a product of a blend of western culture and Indonesian style [9]. Modern architecture is the result of new thinking about the view of life that is applied to buildings. The totality that is exerted in the effort, effort and work in the field of architecture resulting from the nature of modern thinking which is characterized by a mental attitude that always presents new, progressive and contemporary innovations as a substitute for tradition and all forms of its institutions [10]. In this case the view of modernism in architecture is to create a development in architecture where space becomes the main object to be processed.

Osborne (2010) defines modernity as an idea that emphasizes the novelty that is happening now as a separation or break with the past, and opens up hope for a future that is fast, but not with certainty[7]. Modern architecture adheres to thoughts that are contrary to traditionality and history, where modern architects are more critical in designing and viewing aspects such as aspects of users and activities as one of the building blocks of crucial building designs [11]. Modernism in architecture emphasizes the principle of functionalism, whereby buildings are designed to efficiently fulfill their intended purpose. The belief that "form follows function" allows architects to design spaces that are rational, logical, and responsive to the needs of the occupants[12]. This emphasis on functionality means that buildings must be able to accommodate all the activities within the building, as well as be visually harmonious, internally coherent, and optimized for human use. Efficiency here is more applied to efficient time, cost, and maintenance.

The modern architectural movement applies scientific and technological developments from the design stage to construction, and works towards social needs through a rational and functional approach, where the aesthetic norms are devoid of historical references and ornaments[13]. The characteristics of modern architecture itself are forms that follow function, beauty that arises because of maximum function, simple forms, pure geometry, honest forms with (usually) exposing the materials used, designs that are free from past influences (against historicizing), expresses the spirit of the time the building was built [14]. Through this roughly defined component and its designs that are shaped by social needs and that prefer being ordinary, modern architecture does not reflect the magnificent, monumental characteristics required for cultural heritage that should be preserved[13].

II. METHODS OF RESEARCH


To achieve the objectives of this research, the method used in this study is a descriptive analysis method with a quantitative approach and study of precedents. Where these precedents will be analyzed the characteristics of traditional Javanese and modern architecture. The analysis of this research is more focused on the exterior aspects of the building such as roofs, walls, windows, ornaments, and colors. There are a total of 20 precedents which are divided into 2 groups representing hotel and residential typologies. Characteristics will then be classified based on the similarity of architectural values, from this classification can then be formulated based on components and can produce a result that can be used as a design guide.

Through literature study and precedent review approach, the writer can analyze the continuity of symbolic meaning in traditional Javanese architecture applied to modern buildings. The analysis between the theoretical review and the discussion of this research will then be represented through a matrix table. The results obtained will be in the form of several synthesis as design principles in an effort to maintain the values of traditional Javanese architecture in modern buildings in Indonesia, especially on the island of Java.

III. RESULTS AND DISCUSSION

In order to be able to analyze the application of Javanese Traditionalism in architecture, the first step that must be taken is to describe and arrange the variables of Traditional Javanese values and architectural components where these values are applied, as shown in the following Table 1:

Table 1. Javanese architectural meanings and symbols on architectural components

Local Culture Meaning (Traditional Javanese Value)	Architectural Component as Representative of Javanese Value Symbol				
	Roof	Wall	Window	Ornament	Color
Social Class	<p>Joglo : The shape of the roof has 3 levels indicating the social strata of the owner of the house, which consists of 2 groups, namely: the nobility and upper middle class (wealthy).</p> <p>Limasan : mostly built by the middle class who feel the need to raise their social status higher through the appearance of their houses.</p> <p>Kampung : the form is considered to have the lowest social strata in Java and shows little local value</p>	-	-	-	-
Peace, Tranquillity	-	The emper in the traditional Javanese house house is made lower than the first building of the limasan house. The goal is that people who will enter the house bow and respect the host.	Every Joglo house always places the main door in the middle of the house and is aligned as a symbol of an open attitude that makes guests feel at home.	-	The use of colors used tends to be monochromatic or matching without contrasting colors, brown, white, cream, or various shades of brown, creating an impression of peace and serenity.
Prosperity	Limasan : The shape of the building which is simple and has a resemblance between one house and another is a symbol that Javanese people uphold harmony.	Many Javanese traditional houses feature a central courtyard, which serves as a gathering place for family members and guests.	-	-	-
Fertility	-	-	-	 <p>Fig 2. Lung-lungan ornament</p> <p>The lung-lungan motif used on saka guru symbolizes the forest which is the main characteristic of an agrarian country. This symbol also symbolizes fertility as a livelihood on earth.</p>	-
Environmental Harmony	Traditional Javanese roofs have steep slopes and often feature multiple layers. This design helps to shed rainwater quickly in tropical climates.	-	Openings in traditional Javanese houses in the form of windows, jalousies as room air circulation & response to the tropical climate.	-	The use of brown as a standard, represents nature, earth and stability.
Respect for Local Materials	use of roof tiles with local materials such as clay, concrete, bitumen, ceramics, wood shingles.	Limasan : generally made of brick material which is sturdy and not painted or covered with other	Rattan/wood frame windows are usually used in more casual and open spaces, such as verandahs and pavilions to help air	Relief carvings are usually made of stone or wood, and are usually located on roof ceilings, doors, walls, or window	The resulting color can come from exposed materials, wood elements, bricks.

Application of Traditional Javanese Architecture in Modern Buildings: a Study of the Continuity...

Local Culture Meaning (Traditional Javanese Value)	Architectural Component as Representative of Javanese Value Symbol				
	Roof	Wall	Window	Ornament	Color
		layers.	circulation	frames.	
Functional	Joglo & Limasan : this form is called the most suitable as a place of residence. Tajug : Usually used for buildings of worship. Panggung-pe : Widely used for non-permanent buildings	Limasan : Relatively preferred for house expansion because the shape is easy to reach.	the use of a combination of materials, such as wood frames can be equipped with bamboo or rattan screens, which offer flexibility in controlling airflow, light, and privacy.	There are two kinds of ornaments in traditional Javanese houses, namely constructive ornaments (integrated with the building) and non-constructural ornaments.	-
Sacrality	Joglo : the form is considered a sacred masterpiece. Tajug : has a cupola roof as a form of worship of ancestors by Javanese people in the past.	The shape of the Joglo house is usually square and has four central pillars called Saka Guru (a symbol of uniting the upper world and the human world).	-	Ornaments in traditional houses function more as symbols of ideology or traditional community beliefs.	-
Acculturation	-	The use of brick material is a form of Dutch cultural influence.	-	-	-

(Image source : <https://www.hdesignideas.com/2011/01/simbol-ornamen-tradisional-rumah-adat.html> accessed date April 6, 2023)

The second step is to describe and organize the variables of the modern values and the architectural components where these values are applied, as shown in the following Table 2:

Tabel 2. Modern architectural meanings and symbols on architectural components

Modern Architecture Meaning	Architectural Component as Representative of Modern Value Symbol				
	Roof	Wall	Window	Ornament	Color
People	-	the use of open space inside so that the occupants of the house can feel a calm and comfortable home atmosphere.	The use of windows as a liaison between rooms.	-	-
Nature	The shape of the roof can respond to the natural environment or surroundings, creating a harmonious relationship between the building and its context.	-	the use of panoramic windows or sliding or folding glass walls that open the building interior to the outside to create connectivity with the surrounding environment.	-	Common colors used in modern architecture include white, black, gray, cream, and other earth tones.
Sustainability	The use of green roofs and solar panels as a form of innovative systems.	-	Modern architects often use large, floor-to-ceiling windows to maximize the amount of daylight that enters a space, creating a brighter and more pleasant environment.	-	-
Simplicity	Platonic solid form dominated by square and simple shapes.	-	Usually the window openings are square, rectangular or other shapes that tend to be matching and minimalist.	using an emphasis on vertical and horizontal elements in the building as a substitute for ornaments, in order to add to the aesthetics and beauty of the building.	The emphasis on simple modern architecture makes building colors tend to be neutral & calm.
Functional	the shape of the roof follows the shape of the building, can be	Optimization of the form of space that can support	the use of large glass windows as air circulation, more	Adheres to the understanding of <i>form follows</i>	-

Application of Traditional Javanese Architecture in Modern Buildings: a Study of the Continuity...

Modern Architecture Meaning	Architectural Component as Representative of Modern Value Symbol				
	Roof	Wall	Window	Ornament	Color
	flat, gable or sloping with a slope of 30° in tropical climates	activities, describes the nature of the activities	efficient & effective lighting.	<i>function'</i> where the structure tends to follow the shape and function of the building.	
Material	Commonly used materials such as metal (steel, aluminum, copper), concrete, synthetic membranes such as PVC or TPO.	The use of materials tends to follow technological or manufacturing developments.	The use of glass, aluminum, iron, wood and uPVC materials	building structure is often expressed visually.	The use of materials is usually exposed as the original color of the material.
Flexibility	-	Open floor plan creating a sense of openness, connectivity and allowing flexible use of space.	-	Modern architectures often use modular construction, which can allow for faster construction times, lower costs, and greater design flexibility.	-

After analyzing both traditional Javanese architectural values and modern architectural values, the next step is to analyze the use of traditional Javanese and modern values in their application in modern buildings on each precedent. In this case, 20 precedent studies were used which were divided into two typologies, namely hotels and residential houses as shown in the following Table 3:

Table 3. List of Precedent

Hotels	Residential Houses
 <p>Fig 1. The Manohara Hotel (Image source : https://www.agoda.com accessed date April 17, 2023)</p>	 <p>Fig 2. Elemen Kayu Ak-House, Studio Air Putih (Image source : https://www.arsitag.com/project/akhouse accessed date April 17, 2023)</p>
 <p>Fig 3. Alila Hotel (Image source : https://www.booking.com accessed date April 17, 2023)</p>	 <p>Fig 4. Guesthouse Undhak-Undhak Kemiri (Image source : https://www.airbnb.com accessed date April 17, 2023)</p>
 <p>Fig 5. Hotel Tentrem (Image source : https://www.instagram.com/hoteltentrem.yogyakarta/ accessed date April 17, 2023)</p>	 <p>Fig 6. Guesthouse Sungai Indah Jogja (Image source : https://www.airbnb.com accessed date April 17, 2023)</p>
 <p>Fig 7. Melia Purosani Hotel Jogja (Image source : https://www.hotel.info/en/melia-purosani/hotel-21942/ accessed date April 17, 2023)</p>	 <p>Fig 8. Artistic House Jogja Prime (Image source : https://www.airbnb.com accessed date April 17, 2023)</p>

Hotels	Residential Houses
 <p>Fig 9. The Sunan Hotel (Image source : https://suryatravel.tribunnews.com accessed date April 17, 2023)</p>	 <p>Fig 10. Roemah Kampung, Paulus Setyabudi Architects (Image source : https://www.archdaily.com accessed date April 17, 2023)</p>
 <p>Fig 11. Plataran Borobudur Resort (Image source : https://www.plataran.com/ accessed date April 17, 2023)</p>	 <p>Fig 12. Joglo Ngebo House, Umran Studio (Image source : https://www.archdaily.com accessed date April 2023)</p>
 <p>Fig 13. Marriott Hotel Yogya (Image source : https://www.tripadvisor.com accessed date April 17, 2023)</p>	 <p>Fig 14. Joglo House by @penggemarlawas (Image source : https://www.airbnb.com accessed date April 17, 2023)</p>
 <p>Fig 15. Prime Plaza Hotel (Image source : https://jogja.pphotels.com/ accessed date April 17, 2023)</p>	 <p>Fig 16. Omah Djawa House, Budi Pradono Architects (Image source : https://www.archdaily.com accessed date April 17, 2023)</p>
 <p>Fig 17. Burza Hotel (Image source : https://burzayogyakarta.com/ accessed date April 17, 2023)</p>	 <p>Fig 18. The Laweyan House (Image source : https://www.arsitag.com/project/the-laweyan accessed date April 17, 2023)</p>
 <p>Fig 19. Manohara Borobudur Resort (Image source : https://www.traveloka.com accessed date April 17, 2023)</p>	 <p>Fig 20. Guesthouse by Susi (Image source : https://www.airbnb.com accessed date April 17, 2023)</p>

To show the extent to which traditional Javanese values and modern values are applied in modern buildings and their architectural components, a rating scale is made as follows, **low** levels are indicated by percentages (0-30%), **moderate** levels are indicated by percentages (31-60%) and the **high** level is indicated by the percentage (61-100%). Table 4 shows percentage of modern building precedents applying Javanese values and percentage of architectural components with Javanese values applied to modern buildings.

Table 4. Percentage of modern building precedents applying Javanese values and percentage of architectural components with Javanese values applied to modern buildings.

Value		Traditional Javanese and Modern Symbol					Conclusion	
		Roof	Wall	Window	Ornament	Color	The percentage of buildings with traditional Javanese and modern values	The percentage of architectural components with traditional Javanese and modern values
Traditional Javanese	Social Class	Joglo, Limasan Kampung 10%	-	-	-	-	• 10% of modern building precedents apply traditional Javanese values – social class on roofs	20% architectural components applied to modern buildings to reflect Social Class values
	Peace, Tranquillity	-	The use of Emper 15%	Joglo : the main door in the middle of the house 4%	-	monochromatic or matching without contrasting colors, brown, white, cream, or various shades of brown 19%	• 38% of modern building precedents apply traditional Javanese values – Peace and Tranquillity to walls, windows and colors	60% of architectural components are applied to modern buildings to reflect Peace and Tranquillity values
	Prosperity	Limasan : The shape of the building which is simple and has a resemblance between one house and another 4%	a central courtyard 7%	-	-	-	• 11% of modern building precedents apply traditional Javanese values – Prosperity to roofs and walls	• 40% of architectural components are applied to modern buildings to reflect Prosperity values
	Fertility	-	-	-	The lung-lungan motif 7%	-	• 7% of modern building precedents apply traditional Javanese values – Fertility to ornaments	• 20% architectural components applied to modern buildings to reflect Fertility values
	Environmental Harmony	The roofs that have steep slopes and often feature multiple layers. 12%	-	Openings such as window, jalousies 13%	-	The use of brown as a standard, represents nature, earth and stability. 12%	• 67% modern building precedents apply traditional Javanese values – Environment on roofs, windows and colors	• 60% of architectural components are applied to modern buildings to reflect Environment values
	Respect for Local Materials	local materials such as clay, concrete, bitumen, ceramics, wood shingles. 12%	Limasan : generally made of brick 3%	Rattan/wood frame windows are usually used 6%	Relief carvings are usually made of stone or wood, located on roof ceilings, doors, walls, or window frames. 17%	The resulting color can come from exposed materials, wood elements, bricks. – 16%	• 67% of modern building precedents apply traditional Javanese values – Materials to all components	• 100% of architectural components applied to modern buildings to reflect Material values

Application of Traditional Javanese Architecture in Modern Buildings: a Study of the Continuity...

Value	Traditional Javanese and Modern Symbol					Conclusion		
	Roof	Wall	Window	Ornament	Color	The percentage of buildings with traditional Javanese and modern values	The percentage of architectural components with traditional Javanese and modern values	
Functional	Joglo & Limasan Tajug Panggang-pe 10%	Limasan : preferred for house expansion 5%	the use of a combination of materials 6%	constructive ornaments (integrated with the building) and non-constructural ornaments 12%	-	• 33% modern building precedents apply traditional Javanese values – Multi-functional on roofs, walls, windows and ornaments	• 60% of architectural components are applied to modern buildings to reflect Multi-functional values	
Sacrality	Joglo, Tajug 6%	Joglo : four central pillars called Saka Guru 6%	-	Ornaments as a symbols of ideology or traditional community beliefs. –16%	-	• 28% of modern building precedents apply traditional Javanese values – sacred to roofs, walls and ornaments	• 60% of architectural components are applied to modern buildings to reflect sacred values	
Acculturation	-	The use of brick material. 11%	-	-	-	• 11% of modern building precedents apply traditional Javanese values – Acculturation to walls	• 20% architectural components applied to modern buildings to reflect Acculturation values	
Modern	People	-	the use of open space inside. 8%	The use of windows as a liaison between rooms. 12%	-	-	• 20% of modern building precedents apply Modern value – People on walls and windows	• 40% architectural components applied to modern buildings to reflect People value
	Nature	the shape of the roof follows the shape of the building. 13%	-	the use of panoramic windows or sliding or folding glass walls. 12%	-	Common colors used in modern architecture include white, black, gray, cream, and other earth tones. 23%	• 48% of modern building precedents apply Modern values – Nature on walls and windows	• 60% of architectural components applied to modern buildings to reflect Nature values
	Sustainability	The use of green roofs and solar panels. 1%	-	often use large windows to maximize the amount of daylight. – 11%	-	-	• 12%of modern building precedents apply Modern values – Sustainability to roofs and windows	• 40% of architectural components apply to modern buildings to reflect Sustainability values
	Simplicity	Platonic solid form dominated by square and simple shapes. 6%	-	the window openings are square, rectangular. 13%	using an emphasis on vertical and horizontal elements. 17%	modern architecture makes building colors tend to be neutral & calm. 18%	• 54% of modern building precedents apply Modern value –	• 80% of architectural components are applied to modern buildings to

Value	Traditional Javanese and Modern Symbol					Conclusion	
	Roof	Wall	Window	Ornament	Color	The percentage of buildings with traditional Javanese and modern values	The percentage of architectural components with traditional Javanese and modern values
						Simplicity to roofs, windows, ornaments and colors	reflect Simplicity values
Functional	the shape of the roof follows the shape of the building, can be flat, gable or sloping with a slope of 30° in tropical climates. 14%	Optimization of the form of space. 16%	the use of large glass windows. 12%	Adheres to the understanding of 'form follows function'. 22%	-	• 64% of modern building precedents apply Modern values – Functional to roofs, walls, windows and ornaments	• 80% of architectural components applied to modern buildings to reflect Functional values
Material	Common materials : metal (steel, aluminum, copper), concrete, synthetic membranes such as PVC or TPO. 8%	The use of materials tends to follow technological or manufacturing developments. 13%	The use of glass, aluminum, iron, wood and uPVC materials. 11%	building structure is often expressed visually. 14%	The use of materials is usually exposed as the original color of the material. 11%	• 57% of modern building precedents apply Modern value – Material to all components	• 100% of architectural components apply to modern buildings to reflect Material values
Flexibility	-	The use of Open floor plan. 16%	-	often use modular construction. 5%	-	• 21% of modern building precedents apply Modern value – Flexibility to walls and ornaments	• 20% of architectural components applied to modern buildings to reflect Flexibility values

Based on the results of the analysis of table 4, it shows that the application of symbols from traditional Javanese architectural values and modern architectural values is used in almost all precedents in modern buildings. The percentage level of the application of traditional Javanese values in modern buildings shows that the **most dominant** value is the Environment value with a total of 67%, the **moderate** level has material values of 58%, Peace values 38%, Multifunctional values 33% and the values that are **least** used are social class values, prosperity, Fertility, Sacred and Acculturation

While the highest percentage level of the application of modern values in modern buildings shows the **most dominant** value is Functional value with a total of 64%, the **moderate** level has a Material value of 57%, Simplicity value of 54%, Nature value of 48% and the values that are **least** used are the value of people, sustainability and flexibility

The percentage of architectural components with traditional Javanese and modern values in terms of material values both traditionally Javanese and modern reaches 100%, while the multifunctional, simplicity, functional values are 80%, then the values of peace, environment, sacred, nature each are 60%. The values of prosperity, people and sustainability are applied to the components by 40%. For the lowest category are social class, fertility and acculturation by 20%.

IV. CONCLUSION

The application of traditional Javanese architecture in modern buildings is still consistent in its application. Eighty to one hundred percent (80-100%) of traditional Javanese symbols consisting of roofs,

walls, windows, ornaments and colors or four to five traditional Javanese symbols are consistently or continuously applied to modern buildings with respect for local materials, functional meaning (in Javanese meaning), simplicity, material and functional (in modern meaning).

Meanwhile forty to sixty percent (40-60%) of traditional Javanese symbols consisting of roofs, walls, windows, ornaments and colors or two to three traditional Javanese symbols are consistently or continuously applied to modern buildings with content of peace, prosperity, environmental harmony, sacredness, people, nature, and sustainability meanings.

Meanwhile, twenty percent (20%) of traditional Javanese symbols consisting of roofs, walls, windows, ornaments and colors or two to three traditional Javanese symbols are consistently or continuously applied to modern buildings with social class, acculturation and flexibility meanings.

REFERENCES

- [1]. N. B. Rahim, "Empat Simbol Dasar Lambang Kehidupan Masyarakat Toraja: Sebuah Kajian Semiotik Model Pierce," in *International Seminar Language Maintenance And Shift (LAMAS) 7 "The Vitality of Local Languages in Global Community,"* A. Subiyanto, H. Purwoko, K. Rahayu, W. O. Nisrawati, N. F. Naimah, and A. S. E. Rachmatika, Eds., 2017, pp. 452–811. [Online]. Available: www.lamas.undip.ac.id
- [2]. L. K. Wardani, "Fungsi, Makna dan Simbol (Sebuah Kajian Teoritik)," in *Seminar Nasional Jelajah Arsitektur Nusantara 101010*, 2010, pp. 1–10. Accessed: Jun. 04, 2023. [Online]. Available: <https://repository.petra.ac.id/id/eprint/17181>
- [3]. T. A. B. N. S. Kusuma and A. H. Damai, "RUMAH TRADISIONAL JAWA DALAM TINJAUAN KOSMOLOGI, ESTETIKA, DAN SIMBOLISME BUDAYA," *Kindai Etam : Jurnal Penelitian Arkeologi*, vol. 6, no. 1, pp. 45–56, Sep. 2020, doi: 10.24832/ke.v6i1.58.
- [4]. R. Tarigan, A. Antariksa, and P. Salura, "Reconstructing the Understanding of the Symbolic Meaning Behind the Architecture of Javanese Traditional House," *Civil Engineering and Architecture*, vol. 10, no. 1, pp. 305–322, Jan. 2022, doi: 10.13189/cea.2022.100126.
- [5]. M. I. Hidayatun, "Pendopo Dalam Era Modernisasi," *DIMENSI Journal of Architecture and Built Environment*, vol. 27, no. 1, pp. 37–43, 1999, doi: <https://doi.org/10.9744/dimensi.27.1.%25p>.
- [6]. D. Rusmiatmoko and L. M. F. Purwanto, "FILSAFAT ILMU ARSITEKTUR TRADISIONAL JAWA PADA BANGUNAN SOBOKARTTI SEMARANG," *Jurnal Arsitektur Kolaborasi*, vol. 1, no. 2, pp. 1–17, 2021, doi: <https://doi.org/10.54325/kolaborasi.v1i2.8>.
- [7]. B. Purbahanggita and E. Prianto, "Architecture Tradition and Modernity of The Building Gedhe Mataram Mosque Kotagedhe Yogyakarta," *Jurnal Desain*, vol. 8, no. 3, p. 299, Jul. 2021, doi: 10.30998/jd.v8i3.9389.
- [8]. G. Weichart, "Javanese Architecture between Heritage and Mobility," *Fabrications*, vol. 30, no. 1, pp. 25–43, Jan. 2020, doi: 10.1080/10331867.2020.1726626.
- [9]. M. I. Hidayatun and R. Damayanti, "MODERN ARCHITECTURE DOCUMENTATION METHOD IN INDONESIA: AN ALTERNATIVE APPROACH," in *Conference: 3rd mAAN Indonesia conference*, 2003, pp. 61–71. Accessed: Jun. 06, 2023. [Online]. Available: https://www.researchgate.net/publication/292965192_MODERN_ARCHITECTURE_DOCUMENTATION_METHOD_IN_INDONESIA_AN_ALTERNATIVE_APPROACH
- [10]. M. T. Hidayat, "ANALISA KARAKTERISTIK ARSITEKTUR MODERN DAN NILAI ESTETIKA PADA BANGUNAN RUKO (Studi Kasus : JOHOR CITY)."
- [11]. B. Nurman Zachrie and C. S. Wijayaputri, "The Principles Of Modern Architectural Design As Observed In Parahyangan Catholic University's Post-Graduate Studies Building," *Jurnal Riset Arsitektur "RISA,"* vol. 02, no. 01, pp. 108–128, 2018, doi: <https://doi.org/10.26593/risa.v2i01.2934.108-128>.
- [12]. M. Cahyani and Y. Sari, "KAJIAN ARSITEKTUR MODERN PADA BANGUNAN PUSAT MODE," in *Seminar Nasional Komunitas Dan Kota Berkelanjutan "Kesehatan Kota,"* 2020, pp. 124–130. doi: <https://doi.org/10.30998/snkkb.v2i1.5101>.
- [13]. N. T. Gultekin, "Evaluation of the Conservation of Modern Architectural Heritage through Ankara's Public Buildings," in *IOP Conference Series: Materials Science and Engineering*, Institute of Physics Publishing, Nov. 2017. doi: 10.1088/1757-899X/245/8/082046.
- [14]. R. M. Hasbi and W. B. Nimpuno, "Pengaruh Arsitektur Modern Pada Desain Masjid Istiqlal," *Vitruvian*, vol. 8, no. 2, p. 89, Jun. 2019, doi: 10.22441/vitruvian.2018.v8i2.005.

***Corresponding Author: Dedes Nur Gandarum, dedes@trisakti.ac.id**
¹(Architecture Department, Universitas Trisakti, Indonesia)