

## Local and External ‘Architectonic Traces’ in North Sumatra Temples

<sup>1</sup>Rahadhian P. Herwindo, <sup>2</sup>Christianto Hendrawan  
<sup>1,2</sup>Department of Architecture, Parahyangan Catholic University

---

**ABSTRACT :** Prambanan and Borobudur, thought to be references to temple designs in the Southeast Asia region, are real examples of the superiority of Indonesian architectural traditions in general, and of the relics from the Ancient Mataram era in particular. These temples are also considered to bear a strong correlation with relics in Sumatra. In the past, the relationship between the two islands of Java and Sumatra was seen to be very close, especially with regard to the Ancient Mataram and Srivijaya kingdoms, as mentioned in the Nalanda inscription about Balaputradewa. This study seeks to examine the architecture of the Sriwijaya-Malay heritage temple buildings in North Sumatra in relation to the temples on Java. The approach taken in this study includes architectural elements related to typo-morphology, transformation in relation to spatial and mass forms, figures, ornamentation, and tectonics. The results of this study show that there are indeed similarities between the architecture of the ancient Mataram temples on Java and the temples in North Sumatra, such as the ones encountered in the spatial and mass layout that uses a 1-1 pattern like the ancient Hindu temples on Java. Some patterns, ornamentation, and corbel terraced show similarities to the ancient Javanese temples. although the material is markedly different. Thus, the relationship between Java and Sumatra can be observed to exist, but its application seems to be adapted to the cultural conditions and local craftsmanship techniques, in other words, there are some elements that are identical, but others show a difference. The peculiarities of local architecture that appear are closely related to local culture, such as the orientation of mass and space in relation to the river.

**KEYWORDS:** Local, Temple, North Sumatra, Architecture, Pattern

---

### I. INTRODUCTION

Indonesia has a strong architectural tradition, which can be discerned from the architecture of the temples. The study of temple architecture is not only centered in Java, as in the ancient *Mataram* period. The Ancient *Mataram* kingdom also had relations with kingdoms outside Java such as those located on Sumatra, in Cambodia, and in South India. This close relationship is related to the history of Srivijaya and the kingdoms of Java from *Tarumanegara* to *Majapahit* [1]. However, in the ancient Mataram era there was a close relationship as written in the Nalanda inscription (860 AD). The Nalanda inscription was issued by King *Devapala* of the Pala Dynasty in South India which was made at the request of King *Balaputradewa* of Sumatra or Srivijaya. The inscription contains a request from King *Balaputradewa* to King *Devapala* to build a monastery building in Nalanda for Srivijaya priests who studied Buddhism at Nalanda.

The Nalanda inscription also mentions that King *Balaputradewa* was a king from *Swarnadwipa* or the ancient name of Sumatra, who was also the son of a Javanese king named *Samaragrawira*, grandson of *Sailendravamsatilaka*, whose mother was named *Tara*, daughter of *Dharmasetu* [2]. The rapid construction of temples in Java of course also has an impact on other areas that had close relations with Java. Establishing this close relationship is made possible by close examination of the architectural form, namely the enshrinement. Previous studies were able to show that the existence of the architectural architecture of Javanese temples formed an important source of architectural inspiration in South India and Cambodia, such as in the Indochina-Angkor region [3]. Therefore, the relation of temple construction in a scope outside Java such as Sumatra can be seen. The study of the temples in Sumatra is still very limited, therefore an in-depth study is needed in order to know the form of uniqueness it has. This study can be related to a broader aspect such as its relation to architectural traditions in South India which is located opposite Sumatra. As is the case on Java, the characteristics of these Sumatran temples are Buddhist in nature, such as those found in *Padang Lawas-Portibi*, and Hindu in spirit as encountered in *Simangambat*

### II. METHOD

This research study has been conducted employing a qualitative approach. The qualitative approach has been carried out with comparative analytic studies to understand the relationship between the designs of the ancient

*Mataram* Architecture and North Sumatra temple buildings. Previous research already established correlations of its architectural patterns with India and Cambodia. The variables used in the analysis process are shape, floor plan, façade-ornamentation, and placement. This research analysis was conducted descriptively to explain the architectonic of Javanese temples in relation to the temples in North Sumatra through typology-morphology [4] approach which are thought to be relics of the *Sriwijaya* or Malay or *Panai* Kingdoms. The object chosen is North Sumatra based on the consideration that the heritage is still relatively intact and complete compared to other areas on Sumatra. The study of the associated temples in North Sumatra is also still limited and has not been explored further. In general, the research steps carried out are:

- a. Reviewing matters related to the architectural background of the Ancient *Mataram* era temples, for example covering history, cosmology, culture, rituals, geography through literature study, observation, data collection on the object of study (observation and interview methods). Moreover, studying elements related to the phenomena that affect the specific architecture;
- b. Studying architectural design rules in North Sumatra, to find elements of architectural type design through typo-morphological studies. The variables used are architectural elements, namely spatial plans, placement-mass arrangement, figure-façade-ornamentation-decoration, and technology-construction-materials;
- c. Examining the relationship between the Ancient *Mataram*-era temple architecture and the *Srivijaya* heritage in Sumatra, including the design elements through typo-morphological studies;
- d. Identifying the various kinds of potential that can be developed to develop a new architectural theoretical framework in Indonesia

### III. RESULT AND DISCUSSION

**Spatial Pattern 1-1 :** Based On The Spatial Pattern And Its Mass, The Main Buddhist Temple Of Padang Lawas Shows A 1-1 Pattern, Namely One Main Temple With 1 Perwara In Front Of It. However, In Some Temple Complexes There Are Additional Buildings, Namely The Ones Positioned On The Right And Left Of The Main Or Core Building. However, The Core Of The Building Uses A 1-1 Pattern. This Pattern Is Basically Recognized In Old Hindu Temples In The Ancient *Mataram* Era Or Earlier, Such As At Dieng, In The Arjuna Complex. The Arjuna-Semar Temples And Other Temples Show A 1-1 Pattern. In Addition, This Pattern Is Recognized In The Temples In The Gedong Songo Area. Pattern 1-1 Is A Pattern Of Temples That Are Relatively Old On Java And Can Be Correlated With Patterns Of Old Temples In South India Such As The Kailasanathar Temple In Kancipuram (Figure 1). The 1-1 Pattern In The Previous Study Probably Originated From The Austronesian Tradition Of Indonesia, Because In South India This Pattern Was No Longer Used In The Later Period. Buddhist Temples On Java Do Not Show Any Of These Patterns, And Even Tend To Be Centered In The Middle, Such As The Sewu, Lumbung, Kalasan Temples, So That They Seem To Show Important Differences. On Java, There Is No Ancillary/Mandapa Temple In Front Of The Main Temple, Quite Possibly Because The Material Is Made Of Wood And Has Been Destroyed By Disaster/Age Or May Have Been Placed Outside The Main Fence.

However, another possibility is that this element is not obtained or even vice versa, not only one wooden building in front of the temple but there are more placed around the main temple such as the formation of *Sewu* or *Lumbung* temples. On the point of difference between the Ancient *Mataram* Buddhist temples and *Portibi*, this is related to the 1-1 formation that is arranged linearly. This 1-1 pattern is also recognized in the Hindu *Simangambat* temple which is thought to be older than *Padang Lawas* (Figure 1). Thus, there is a consistent use of ancient Hindu patterns on Java in these temples at *Panai* and *Simangambat*. This 1-1 pattern, apart from being in the form of sacred buildings, is also recognized in vernacular residential culture with traces that can be identified as part of the *Toba Batak* tribe tradition (Figure 1), namely the pattern of dwellings and barns facing each other, as well as in *Toraja* and so on. This pattern forms a group system with other buildings arranged in a linear fashion. This linear pattern can also be associated with the river flow. The concept which refers to the flow of this river is reminiscent of the concept of Upstream and Downstream according to the Ancient Austronesian tradition which later developed into Mountain-Sea. Thus, the orientation [5] of the building, the lay-out of the building is estimated to be closely related to the position and direction of the river flow. The Bahal Group Temples are not precisely in the West-East direction, but the *Si Pamutung* and *Sangkilon* Temples are more exactly located in the West-East direction (Figure 1). However, according to *Degroot* [6][7] the direction towards the temple at that time was estimated using a sunrise reference. The accuracy of using this method may vary according to the time the temple was built in that year because the location of the sunrise according to the cardinal point is between 66 degrees (summer solstice) and 114 degrees (winter solstice). according to the position of the sun on a specific day. This is confirmed by the ancient *Mataram* Buddhist temples such as the

*Sewu* and *Kalasan* temples facing west-east, while the direction towards *Pawon* and *Mendut* temples is oriented to the west-east, which is not exactly in accordance with the degree, instead facing the west-northwest.

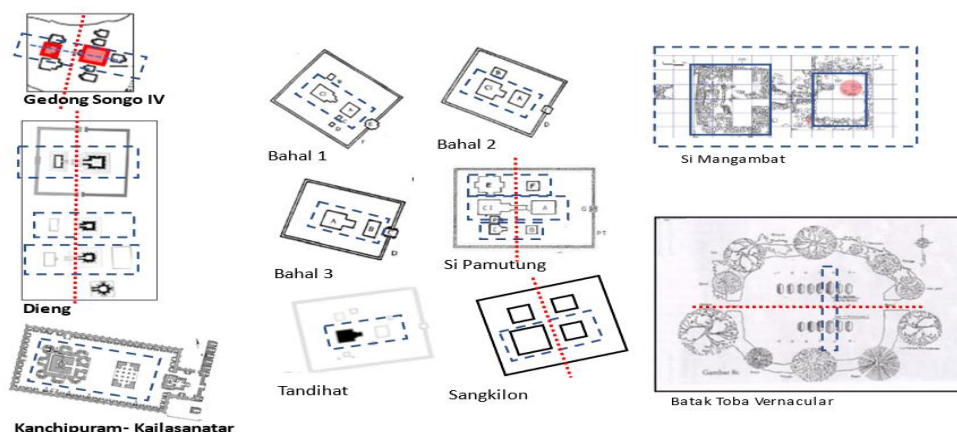


Figure 1 Patern 1-1 : Javanese Hindu Temple (*Dieng, Gedong Songo*), India (*Kailasanatar\_Kanchipuram*); North Sumatra Tempe (*Bahal, Tandihat, Si Pamutung, Sangkilon, Simangambat*); *Batak Toba- Vernacular* [8][9][10]

Outside the *Si Pamutung* complex in a perpendicular direction to the south, there are ruins that are thought to be stupas. The characteristics of the lay-out between Buddhist temples like this are actually also recognized on Java. This can be found in the *Batuajaya* complex, the oldest temple in Java, which was built around the 4th century AD before the emergence of Ancient *Mataram*. In the *Batuajaya* Complex, there are two temples that are located perpendicular to this linear line, namely the *Blandongan* temple and the *Jiwa* temple. It seems that this pattern forms a lay-out feature developed in Buddhist temples, which is related to the *stupa* (the main temple is usually without rooms) with the temple building whose spaces (rooms) are placed in a linear row. This pattern can be recognized as *the Blandongan-Jiwo(Stupa)* and developed in the Ancient *Mataram* era later as seen in the *Mendut-Pawon-Borobudur* (*Stupa*) and *Lumbang-Bubrah-Sewu* patterns which are located in a line[11]. This micro pattern can also be found in other Buddhist temples, namely *Ngawen*. The lay-out of the rows of temples is identical to the lay-out patterns of old Hindu temples in Dieng such as the *Arjuna* or *Liyangan* complexes. This row pattern is also reminiscent of the lay-out of vernacular dwellings which were influenced by ancient Austronesian cultures such as those in Toba, Toraja, Sasak, Bali Age, among others, which lead to the Upstream-Downstream or Mountain-Sea axis (Figure 2).



Figure 2. Linearity in Buddhism Temple: *Borobudur Pawon Mendut ; Lumbang Bubrah Sewu* [11], *Blandongan – Jiwa Ngawen* (Javanese Temple) : *Si Pamutung* (North Sumatra), *Tenganan – Bali Age Village* [12]

Thus, based on the mass structure, the temples in Sumatra basically form a 1-1 pattern for the main building and a group pattern in their land. This pattern forms a solid-void – cluster composition with an axis-linear axis, in the form of a fenced building complex with one entrance facing West-East but shifts in degree depending on the time of manufacture and the position of the nearby river flow being identical to the one in the area of Java which varies with the degree of West-East. When compared with Ancient *Mataram*, this lay-out pattern is more like the pattern of old Hindu temples in Java compared to Buddhist temples, namely 1-1. The similarity of the layout to the Buddhist temples in Ancient *Mataram* is recognized by the complex relationship of the temples to one another, such as *Bahal 1-2-3* and *Sewu Lumbung Bubrah* although they are not in a line. On the other hand, if it is associated with South India, this 1-1 pattern also bears similarities to the old temples there, such as at *Kailasanathar Kanciphuram*. This resemblance to India can be made possible by the association with the *Colamandala*, although the order of the temples is different, given that *Kailasanathar Kanciphuram* was built in the dynasty before Cola. However, the linear pattern is maintained in the temple pattern in India from the Pre-Cola era to the Cola era.

The lay-out of the temples in *Padanglawas*, especially the main temple, forms a Cruciform like Buddhist temples in Java. This Cruciform pattern is indeed used for Buddhist temples, but it is also found in several Hindu temples such as *Bima* and *Prambanan* Temples from the Ancient *Mataram* era, and temples from the *Majapahit* era. In relation to Buddhist temples, this pattern depicts a *mandala* depicting *Vajradatu*[8][13]. This *mandala* involves two things, namely the first *Maheswara* palace in *Akanistha* Heaven, this heaven is at the edge of the realm of form (*rupadatu*), the second *Pagoda Intan* (Diamond-shaped) at the top of Mount *Sumeru* which is described as having five circular roofs of pagodas and eight *vajra* lines that are the pillars. This pattern shows bulges on all four sides and has one center in the middle. Based on the lay-out of the main room, it shows that there are similarities between the temples in Padang and the temples of Buddha in Java (Figure 3). The *Simangambat* temple, based on reconstruction, shows that there is an alleged shape of a plan similar to the old Hindu *Mataram* temples, namely a square, such as in *Dieng* or *Gedongsongo*. However, this reconstruction has not been proven by restoration, so it remains still more speculative. On the other hand, this cruciform form is also known in Hindu temples in South India-*Kailasanthar Kanciphuram* or North India which are of old Gupta heritage such as *Bhitargaon*[14].

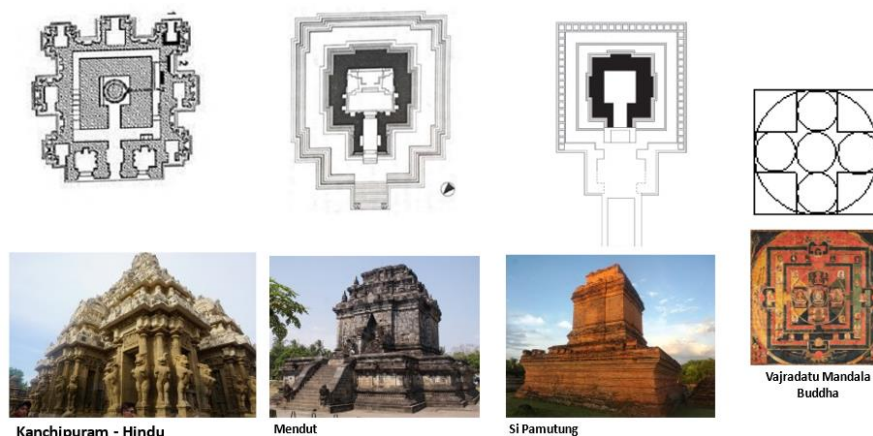


Figure 3 Cruciform pattern : Hindu Temple – India ; Buddhism Temple (*Mendut*- Javanese Temple) *Si Pamutung* (North Sumatra Temple), Buddhism - *Vajradatu* Pattern [15][16]

The difference with the Buddhist temples on Java is that the *Padang Lawas* temples do not have a long front part of the temple or vestibule. This front room is seen on the outer layer of the main plan. This is indicated by the floor plan which is divided into two to three layers of feet. The building is principally made up of stepped feet with the core building located at the rear which can be reached by two to three layers of stairs. The pattern of these steps is reminiscent of ancient Austronesian buildings in the form of terraces and is identical to temples in Central Classical Java, such as *Prambanan* to the Younger era, such as the temples of *Majapahit*. It is estimated that this terraced plan pattern *shows* the strong influence of local Nusantara buildings, namely the *punden berundak*. The steps are what distinguishes it from South India.

**Temple Shape :** The shape or figure of the temple buildings in *Padang Lawas* and *Simangambat* shows the existence of three divisions, namely the head and body elements [18], as in the ancient *Mataram* temples. This

division of three shows the concept of a hierarchy which is generally known as *Tri Bhuwana* (Three Worlds or Triple World), namely *Kamadatu*, *Rupadatu*, and *Arupadatu*. An imaginary pattern of triangles is also represented in forming a unified figure that depicts a sacred mountain. The legs are arranged wide then taper to the body, at the head the *stūpa* elements are arranged upwards to become smaller and smaller to represent the Celestial or heavenly realm [19]. All arranged with attention to the rhythm of repetition. *Padang Lawas* and Ancient Mataram temples apply the concept of a symmetrical figure shown by the processing of the walls and temple doors and stairs. Based on typo-morphological studies [5], there are several strong architectural aesthetic elements that appear in the design, such as the temples in Ancient *Mataram*, namely: a cartesian-cruciform geometric composition, a volumetric hierarchical-image with a triangle-perspective effect, a division of three, rhythm – repetition – datum, symmetry – the center of attention – balance, while mimetic elements are shown through the image of the head-body-feet resembling a mountain or the statue of a god, and the aspect of proportion-scale can be seen from the processing of the figure (Figure 5). At the *Si Pamutung* Temple there are decorations in the form of miniature temples arranged around the main temple room at the top of the fence. This idea is reminiscent of the processing of the *Prambanan* temple fence with a miniature pearl on it. This pattern is seen in the *Si Pamutung* temple and is thought to have been used in other temples even though they were destroyed. The *Si Pamutung* Temple is the largest and most magnificent temple in the temples in North Sumatra, reminiscent of the splendor of *Prambanan* on Java (Figure 5). The difference with the Mataram temples is the ratio of the feet, body, and head to the temples.

Thus, the ideas of the Buddhist temples of *Padang Lawas* and the Hindu temples of *Simangambat*[17] still display characteristics that reflect the appearance of the temples as was the case on Java during the Ancient *Mataram* era, although in comparison the proportions show differences. This is highly possible considering that the guidelines in relation to the application of proportions are strongly dependent on the community building the temple, especially local aspects in Sumatra such as in *Panai* or *Mandailing*. The proportion is very much dependent on the knowledge of the architect or the *silpin* who built the building. The silhouette of the temple in *Padang Lawas* looks similar to the ancient *Mataram* temples with a thick or "fat" body shape as seen in Bahal Temple II and Bahal Temple III; however, at the *Bahal* Temple I and *Si Pamutung* Temple the body of the temple looks slimmer. However, unfortunately on the roof of this Sumatran temple, most of the decorative elements have been destroyed. When viewed from the pattern, it shows the processing of the terraced roof like Buddhist temples on Java. (Figure 4).



Figure 4. The Shape Comparative of Hindu-Buddhist Javanese Temple and North Sumatra Temple [11][15][17]

**Ornaments :** Some of the distinctive elements in the design of the temples are also shown by the temples in Padang Lawas and Simangambat, namely in the form of decorative ornaments, moulding profiles, ornaments, the simbar-antefix, cartesian geometric frame ornaments, lines, frames, tendrils, vegetation ornaments, crown processing, stairs processing, and door-niche processing referring to the mimesis of nature and sacred symbols. In addition, the temple is also processed by highlighting the texture - line elements - dark and light effects [20]. The Ancient Mataram Buddhist temples mostly use carvings on the temple figure, and this is what distinguishes it from the Padang Lawas Buddhist temples which seem plain. This innocence can be made possible because the brick material is vulnerable to wear and tear due to natural and environmental factors, including the processing of the bricks. This is indeed highly dependent on the carpentry techniques at temples in the Sumatra Region which use brick material that is more brittle than stone. The decorations on the body of the Padang Lawas Buddhist temples, even though they look minimalist, still have some carvings or ornamentations that can be seen on both the body of the temple and the head of the temple (Figure 4).

The *Bahal I* Temple is the one that features the most decorations among other temples. It displays the motif of tendrils (or coiled ones) and *guirlandes* on the stūpa, symbolizing fertility, and the universe. The tendril motif can also be seen in the *Bahal III* temple in the Batur section or the foot of the temple that adorns the perimeter of the temple's foot; besides that, geometric motifs are found in the temple which are also found in middle classical era temples. The *Bahal I* temple has a *yaksa* carving [19][21] that symbolizes the guardian or repellent of reinforcements, besides that there are carvings such as lions or giants, symbolizing that no one can go against the law of karma. The depiction at the foot of this temple shows a creature that has a more friendly expression and even smiles. At the entrance to *Bahal I* Temple, there is no kala head but there are two relief guards or the imagery of the Bodhisattva holding its genitals or erect phallus, which describes the representation of humans in the universe.[8][21][22] (Figure 5).

This image really shows the existence of a strong *Tantrayana* [23][24] school in these temples. Candi *Bahal II* shows minimal ornamentation, while Candi *Bahal III* displays ornamentation at the foot of the temple, with tendrils that have similarities to ancient *Mataram* Buddhist temples, where tendrils are included in the tendrils - curved tendrils with the flower / lotus part located in the middle section. The geometric shape found in the ornamentation of *Bahal III* temple consists of a geometry that usually has flower carvings in the middle but is no longer visible in the existing carvings. The temples in *Padang Lawas* show simplicity in processing ornaments. The kala head which is an important element in the temple is not found but let us keep in mind that it could also have been destroyed by nature. (Figure 5). In addition, if you refer to the *Mataram* temples, on the right and left of the door you should encounter a makara ornament, apart from the ones at the end of the stairs. In these temples, makara ornaments are found only at the end of the stairs, while on the right and left of the door they are not found, possibly damaged beyond recognition or simply not installed. So this feature seems to have been imported from Java in terms of its shape resembling the ancient *Mataram* temples. Makara [25] in North Sumatran temples shows different characteristics from those in Java, especially the presence of decorations in the form of guards. At first glance the shape of the makara shows similarities, but the processing details show differences. (Figure 5).



Figure 5. Ornament of Hindu-Buddhist *Mataram* ; Javanese Temple and North Sumatra Temple ; Tantric Symbols in *Padang Lawas*-temple [15][8][19]

The unique phenomenon is the actual shape of the crown of the Bahal I temple with the shape of a stupa resembling a large tube which resembles the shape of the *Dhamekh Stupa*, *Sarnath*, *Uttar Pradesh*. The *Dhamekh Stupa* was built in 500 AD to replace the previous one built by Ashoka, the great Mauryan king in 249 BC, along with several other monuments, to commemorate Buddha's activities. The stupas were originally circular mounds surrounded by large stones. This tube model stupa was also known in the ancient *Mataram* era, such as in *Palgading*, *Sumberwatu* (Figure 6).



Figure 6. Stupa [15]

Meanwhile, the *Simangambat* temple, when viewed from the ornamentation, clearly shows that there is a resemblance to temples in the ancient *Mataram* era, both Hindu and Buddhist temples. There is a variety of decorative floral and geometric motifs that resemble the *gana* as in the *Prambanan* complex. According to *Soedewo* [17] when found during excavations in 2009 the location of the geometrical floral-embellished stone from the *Simangambat* Temple was under the Makara statue, thus reinforcing the assumption that the temple stone is indeed under the Makara statue at the end of the temple's entrance stairs. In addition, there are other similarities such as headdresses in the form of peaks, kala heads, and decorative vines as in other ancient *Mataram* temples. (Figure 7).



Figure 7. Simangambat and Javanese Temple [17] [15]

The processing of mouldings on the temples in Padang Lawas shows simplicity compared to the Middle Classical era in the Ancient Mataram kingdom which is rich in ornaments. In the moulding of the Padang Lawas Buddhist temples, there is no *cumuda* molding element like the middle classical temples of the Ancient Mataram era. *Si Pamutung* has a profile that resembles *cumuda* but has a toothed shape, as is the case in other temples. This can be related to the age of the construction of the temples, such as the ones encountered on Java, which can be younger if *cumuda* was employed. (Figure 8). In the reconstructed image, the profile of the Bahal and *Simangambat* temple is more like the old ancient Mataram temples such as *Dieng* and others. However, this does

not mean that this temple is the same age as the early Mataram era, considering that the walls are decorated with ornaments like the middle era, unlike the old temples in Java (Figure 7).

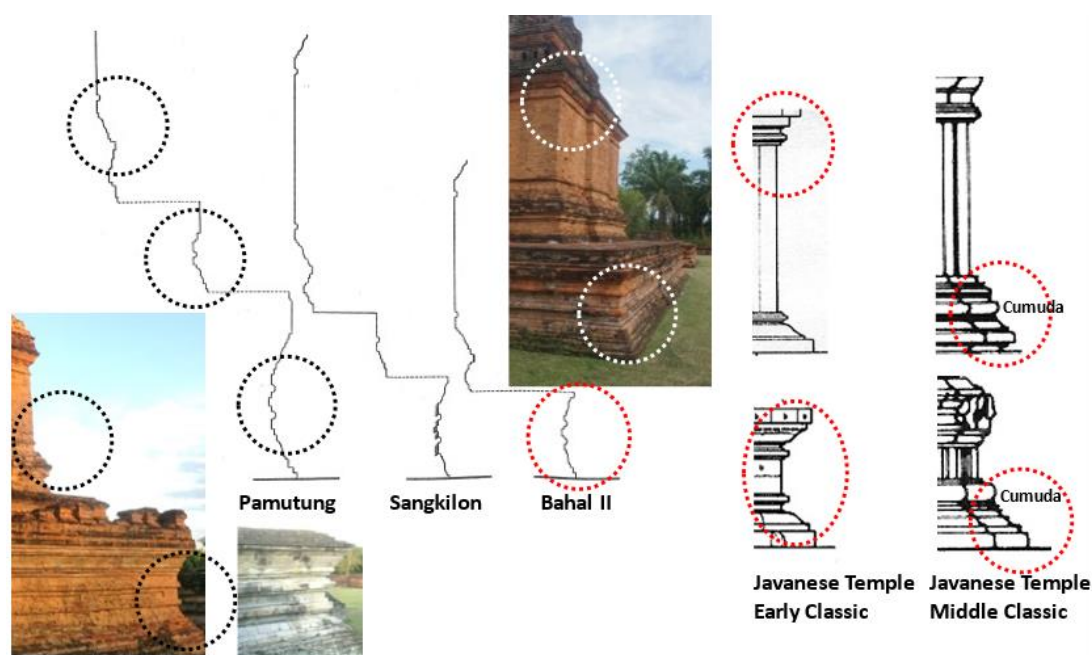


Figure 8. Moulding of North Sumatra Temple and Early-Middle Classic-Javanese Temple [21][15]

**Terraced Corbel :** The construction of a temple certainly cannot be separated from the material and technological elements. One unique feature of the temples in Indonesia is the use of corbel steps on the ceiling of the temple. All temples in *Padang Lawas* can be seen in the interior of the ceiling (Figure 9). This technique was developed in the era of Ancient *Mataram* or maybe even earlier. This technique distinguishes it from Ancient South and North Indian Temple, which uses the post-lintel technique on its old temples. South and North India only used the triangular corbel technique in the 11th century and may have been influenced by techniques developed in the Indonesian archipelago. The material for the temple made of bricks shows that in *Padang Lawas* there was no stone material available, so the approach was to adopt the *kosot* technique and the walls are seen to be thicker being made of a collection of bricks, while in *Simangambat* it is estimated to use the stone arrangement technique as was the case with stone temples in the Ancient *Mataram* era. Basically, the arrangement of stones in the temples on Java is thought to have adapted the arrangement of bricks which was later developed to be more advanced with notches to withstand lateral forces due to earthquakes, considering that stone and stone cannot be combined into a monolith like masonry on a brick. Thus, the *Padang Lawas* temple uses brick-laying techniques as in *Batujaya*, *Bototumpang* on the coast of North Java, but is bound to be more recent because it is more monolithic.



Figure 9. Corbel Terraced [15]

**Wooden Material :** Wood is also thought to have been used in the temple complex in *Padang Lawas*, namely in the *perwara* temple in front of the main temple in the form of a pavilion or mandapa, as in India. If it was indeed



a Hindu temple then it must have been used as a place for Nandi statues or other rituals, but if it was a Buddhist temple, its function remains unknown. As a matter of fact, not all Hindu temples, and the ancillary temples in front of the main temple, are used as a place for Nandi statues, such as in the Arjuna complex in *Dieng*. However, this building is estimated to have employed materials that are easily destroyed in the body section such as wood, while the legs section still made use of bricks.

If the walls are made of wood, so is the roof construction. Roofing materials can also be made of wood shingles, thatched roofs or others, but considering the analogy in *Bataknese* traditional buildings using roofs of palm fiber/coconut leaves, this must have been the case for the *perwara* or mandapa temple as well. It is also possible for the *perwara* Temple on *Simanggambat* to have had this wooden roof as in *Sambisari*, *Kedulan* (Javanese Temple). Thus, the use of non-stone and brick materials can be observed in the temples in *Padang Lawas*, including the use of wooden fences built on a brick foundation around this complex. The use of wooden fences in the *Mataram* era is also depicted in the reliefs of Borobudur Temple. (Figure 10).



Figure 10. Wooden Material : *Mandapa?* . Wooden Building : Temple Relief and Traditional Architecture in Sumatra

#### IV. CONCLUSION

Based on the study above, the relationship between the architecture of the ancient *Mataram* temples on Java and the temples on Sumatra in the Ancient *Mataram* era can be seen in the similarity in the spatial and mass layout that uses a 1-1 pattern, which tends to be similar to the old Hindu temples on Java, compared to Buddhist temples. However, some ornamentations show similarities to the ancient *Mataram* temples. Based on the hierarchy of the figure, it is recognized that the stepped foot on the *Padang Lawas* temple is closely related to the late Ancient *Mataram* temples. This is also known in the early temples of *Majapahit*. This tradition is thought to be a relic of the Ancient Austronesian tradition, namely *punden berundak*. The use of ornaments and proportions shows the special use of the *Padang Lawas* and *Simanggambat* temples, although traces of Ancient *Mataram* are still recognized in them, while the tectonic aspects still show similarities to the Ancient *Mataram* temples, especially the corbel steps, with different materials.

Thus, the Ancient *Mataram* Temple and North Sumatra can be said to bear a relationship, but its application seems to be adapted to the cultural conditions and local craftsmanship skills. Architectonic peculiarities found in temples on Sumatra are the use of local patterns related to local culture such as orientation to the river/bestowing honours/awards as well as vernacular dwellings in the area. This temple in *Padang Lawas* has a special character that is different from Java and South India in some respects, but also accommodates other elements. This shows the spirit of dynamic adaptation in dealing with the culture that entered Sumatra, both from Ancient *Mataram* and South India, and it is even possible to have provided inspiration such as the corbel terraces on the ceiling outside Indonesia. The *Simanggambat* temple cannot be discussed further because it is only limited to the shape of the reconstruction image. Analogous with *Padang Lawas*, the temple in *Simanggambat* should also be like that. Through the representation of the architectural form, Java and Sumatra basically cannot be separated from the strong brotherly relationship between Ancient *Mataram* and Srivijaya through the *Balaputradewa* figure. The

buildings on the islands of Java and Sumatra, including wood, stone, and brick ones may have similarities in their era and cannot be separated from the Ancient Austronesian heritage.

#### ACKNOWLEDGEMENTS

- LPPM Unpar
- Jurusan Arsitektur Unpar
- BPCB Aceh, Jambi, Yogyakarta, Jawa Tengah, Jawa Timur
- BRIN

#### REFERENCES

- [1] Lombard, Denys (2000) *Nusa Jawa : Silang Budaya vol 1,2,3*, (Terjemahan dari Judul Asli: *Le Carrefour Javanais I, Le Limited de l'occidentalisation*), Gramedia, Jakarta
- [2] Cœdès, George (1996). *The Indianized States of Southeast Asia*. University of Hawaii Press.
- [3] Herwindo, Rahadhian, P (2018), *Eksistensi Candi sebagai Karya Agung Arsitektur Indonesia di Asia Tenggara*, Yogyakarta, Kanisius
- [4] Herwindo, Rahadhian, P (1999), *Kajian Tipo-Morfologi Arsitektur Candi di Jawa*, Thesis, Arsitektur Institute Teknologi Bandung, Bandung
- [5] Siswanto, Ari Ardiansyah, Farida. (2018). *Pendekatan Lingkungan Lokasi Candi- candi Masa Kerajaan Sriwijaya di Sumatera*. P 1-7. <https://doi.org/10.32315/ti.7.h087>
- [6] Degroot, Véronique (2009) *Candi Space and Landscape: A Study on the Distribution, Orientation and Spatial Organization of Central Javanese Temple Remains*, Leiden University.
- [7] Degroot, Véronique in Perret, D ed. (2014) *The Architecture of Si Pamutung: between local traditions and Javanese influences*, *History of Padang Lawas*. Paris, France: Association Archipel.
- [8] Susetyo, Sukawati. 2010. "Kepurbakalaan Padang Lawas, Sumatera Utara: Tinjauan Gaya Seni Bangun, Seni Arca dan Latar Keagamaan". Thesis. Jurusan Arkeologi Fakultas Ilmu Budaya, Universitas Indonesia, Depok:
- [9] Herwindo, Rahadhian, P (2020), *A Reinterpretation of the Relationship between the Architecture of Ancient Mataram Era Temples in Indonesia and of 7th-10th century Temples in South India*, *International Journal of Engineering Research and Technology*. ISSN 0974-3154, Volume 13, Number 2 (2020), pp. 271-279
- [10] Siahaan, Fanny (2017) *identifikasi aplikasi arsitektur biologis pada rumah tradisional batak toba di Sumatera utara, indonesia Seminar Kearifan Lokal dan Lingkungan Binaan*, Departemen Arsitektur Fakultas Teknik Universitas Sumatera Utara
- [11] Herwindo, Rahadhian P (2011), *Representasi Candi dalam Dinamika Arsitektur di Indonesia*, Disertasi Doktor, UNPAR
- [12] Subadra A Wanita, Sugeng Triyadi (2017), *The Behavior – Milieu Synomorphy of Communal Space in Desa Adat Tenganan Pegringsingan Bali Indonesia*, *International Journal of Architecture Arts and Applications* 3(2):11, DOI: 10.11648/j.ijaaa.20170302.11
- [13] Siswanto, Ari, Ardiansyah, Farida R. Wargadalem, Kristantina Indriastuti (2020). *Tata Spasial Candi Bahal I, II dan III di Padang Lawas Utara, Sumatera Utara*, P 1-6. <https://doi.org/10.32315/jlbi.9.1.56>.
- [14] Herwindo, Rahadhian (2021) *Rereading the Relationship between the Architecture of the Bima Temple and the Enshrinements in North India*, *International Journal of Multidisciplinary and Current Educational Research (IJMCER)* Volume 3, Issue, 3, Pages 377-388
- [15] Herwindo, Rahadhian (2022), *Data Survey Lapangan Percandian Jawa-Sumatra 2019-2022*
- [16] <https://www.iias.asia/events/vajradhatu-mandala-variations-theme-early-esoteric-buddhism>
- [17] Soedewo, Ery, Andri Restiyadi (2018), *Candi Simangambat: Candi Hindu Berlanggam Arsitektur Jawa, di Mandailing Natal, Sumatera Utara*, *Jurnal Berkala Arkeologi Sangkhakala*, vol 21 no 2 hal 116-134.
- [18] Siswanto, Ari dan Ardiansyah, (2020) *Arsitektur Candi Sriwijaya*, Pohon Cahaya.
- [19] S. Suleiman, (1985), *Peninggalan-Peninggalan Purbakala di Padang Lawas*, *Jurnal Amerta: Pusat Penelitian Arkeologi Nasional, Proyek Penelitian Purbakala Jakarta Peninggalan-Peninggalan Purbakala di Padang Lawas*
- [20] Taruli, Pininta (2021) *Studi Penjajaran Candi Buddha di Padang Lawas, Sumatra Utara dan Mataram Kuno kasus studi : Candi Bahal I, Candi Bahal II, Candi Bahal III, Candi Si Pamutung, Candi Sewu, Candi Kalasan, Candi Pawon, dan Candi Mendut*, *Skripsi Arsitektur Unika Parahyangan, Bandung*.
- [21] Schnitger, F. M., & Zee, J. V. D. (1937). *The archaeology of Hindoo Sumatra*. Leiden, E. J. Brill.aka

- [22] Sedyawati, Edi, et al. (2014). *Candi Indonesia Seri Sumatra, Kalimantan, Bali & Sumbawa*. Jakarta: Direktorat Pelestarian Cagar Budaya dan Permuseuman; Kementerian Pendidikan dan Kebudayaan, 2014.
- [23] Soelistyanto, B. (1985) "Pengaruh Tantrayana di Kawasan Nusantara," *Berkala Arkeologi*, 6(2), pp. 48–60. doi: 10.30883/jba.v6i2.443.
- [24] Calo, A., 2020. Durgā Mahiṣāsūramardīnī in Likely Tantric Buddhist Context from the Northern Indian Subcontinent to 11th-Century Bali. *SAAAP (SOAS)*. <https://doi.org/10.25501/SOAS.00032820>
- [25] Susetyo, Sukawati, (2014). Makara Pada Masa Śriwijaya. *KALPATARU*, 23(2), 101–112. <https://doi.org/10.24832/kpt.v23i2.57>