

THE DESIGNS OF RELIGIOUS MONUMENTS OF THE DVARAVATI, KHMER, AND PENINSULAR REGION/CHAIYA SCHOOLS IN THAILAND.*

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Preface

The study of civilizations in Thailand has been generally divided into two periods: the period of pre-Thai civilization which existed around the 6th, 7th - 13th, 14th centuries, and the period of Thai civilization which followed since.

Studies into the history of art and architecture identified each of the civilizations through architecture and art objects by classifying them into various schools. Three important schools existed in the period of pre-Thai civilization: the Dvaravati School, the Khmer School, and the Peninsular-Region Schools (formerly called Sriwijaya). However, in the case of the Peninsular-Region Schools, there are certain restrictive factors pertaining to the history of architecture and therefore the Chaiya School has been chosen as a specific case to represent the Peninsular-Region Schools.

The study into the works of the three schools not only indicates the creative achievements in themselves, but also beneficial to the study of creative skills in the subsequent period of Thai civilization and the inter-relationship of cultures within the Southeast Asian Region as a whole.

Specific Nature of the Art Schools in the Pre-Thai Period

Broadly, three major schools of art flourished under the pre-Thai civilization in Thailand.

1. The Dvaravati School (circa 6th, 7th - 12th, 13th centuries)
2. The Khmer School (ca. 6th - 13th, 14th centuries)
3. The Peninsular-Region Schools (ca. 8th - 14th centuries)

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1. The Dvaravati School

The Dvaravati School centred around the area of the Mae Nam (Chao Phraya) Basin before spreading to the North, North-east, and the Peninsular-Region of Thailand. The emergence of the School came about through the entering of Indian culture, art, and architecture before establishing itself and developing its own local style.

The School came under political pressure of Srivijaya in the 8th - 9th century A.D., but no significant impact was made on the artistic development¹ eventhough some Srivijayan iconographic styles had spread its influence upwards to the local school at Sithep,² on Pasuk river basin.

2. The Khmer School in Thailand

The Khmer School in Thailand had a specific nature which differed from those of its contemporaries. The School flourished and developed itself in the North-eastern and Eastern regions from its beginning and consequently spread its influence to the central plains in the 10th - 13th, 14th centuries centering itself at the city of Lopburi and Sithep which was previously the regional centre of the Dvaravati civilization.

Unlike other schools, the Khmer School in Thailand was not subjected to Indian influence or the influences of other major schools within the region but periodically brought in the imperial styles directly from the political centre of the Khmer Empire or from Angkor in particular.

The entering of art and architectural styles from the imperial centre was the consequence of the political mechanism which ruled the empire under the power of " Cakravatin " as well as the organic mechanism of the Khmer civilization itself.

However, as the various centres in the Thai State were not merely rural or provincial towns but were considered to be regional centers under the political influence of the Empire, it was therefore natural for local learning institutions and schools to exist and cultivate certain artistic traditions and values as well as means of artistic expressions distinguishing itself from the imperial prototype and avoiding the inferior qualities which would other-wise classify it as provincial art of Khmer.³

3. The Peninsular-Region Schools

The Peninsular-Region Schools were formerly celebrated as the Srivijaya Period or School. However the term Srivijaya in the former sense is no longer applicable since geographically, the region was the mid-point on the spice-trade route where economic, political and religious exchanges and interactions took place; the various maritime communities in this region therefore received cultural influences from India, Dvaravati, Cham, Java etc. in the process of developing its own civilization through either mainstream influence or multiple influences at each particular point in time. This is evident from the art objects and artifacts of the period generally discovered all over the region.⁴ Architectural evidences however, are limited and what have been discovered were mainly pieces of certain architectural elements belonging to the style of the Schools in various places.

Fortunately sufficient evidences of the Buddhist monuments of the Vajrayana sect belonging to the Chaiya style remain for them to be identified as also belonging to the Schools; and although evidences of further development over the subsequent three centuries are lacking, it is clear that

the Chaiya Buddhist monuments became the prototype style which had influence over the peninsular communities along the east coast early at the dawn of the Thai civilization.⁵

Under such circumstances, the religious monuments of the Chaiya group have therefore been chosen to represent the Peninsular-Region Schools.

The Designs of Religious Monuments of the Dvaravati, Khmer, and Chaiya Schools

Since the aim in studying the history of architecture is to gain insight into the achievements of the architectural creations; the study approach and the frame for evaluation are therefore based on "design" which refers to the act of a person or architect who applies the principles of architecture in creating a stylistic structure according to its functional requirements under the constraints of economics, political, social, cultural, religious, and technological factors, and most importantly, the intellect of the architects themselves. However, since the architect is a part of the society in which he belongs, his intellectual capability is therefore a reflection of that society.

1. The Dvaravati School (circa 6th, 7th - 12th, 13th centuries)

The development of the Dvaravati School has been estimated to have begun in the 6th century A.D. through the assumptions made from surrounding circumstances. However, art and architectural evidences appear to have been of the 7th century onwards.

Religious monuments of the Dvaravati School are Buddhist architecture of the Hinayana sect which generally integrated the tradition of thoughts, the standard prototype design models, and a rather rigid method of construction. This differed from

the sculptures which although have a rather static nature compared to works of the other schools, displayed certain common characteristics while at the same time incorporated certain features specific to the craftsmen of each locality and developed continuously. Thus when comparing architectural and sculptural works, it can be seen that transformations in architecture occurred less than in the other works of art. This may possibly be attributed to the different nature between the creative process, and the skill process of craftsmanship. Variations in architecture tended to focus on the details and the standard design model rather than on the structural form or major building components which would provide richer information in the study of architectural developments. Thus the religious monuments of the Dvaravati School will therefore be viewed from an overall perspective for this purpose.

Broadly, there are three types of important religious structures in the manner of the Dvaravati School namely the Stupa, the Dhamacakra, and the Sema marking - stone each having its role and function different from the others. It is interesting to note however, that they all make references to the Buddhist cosmological concept through the application of symbolisms.

The Stupa

The stupas or chedis are extremely important structures in Buddhism since they enshrine relics of the Lord Buddha who is considered to be the Supreme Cakravatin. Therefore the place where his relics are housed, symbolizes the cosmic sphere whilst the form of the stupa is the symbolic realization of the Buddhist cosmology ac-

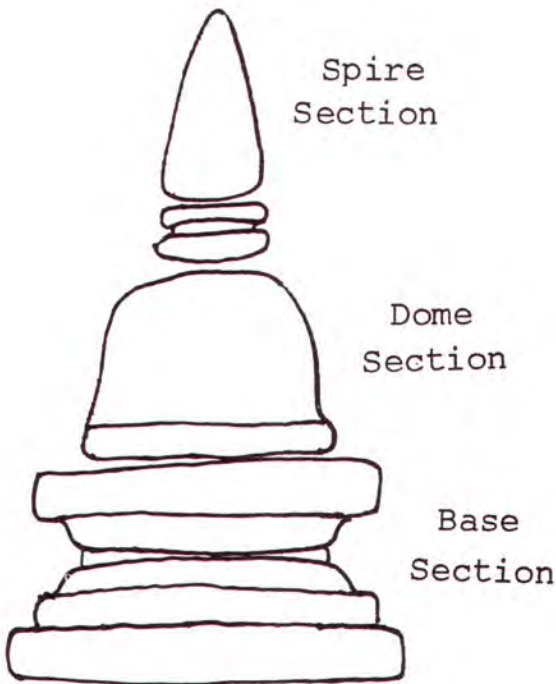


Figure 1. Diagrammatic Drawing of Dvaravati stone stupa (Fig. 2), shows basic components of Base, Dome and Spire.

According to each interpretation. The designs of stupas under the Dvaravati culture came under the above concept.

Based on architectural styles, the Dvaravati stupas can be identified into 3 different types:-

1. Standard type stupa
2. Terrace type stupa
3. Octagonal type stupa

1. The Standard Type Stupa

According to Adrian Snodgrass in " The Symbolism of the Stupa ", the designs of Buddhist stupas evolved around 3 basic principles:-

1. Every stupa plan develops symmetrically about a central point;
2. Every stupa volume develops symmetrically about an axis that rises vertically from that central point;
3. Every stupa mass is oriented in accordance with the directions of space.⁶

The stupa can generally be divided into three parts : the base, the dome and the spire as can be seen from the miniature stupa discovered at Chaibadan in Lopburi.⁷ Believed to be of the Dvaravati School, this stupa has a square base, a hemispherical dome and a conical spire.



Figure 2. Stone stupa. Dvaravati School, about 9th - 10th Century A.D. Found at Chaibadan District, Lopburi Province. Height 48 cm. National Museum Bangkok.

The standard stupa has a square plinth and base on a platform, and found generally in the Chao Phraya Basin, in the North-east region, and at the town of Yarang in Pattani. However, evidences of the dome part have all been destroyed. The stupas found in the Chao Phraya Basin such as Chula Pathon Chedi, Chedi at Wat Phra Meru/Nakhon Pathom, Chedis No. 1 and 40 at Ku Bua/Rachaburi, Chedis No. 2, 3, 9, 11 at U-Thong/Supanburi (Fig. 3), Chedis No. 1, 2, 13 at Ban Kok Mai Den/Nakhon Sawan (Fig. 5), and the base of the original stupa at Wat Nakhon Kosa/Lopburi, all have a square plinth and base with steps from the plinth to the platform located at the cardinal points of the four directions. The treated surface at the platform of the plinth defines the boundary of the stupa.

The elevations of the plinth are divided into sections by pilasters; each section is adorned with stucco reliefs depicting the Jataka Tale and other Buddhist iconographic figures as can be seen from Chula Pathon Chedi,⁸ Chedi No. 40 at Ku Bua,⁹ and the Chedis at Ban Kok Mai Den¹⁰ for examples. On top of this plinth, small chedis rest at each of the four corners along with the cubical base which carries the dome. Unfortunately evidences of this part have all been destroyed.

Taking the art objects and historical factors in relation to these stupas into consideration, it can be deduced that such stupa style developed around the 7th - 11th centuries or over a period of five centuries which is considerably slow for very little development with the only major transformation being the profile of the plinth

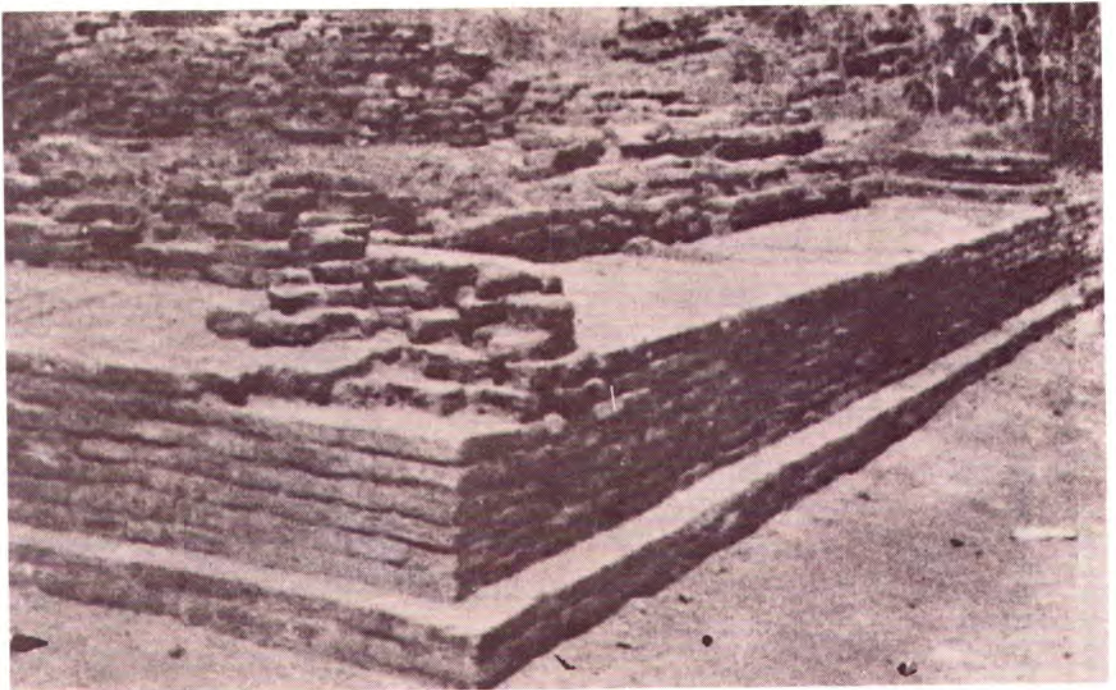


Figure 3. Brick stupa/Chedi No. 9, Dvaravati School, U-Thong/Supanburi Province, about 7th - 8th century A.D. (after the Fine Arts Department).

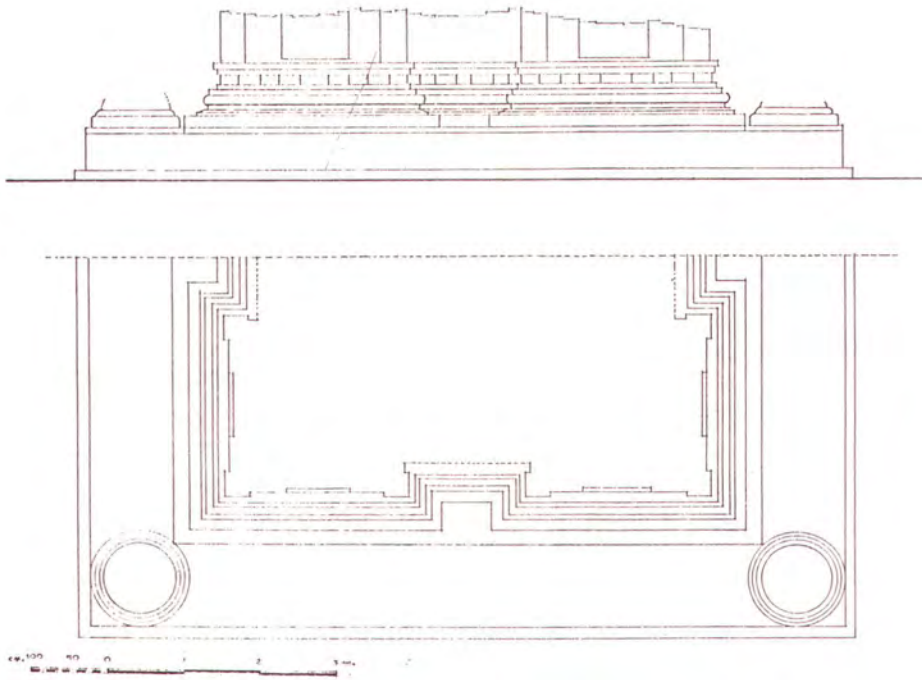


Figure 4. Plan and elevation of Stupa/Chedi No. 9 U-Thong, Supanburi Province. (after the Fine Arts Department)

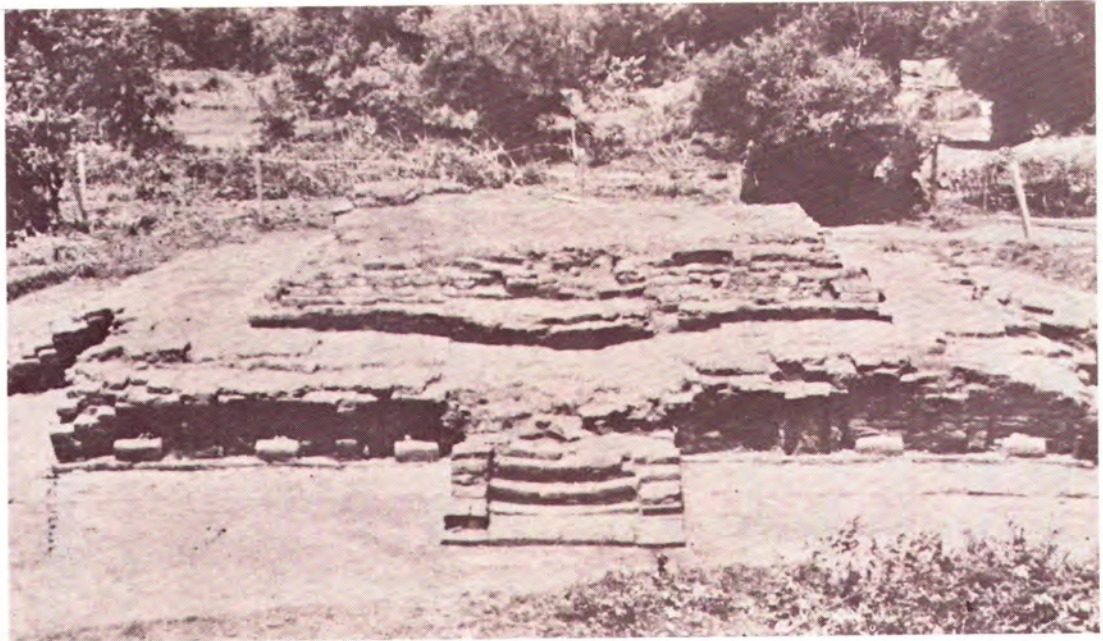


Figure 5. Brick stupa/Chedi No. 1, Dvaravati School. Ban Kok Mai Den, Nakhon Sawan Province, about 10th - 11th century A.D. (after the Fine Arts Department)

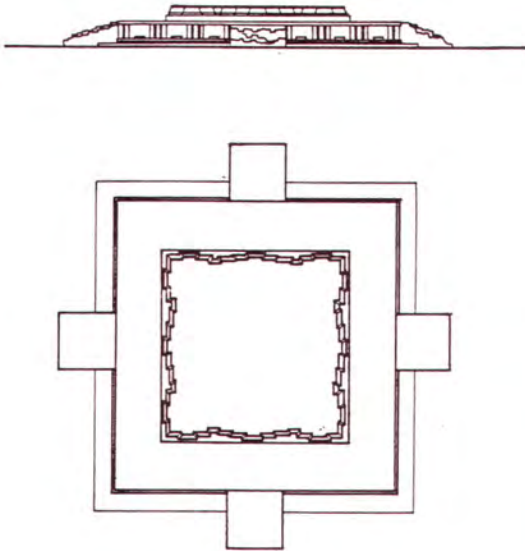


Figure 6. Plan and elevation of Stupa/
Chedi No. 1 Ban Kok Mai Den,
Nakhon Sawan Province.
(after the Fine Arts Department).

and base. It appears that Dvaravati architects were reluctant to go beyond the grid of the square and strictly adhered themselves to the static nature of the square within the invisible circle.

2. The Terrace Type Stupa

The terrace type stupa of the Dvaravati civilization belonged to the Haripunchai School at Lumpun. The best example of this type is the Chedi at Wat Chamdevi (Kukut) which dated back to the 12th century or one hundred years after the appearance of the first instances (Fig. 7). However the designs of this type of stupa under the analogy of a mountain, gave no indication of much further deve-

lopments on the standard type stupas. The three divisions of the stupa were still practised but each division became squared in plan, and cubical in volume, placed atop each other in terracial order up to the pointed spire.

From the Chedi at Wat Kukut, it can be seen that the form of the stupa is the application of the diagram of the mandala imposed onto the structure of the stupa in the form of a mountain by rearranging and giving new orders to the standard design.



The treated surface at the platform of the base has been raised into elevated footing, and the volume of the base as in the standard type, reduced in proportion. The main body of the stupa takes after the form of the cubical base of the standard type but increased in height with five tiers of terraces in place of the dome. At each level of the terrace, three images of Buddha in the posture of reassurance are placed in the niches on each of the four sides of the main body of the stupa thus implying rather clearly that the concept of the mandala was applied to the design of the structure. With twelve images of Buddha at each level and thus 60 images altogether, the total number of images provides important informations towards the study of the use of symbolisms.

The spire of the stupa also maintains the terrace concept and tapered towards the apex.

3. The Octagonal Type Stupa

Although only a small number of this type of stupa exists, they are in fact important indications of the developments on the design of Dvaravati architecture. At the city of U-Thong, stupas have been found at three sites (Chedi No. 13, 15 and 28). Of the three, only Chedi No. 13 is worthy of being studied architecturally even though the only evidence left is the two-tiered octagonal plinth and base.¹¹ While the design of the plinth and base had changed from the square to the octagon for certain reasons, no significant changes were made to the strict traditional order apart from the geometrical rearrangements which left the corners of the plinth to appear ostentatiously heavy and uncomfortable compared to the upper base where the pilasters fit-in well at the corners. (Fig. 9)

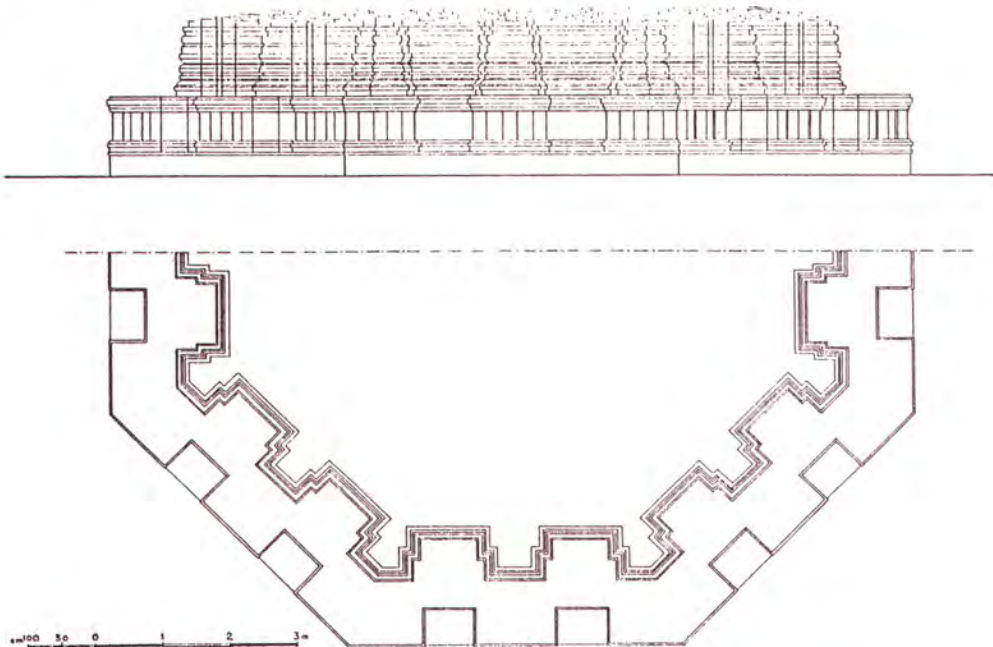


Figure 8. Plan and elevation of Stupa/Chedi No. 13 U-Thong, Supanburi Province.



Figure 9. Brick stupa/Chedi No. 13, Dvaravati School, U-Thong/Supanburi Province about 9th century A.D. (after the Fine Arts Department)

As for Chedis No. 15 and 28, from the conditions of the ruins, it is impossible to carry out any architectural studies but is worth noting that Chedi No. 15 rested on a simple squared base. The artifacts found at the site however, indicate that this type of stupa developed around the time of the 9th - 10th centuries A.D. which was the period already under the influence of the Srivijaya School.¹²

Another important stupa of the octagonal type is at Wat Chamdevi north-east of the large stupa (Fig. 10). Structurally, the form does not differ from that of the large stupa itself. The base is octagonal whilst the main body section (also octagonal) have niches with Buddha images on each of the sides. A noteworthy aspect is the top with three recessed tiers of the octagon. Each level, and espec-

ially the topmost, is adorned with stucco images of Buddha, with the dome (Kumpa) at the summit in the same form as the dome of the main body.

The Dharmacakra

From archaeological findings, the wheels of the Dharmacakra and the supporting pillars were generally found separately within the areas which came under the influence of Dvaravati civilization whilst in the north-eastern region which had its own tradition, evidences were found at the regional frontier such as at Soong Nern/Nakhon Ratchasima and at Sithep/Petchabun.

From the study of the bas-relief depicting the Lives of Buddha on stupa No. 3 at Sanchi and some reclining deer figures, it is led to believe that the Dharmacakra represents the first sermon of Buddha at Sarnath.¹³



Figure 10. Brick stupa of octagonal form at Wat Chamdevi (Kukut), Lampun Province, 12th century A.D.

Findings by the Department of Fine Arts together with Professor Jean Boisselier at U-Thong in 1964 - 1968 of the Dharmacakra in virtually complete form such as the one found to the west of Chedi No. 11 which comprised of the wheel, its throne (asana), and the octagonal pillar¹⁴ (Fig. 11 A, B), led to the understanding that the Dharmacakra with its parts found

separately at the earlier dates actually derived directly from the Indian Buddhist culture although there are no indications that the Dharmacakra was of major significance in the Arts of India nor that it depicted only the first sermon of Buddha.

Two small Dvaravati stone reliefs, one found at Kubua¹⁵ and the other can be seen at the National Museum in Chaiyat,

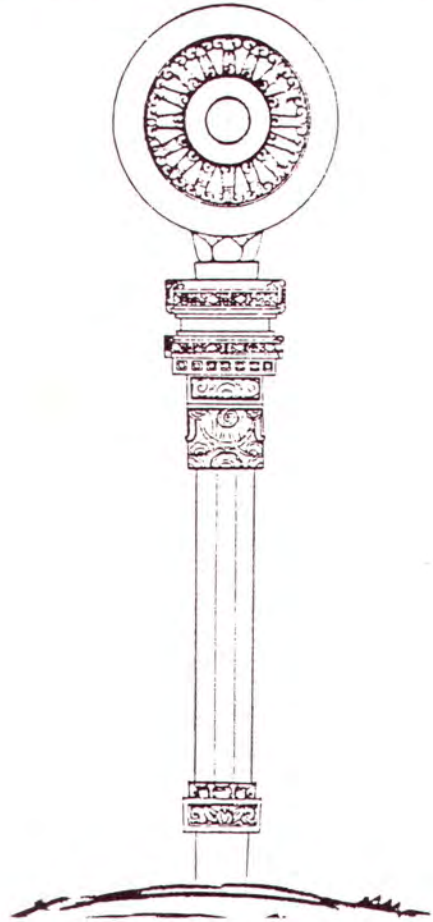


Figure 11. A. Reconstructive drawing of Dharmacakra. Dvaravati School, U-Thong/Supanburi Province, found at west direction of brick stupa/Chedi No. 11, about 7th - 9th century A.D. Height 1.10 m. National Museum U-Thong. (after the Fine Arts Department)

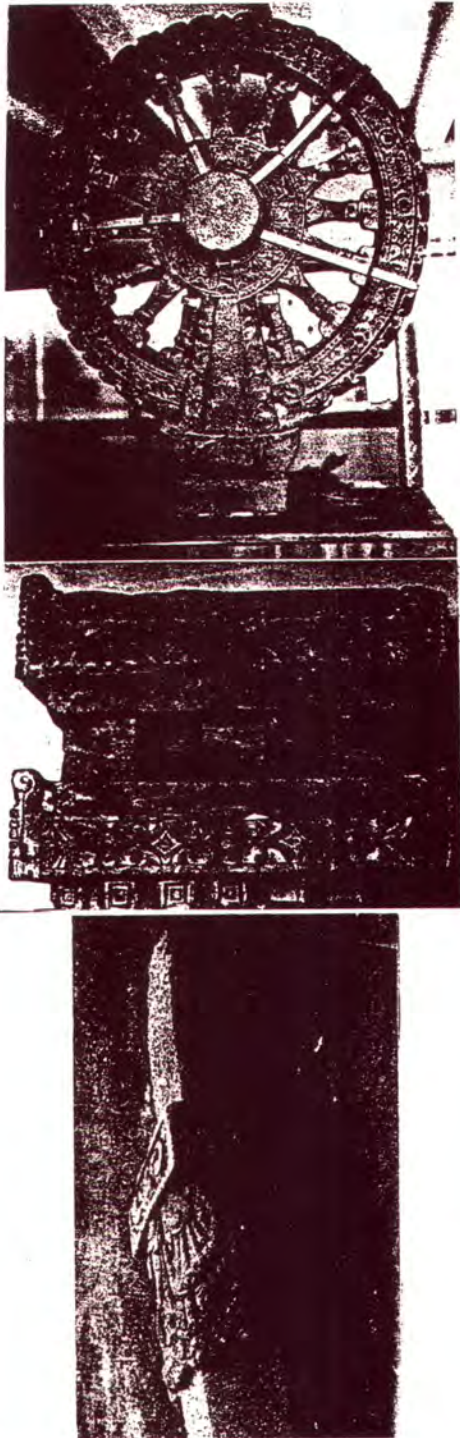


Figure 11. B. Dharmacakra components, the wheel, throne, and octagonal pillar.

represented the Lord Buddha at the centre with the Dharmacakra Pillar to the right and the stupa to the left. Such depiction implies the Dharmacakra Wheel of Law to be that of the Supreme Cakravatin. The location of the pillars found in the vicinity of the stupas thus (presumably) refer to the meanings represented in the two relief works with the Dharmacakra having the significance of a religious structure in itself.

The Sema Marking-Stones

The use of Sema marking-stones in creating a religious structure in the architectural sense, came under the tradition of the Dvaravati civilization in the North-east, and at the regional frontier at Sithep in Petchabun Province. According to the archaeologists, the tradition of the Sema marking-stones was widely practised north of Chi River Basin and its tributaries expanding towards the Sakol Nakhon Basin and the south of the Mun River Basin as well.¹⁶

The significance of the Sema marking-stones in the Buddhist tradition was to define a sacred boundary and was also derived from the local belief concerning the erect stones.

Art historians classified the Sema into the slab type and the pillar type which developed in the 9th - 11th centuries.¹⁷ The designs of both types were based on the Buddhist cosmological concept; but because of their differing roles, their forms therefore also differed.

The slab type represented the lotus petal but at the same time has an entity of a cosmos. As can be seen that no matter what the surface of the slab depicted whether it be the petal of the lotus



Figure 12. Sema stone, slab type, Northeast/Dvaravati School. Ban Non Khong, Chaiyaphum Province. Carved two rows of lotus petals at its base and two large overlapped petals. The motifs are probably symbolized Padamamula or Brahmamula symbol. Height over 2.00 m.



Figure 13. Sema stone, slab type. Northeast/Dvaravati School. In situ at Chedi Klongkow Noi, Yasotorn Province, carved stupa relief at its central axis, about 9th century A.D. Height 1.40 m.

flower, the stupa, the Buddha images or Buddha's life history, Jataka tales or other motifs (Fig. 12 - 15), each slab symbolically represents the cosmos at the macro level, while at the micro level represents the lotus petal.

The base of the slab applies the full-bloom lotus motif both inverted and upright or simply just upright. The vertical axis of the slab is also the axis on which the stupa is depicted. In the case of the

lotus petal, the raised central axis represented the mountain which rises from the cosmic ocean. This vertical crest axis is not present when the surface is used to depict certain themes ; however in some instances such as the one which depicted Buddha's life history, found at Muang Fa Daed in Kalasin Province (presently in the National Museum at Khon Khaen), the axis appears on the reverse side of the slab (Fig. 14).



Figure 14. Sema stone, slab type.
Northeast/Dvaravati School.
Found at Muang Fa Daed, Kalasin
Province, about 9th century A.D.
Buddha's life history scene,
probably his return to Kapilavastu
after his Enlightenment, his
grief-stricken wife Yasodhra,
caresses his feet with her hair.
Height 2.05 m. Khonkaen National
Museum.



Figure 15. Sema stone, slab type.
Northeast/Dvaravati School.
Found at Muang Fa Daed, Kalasin
Province, about 9th century A.D.
Carved with Vessantara -
Jataka tale. Height 1.48 m.
Khonkaen National Museum.

In the case of the Semas of red sandstone found at Non Soong, Nakhon Rachasima Province, the engraved design also symbolized the cosmos with motifs referring to Padamamula and Brahmamula.¹⁸ (Fig. 16, 17)

The single sema alone has no actual significance if the function is to define the space within a sacred boundary. Whether the space has any structures built

within it or not, the stone semas have undoubtedly created an architectural space in the form of a Buddhist religious structure; and importantly the structure creates an image of the lotus flower in full bloom, which is an important symbol in Buddhist iconography.

Although most of the sacred sites have been disrupted through the removal of the slabs from their original positions



Figure 16. Sema stone, slab type.
Northeast/Dvaravati School.

Found at Nakhon Rachasima Province, about 8th century A.D. Carved with Padamamula motif symbol. Height 1.60 m. Phimai National Museum.



Figure 17. Sema stone, slab type.
Northeast/Dvaravati School.

Found at Nakhon Rachasima Province, about 8th century A.D. Carved with Brahmamula motif symbol. Height 1.60 m. Phimai National Museum.

due to ignorance (such as the Nonku site at Konsawan District in Chaiyaphum Province), the site at Phrabat Buaban surroundings in Udorn Thani is considered to be still left in a fairly unified state with three rows of stones marking the boundary in eight directions and one placed at the centre as an object of worship. ¹⁹⁾ (Fig. 18, 19)

The pillar type Semas may be either square, (Fig. 20,) or octagonal in plan. From available datas the square ones also function according to the concept of the sacred boundary, but in this case a building structure exists within the boundary itself such as the Ordination Building at Muang

Fa Daed for example. These pillars were found to be in two rows in eight directions surrounding a building with rectangular plan then surrounded by enclosure walls which have entrances at the cardinal points on each of the four sides.

The pillar type sema also has lotus petals motif at the base thus representing a mountain surrounded by water. Therefore this type of Sema would also represent the cosmos at the macro level, as with the slab type. Thus where the Ordination Building exists surrounded by the sema pillars, it becomes the symbol of cosmic mountain chains with ocean rings surrounding mount Sumeru.



Figure 18. Sema stone, transitional between slab and pillar type. Northeast/Dvaravati School. In situ at Wat Prabat Buaban surroundings, Udorn Thani Province. Carved Buddhist iconography above its lotus base. Height 1.70 m.

2. The Khmer School in Thailand

(6th - 13th, 14th centuries)

The Khmer School in Thailand created religious structures in the form of Hindu Prasats; and like those at the political centre of Khmer, the designs were based on three criterias.

1. Conform to the design concept of Prasats in accordance with the Hindu Canons.
2. Conform to the prototype model of art and architectural styles from the imperial Cakravatin centre of power as the basis for design.
3. Developing the prototype into a local style appropriate to local conditions.

Whilst the designs of Buddhist structures of the Dvaravati School at both micro and macro levels appear to have been based on the diagram of the circle and its centre,

the designs of Hindu Prasats were based on the fixed rule which specified that the Bindu point be used as the centre of the square mandala diagram which is the matrix of all designs.

Therefore in the design of Khmer style Prasats in Thailand from the Pre-Angkorian period (ca. 600 - after 800) up to the Angkorian period (ca. 877 - ca. 1230), the prangs and the lay-out of the sanctuaries developed stylistically within the restricted framework of the square and its centre.

Prasat Phumpon, Surin Province (Fig. 22) and Prasat Kao Noi, Prachinburi Province, with brick prangs of the Pre-Angkorian period, had square and rectangular plans with towering prang structures which rose proportionately. This type of order was consistently used throughout of Khmer of developments in the construction of Khmer style Prasats. The placing of important



Figure 19. Detail of iconographic relief of Sema stone type Fig.18, which formerly would be the central stone.



Figure 20. Sema stone, pillar type. North-east/Dvaravati School. About 10th - 11th century A.D. Squared in plan with double lotus petals at its base, squared pillar and tapered top, height 1.50 m. Khonkaen National Museum.



Figure 21. Ruin brick base of Buddhist ordination building at Muang Fa Daed, Kalasin Province. Northeast/Dvaravati School. About 10th - 11th century A.D. Two sema stones still remain at eastern direction (right corner of photograph).



Figure 22. Brick prang of Prasat Phumpon, Surin Province. Khmer School 8th century A.D.

elements such as the lintel of the Prang and Gopura²¹ in the manner which relates their styles and types to the axial arrangement of the building plan is apparent in the case of the Prasat at Kao Noi in Prachinburi; whilst Prasat Muang Tam at Buriram²² and Prasat Phimai at Nakhon Rachasima²³ revealed the relationship with the entire lay-out as in the period of Angkor.

From the layout plan of the structure through to the use of construction materials, the Khmer Prasats of the Angkorian period can be subdivided into four groups :

- (I) Sanctuaries with brick Principal Prangs,
- (II) Stone sanctuaries with gallery surrounding the Principal Prangs,

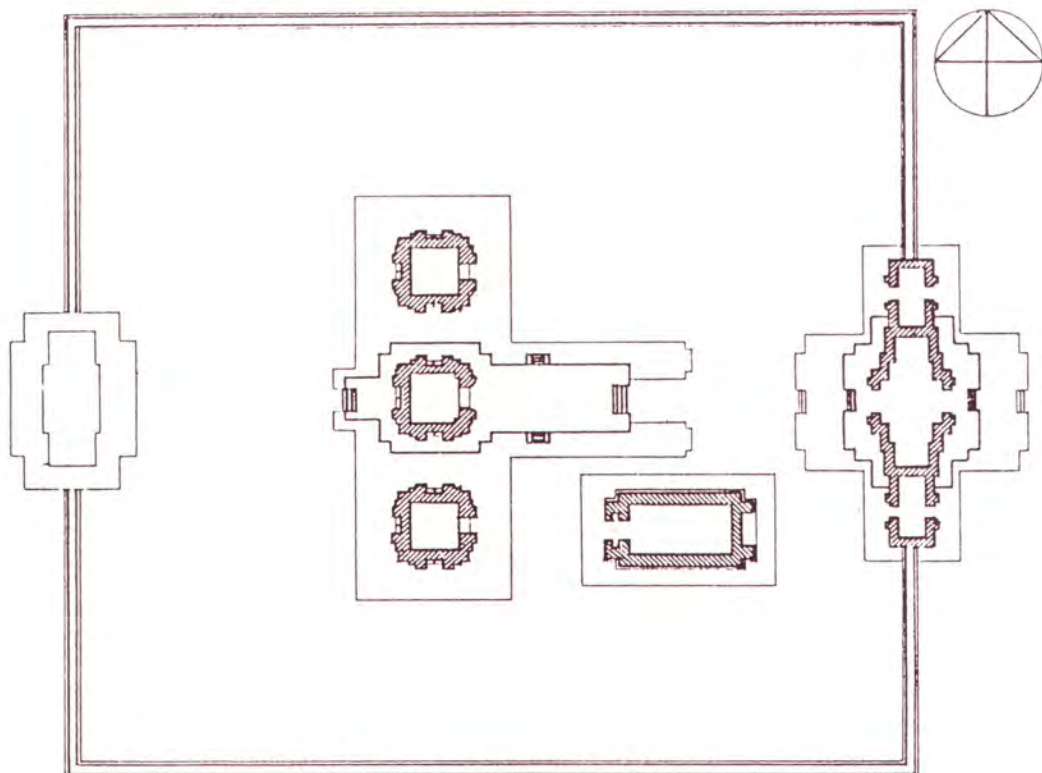


Figure 23. Plan of Prasat Nong Hongse, Buriram Province.

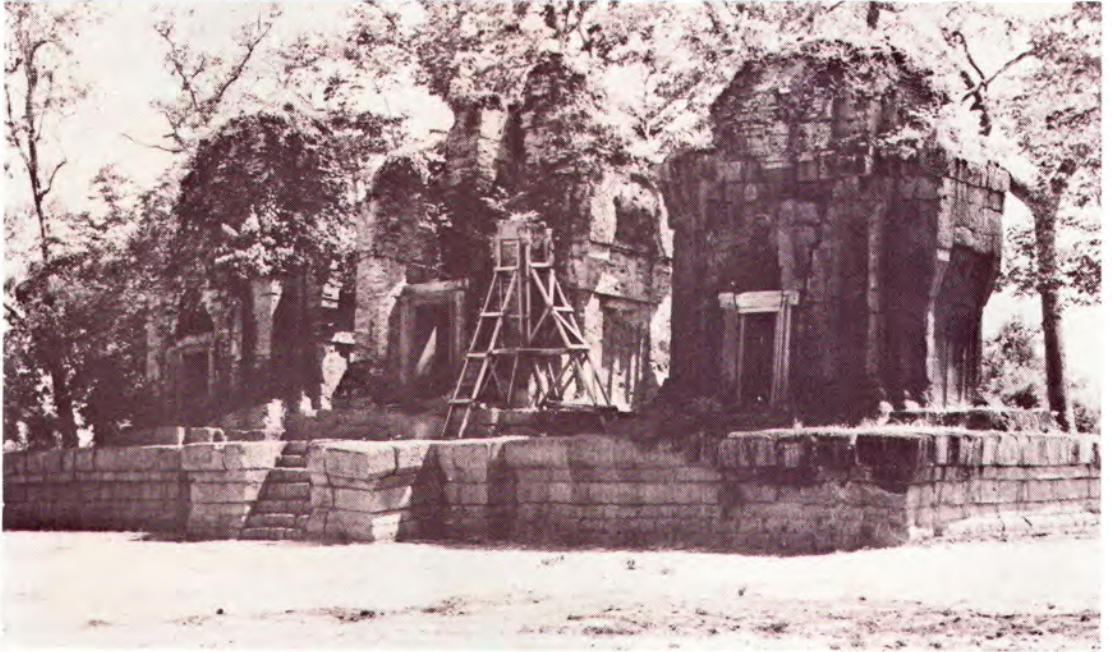


Figure 24. The main tower of brick and laterite prangs of prasat Prang Ku, Srisaket Province, Middle of 12th century A.D.



Figure 25. The five brick prangs of Prasat Muang Tam, Buriram Province. Middle of 11th century A.D.



Figure 26. The five brick prangs of Prasat Sikhoraphum, Surin Province. Middle of 12th century A.D.

(III) Sanctuaries that function as the chapel of Jayavarman VII's hospital,

(IV) Sanctuaries with single Principal Prang of brick or stone.

I. Sanctuaries with Brick Principal Prangs

Prasats of this type have been found to be from the Khleang period down to the period of Angkor Wat (ca. 965 - 1075 A.D.). Some had three prangs and some had five prangs as the principal focus of the layout plan. However Prasats with three principal prangs, were found to have dated back as far as the Khleang Period (ca. 965 - 1010 A.D.). Prasat Ban Ben at Ubon Rachathani built in the Khleang period, Prasat Nong Hongse at Buriram built in the Baphuon period, and Prasat Prang Ku at Srisaket (Fig. 24) built in the

Angkor Wat period (ca. 1100 - ca. 1175 A.D.) are such examples. The central prang was taken as the principal prang with two minor ones at its sides on the north - south axis, whilst the building was oriented towards the east surrounded by a wall or moat. As for Prasats with five principal prangs, again the central one was taken as the main principal structure with the four minor ones at the lower corners such as Prasat Srikhoraphum at Surin Province, with its surrounding moat for example. (Fig. 25, 26)

II. Stone Sanctuaries with Gallery Surrounding the Principal Prangs

Prasats of this type are generally large structures. Taking Prasat Muang Tam built in the early Baphuon period (ca. 1010-) as the first instance in the study of style

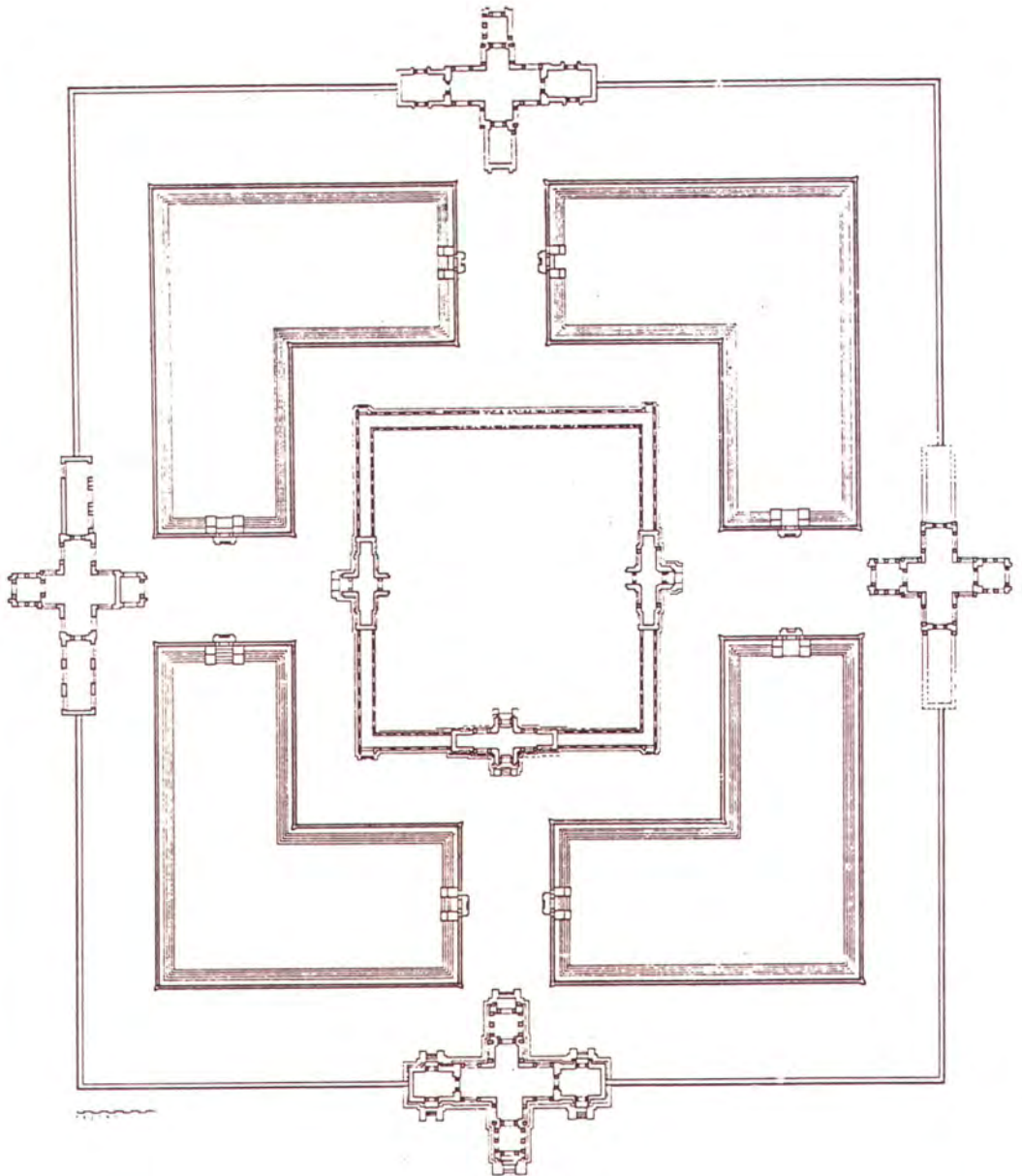


Figure 27. Lay-out of Prasat Muang Tam, Buriram Province, showing gallery and outer wall as double enclosures.

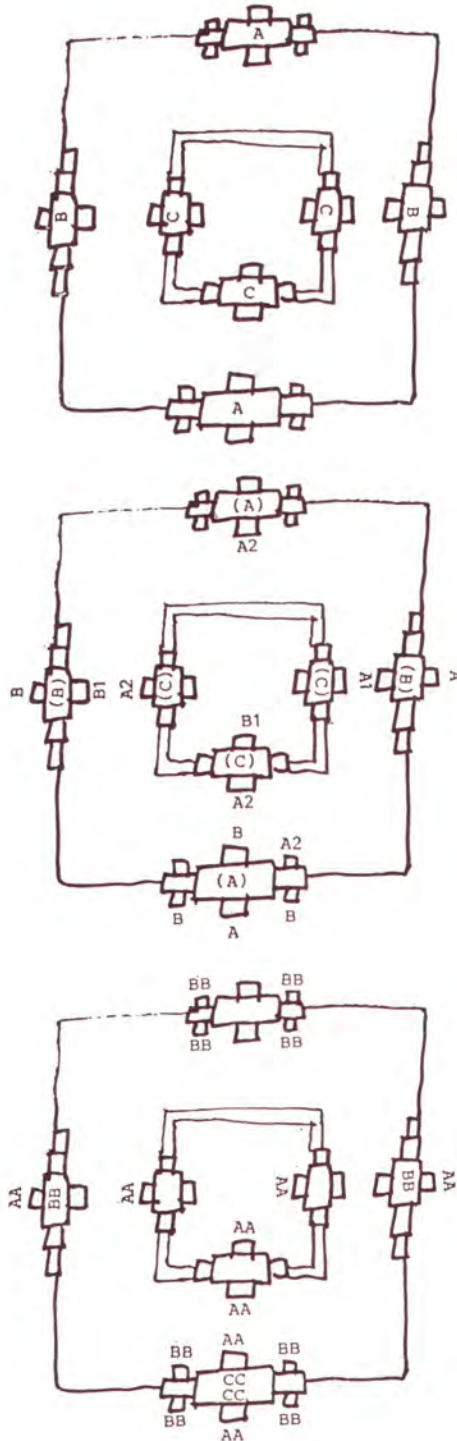


Figure 28. Prasat Muang Tam : Diagrammatic drawing of an orientation system of Gopuras, lintel types and pillaster styles in architectural lay-out and building structure.

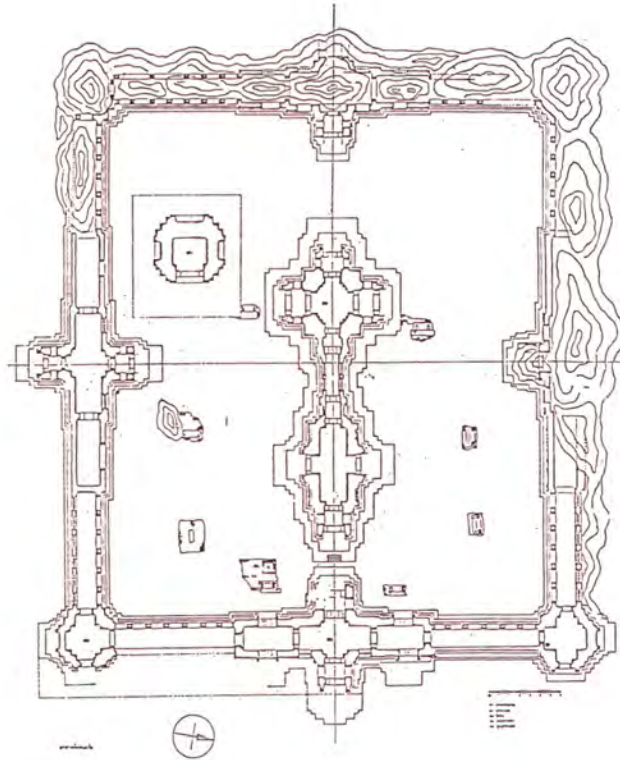


Figure 29. Plan of Prasat Phanom Van, Nakhon Rachasima Province.

development, it can be seen that the Principal Prangs are surrounded by galleries on the four sides bounded by a moat and enclosing stone walls of laterite. At each cardinal point along the galleries and walls on the four sides, Gopura (gates) are located based on the principal east-west axis with certain orders applied to different types and stylistic designs of lintels, pediments, and pilasters of the Gopura.

The Prasat Muang Tam has a certain style of its own and presumably the five principal prangs of bricks were built after the construction of the surrounding galleries.

Subsequent design developments of Khmer style stone sanctuaries could be studied from Prasat Phanom Van (ca. 1082 A.D.) through to Prasat Phimai and Prasat Phanom Rung of the Angkor Wat period.

The study of Prasat Phanom Van suggests the presence of a new school which worked on building stone structures but lacked skills and decisiveness. The design retained the axial order of the Prasat Muang Tam but ignored the Bindu point as the matrix in the design of the whole lay-out, (Fig. 30, 31)

Development in the architectural design of stone sanctuaries culminated approximately 26 years later with Prasat Phimai where the design had been carried out with intelligence, and the craftsmanship immaculate (Fig. 32, 33). The design kept to the rule of the Bindu point as the generating centre of the large scale lay-out with three rows of enclosures; i.e. the gallery, the inner wall, and the outer wall. Unconventionally, the building oriented



Figure 30. The main Prangs of Prasat Phanom Van, Nakhon Rachasima Province. Built with sand stone and unskilled craftsmanship, the super structure or tower had been demolished. Late 11th - early 12th century A.D.



Figure 31. The Mandapa of Prasat Phanom Van main prang. Shows the early formation state of local Khmer School craftsmanship in Thailand.



Figure 32. The main prang of Prasat Phimai, Nakhon Rachasima Province. Middle of 12th century A.D. Perspective from northeast corner.



Figure 33. Southeastern rabbeted corner, base of Fig. 32. Shows good design and highly skilled craftsmanship.

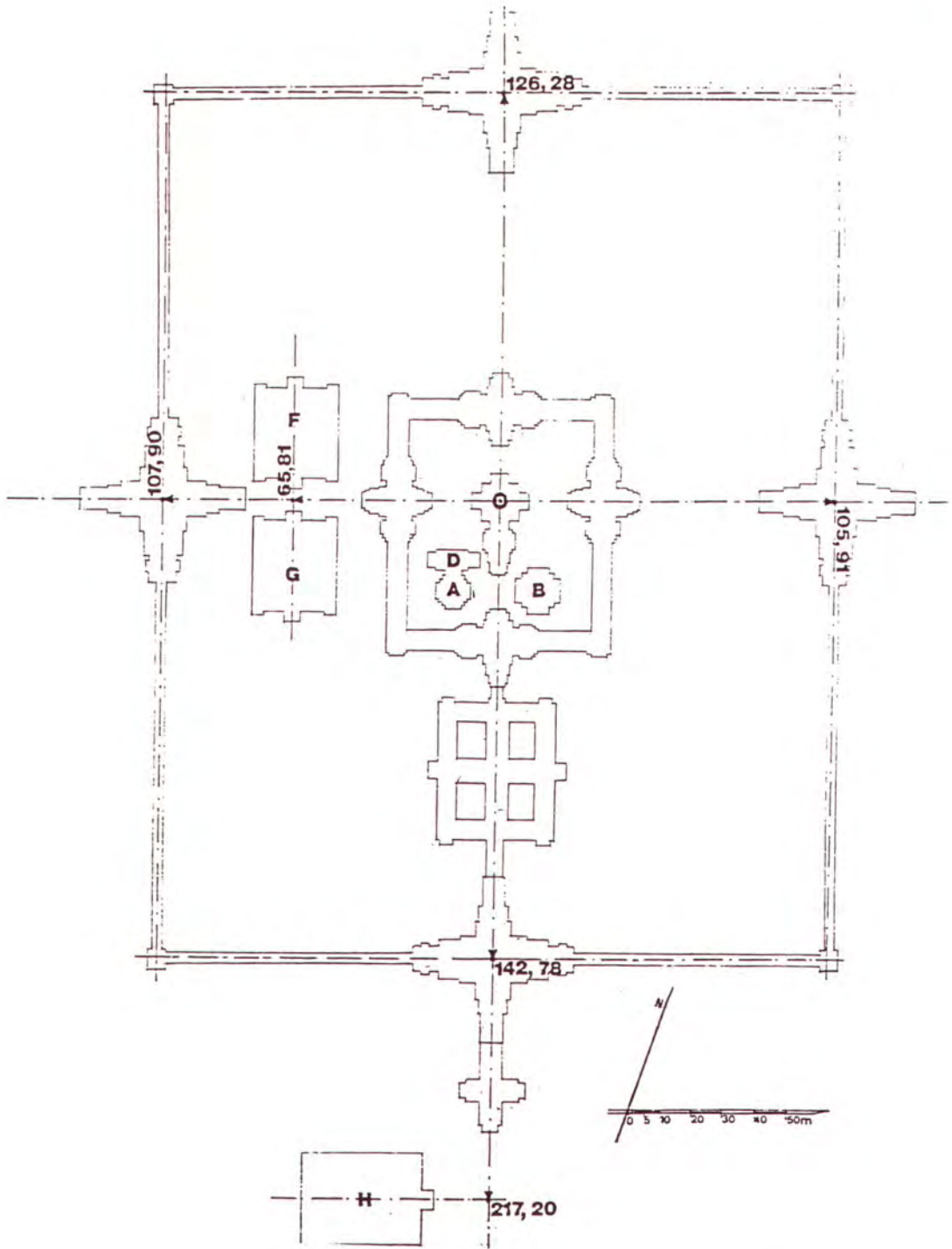


Figure 34. General lay-out of Prasat Phimai, Nakhon Rachasima Province.
(after Pierre Pichard)

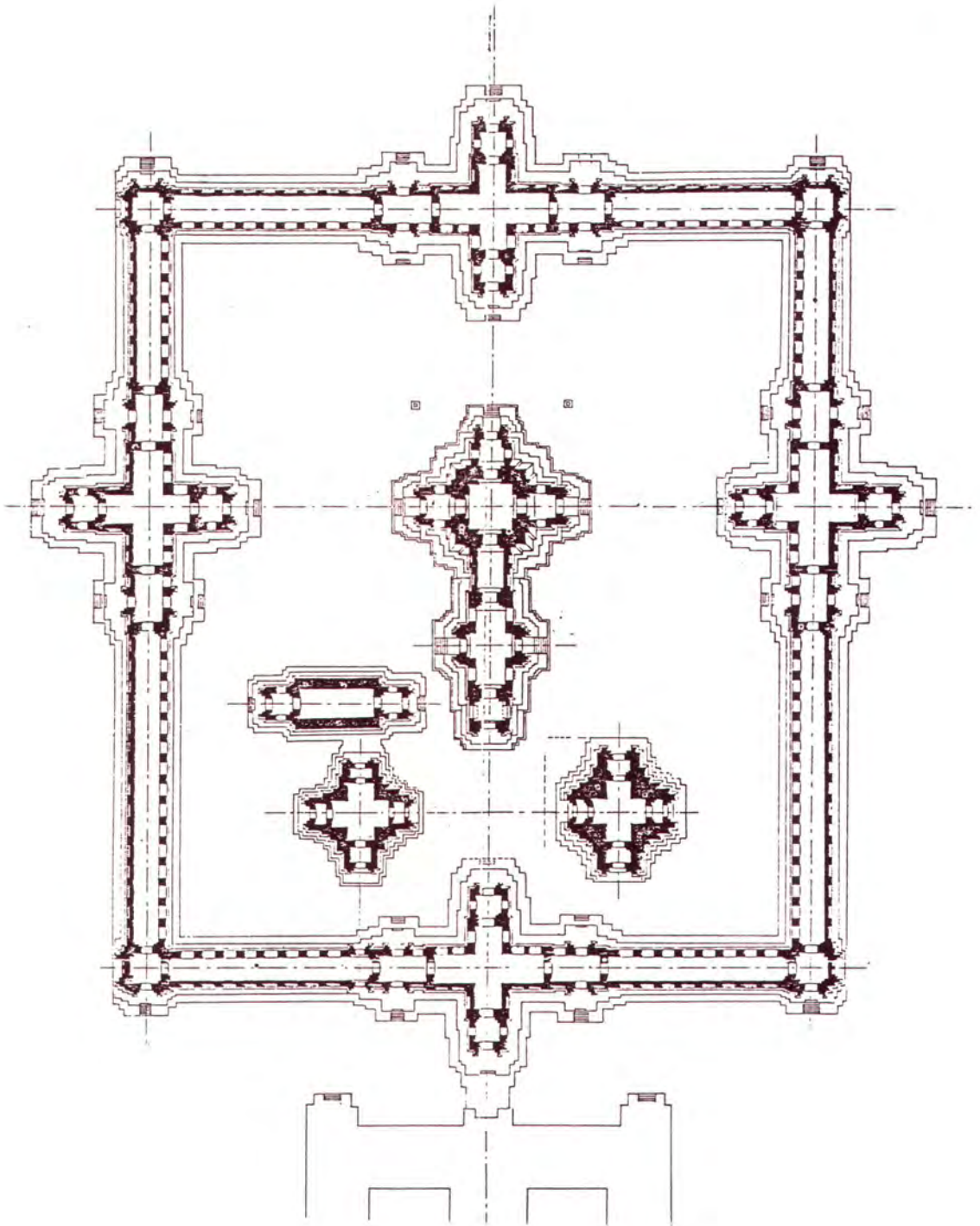


Figure 35. Lay - out of main sanctuaries and gallery of Prasat Phimai, Nakhon Rachasima Province. (after Pierre Pichard)

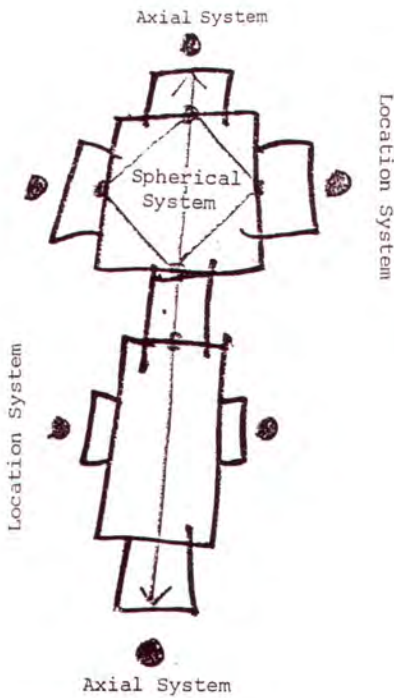


Figure 36. Prasat Phimai : Diagrammatic lay-out of various symbolical schemes through lintel designs and positioning on the main prang.

towards the south, thus changing the cosmic axis from that of the solar path or 'Solar System' to 'Polar System' which makes reference to the pole star.²⁴ As with Prasat Muang Tam, Prasat Phimai applied different designs of the lintels in various places on the Principal Prangs.

The subsequent stage in the style development derived inevitably along the process of artistic development towards the Hellenistic or Baroque equivalent in the works of the Khmer School in Thailand. As can be seen from the Prasat Phanom Rung, the architect established three focal points: at the centre of the main tower, the centre of the mandapa, and the centre of the vestibule, from which the lay-out

plan and the design generated. However the structure which constitutes the axial approach from the east at the foot of the slope to the cross axial platform, the transitional point and five levels of stairs towards the sanctuary makes reference to the main axis without affecting the vertical axes of the three focal points.

III. Sanctuaries that Function as the Chapel of Jayavarman VII's Hospital

The Hospital Chapels are small laterite sanctuaries built in the Northeast region. Based on a typical design, they were constructed with laterite in a rather crude manner perhaps due to hastiness or simply due to the decline of the School.

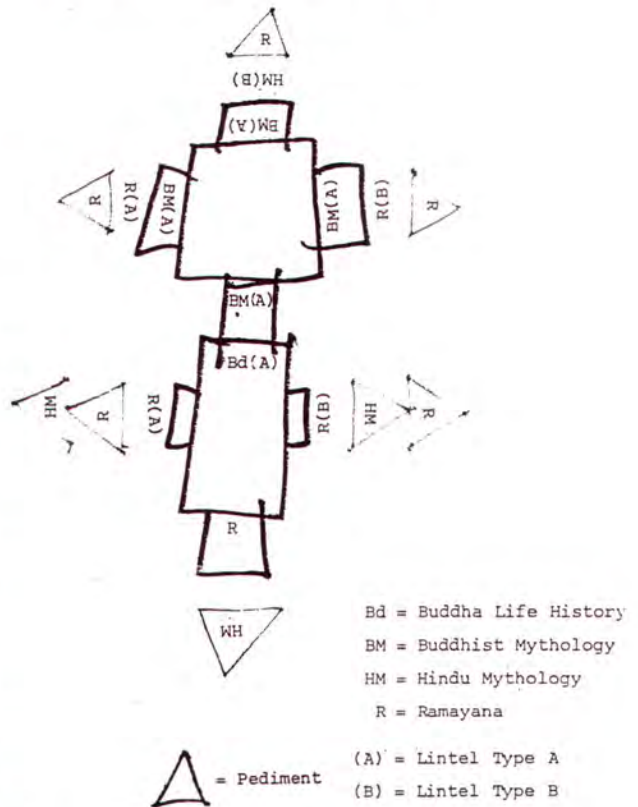


Figure 37. Prasat Phimai : Diagrammatic lay-out of the various themes on lintels and pediments of the main prang.



Figure 38. South elevation of the main prang of Prasat Phanom Rung, Buriram province.
Later part of 12th century A.D.

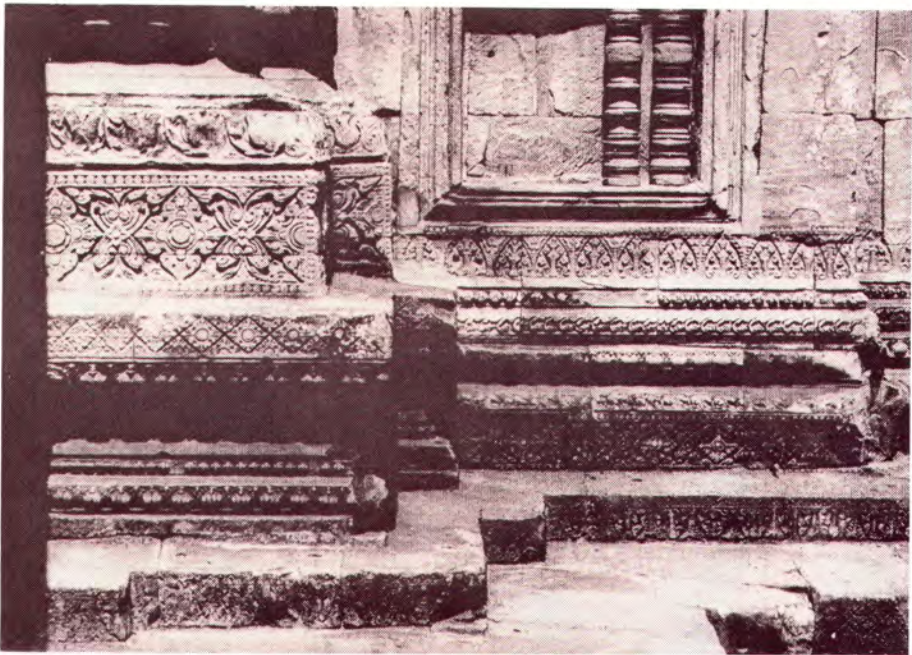


Figure 39. Stone carved base of Fig. 38 at Northeast corner of front Mandapa. Rich in design and professional motif.

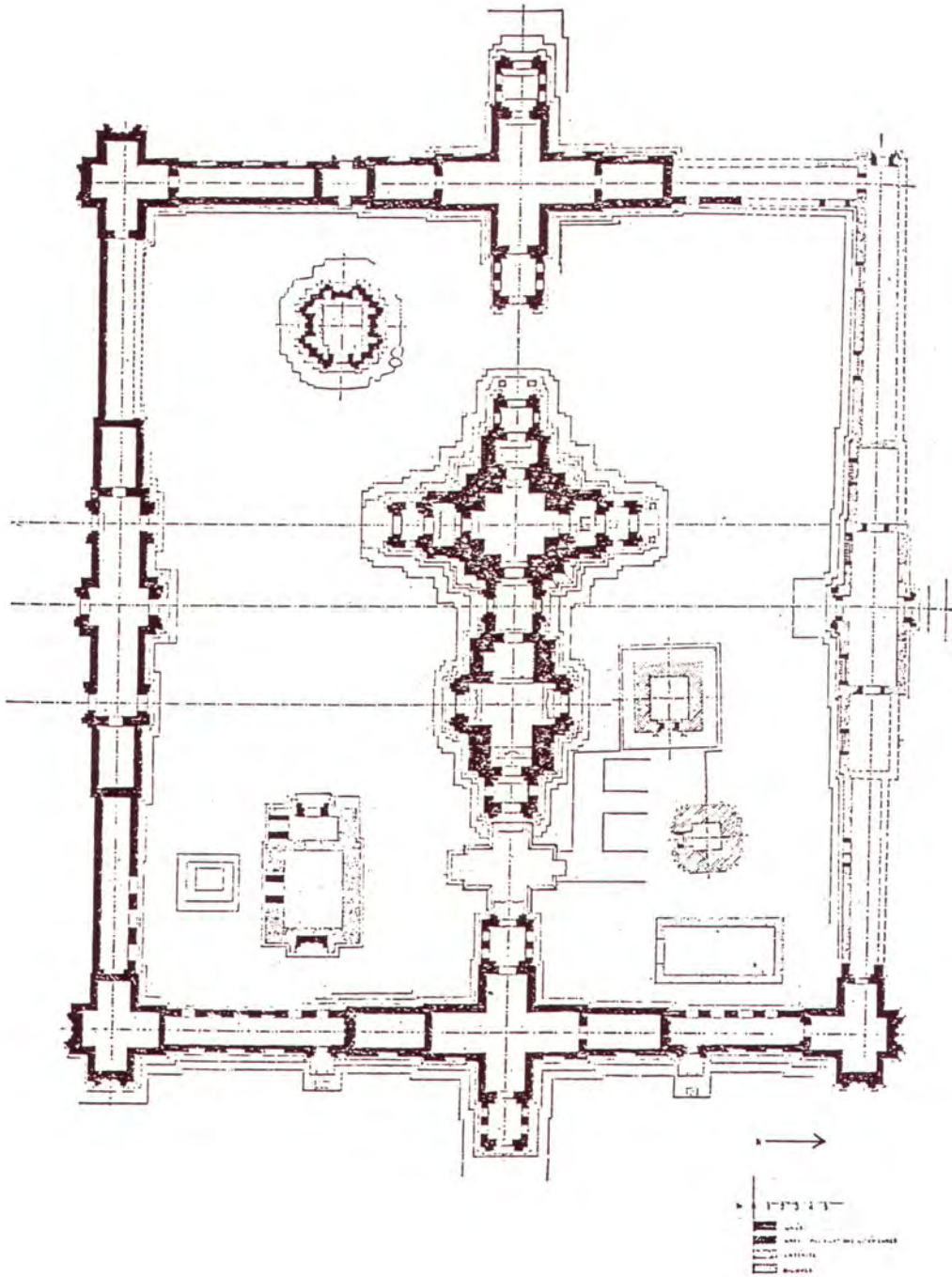


Figure 40. Lay - out of main sanctuaries and gallery of Prasat Phanom Rung, Buriram Province.

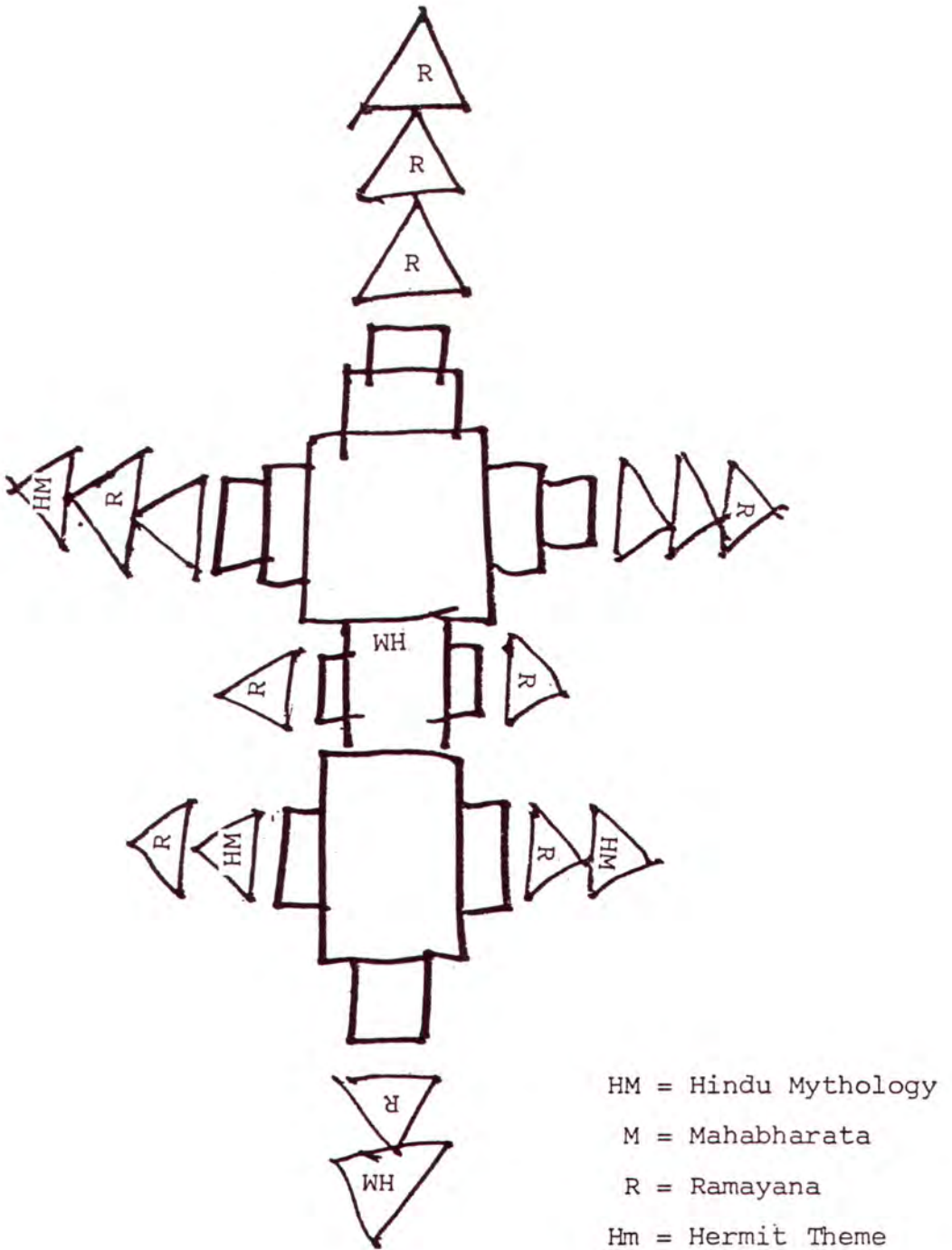


Figure 41. Prasat Phanom Rung: Diagrammatic lay - out of various themes on lintels and pediments of the main prang.



Figure 42. Main laterite Prang of Prasat Ku Santarat, Mahasarakam Province. One of Jayavarman VII's hospital in Northeast Thailand. Middle of 13th century A.D.



Figure 43. The sacred pond and enclosure of Prasat Ku Rushi at foot hill of Prasat Phanom Rung. A Typical pattern of Jayavarman VII's hospital in Northeast Thailand.

The plan comprised of the central prang with fore-porch as the principal focus, a library at the southeast corner with the Gopura to the east, and the surrounding wall; outside the wall in the northeast direction, a sacred pond is located. (Fig. 42, 43)

This type of sanctuary was the last of the religious structures built by the Khmer School in Thailand before the political as well as social and cultural changes subsequently took place in the Northeastern region.

IV. Sanctuaries with Single Principal Prang of Brick or Stone.

Prasats of this type belonged to small communities in the early Angkorian Period down to the late Baphuon period such as Prasat Ban Beng at Srisaket Province, which was built in the Pre Rup period (ca. 947 - 965 A.D.). Then in the Baphuon period, the design had raised the plinth of the Principal Prang higher as can be seen at Prasat Ban Plueng at Surin (Fig. 45, 46) which stretched out the base on the north-south axis and intentionally elongated into two wings of the structure surrounded by a moat.

The design of this type of Prasats was perfected in the transition period

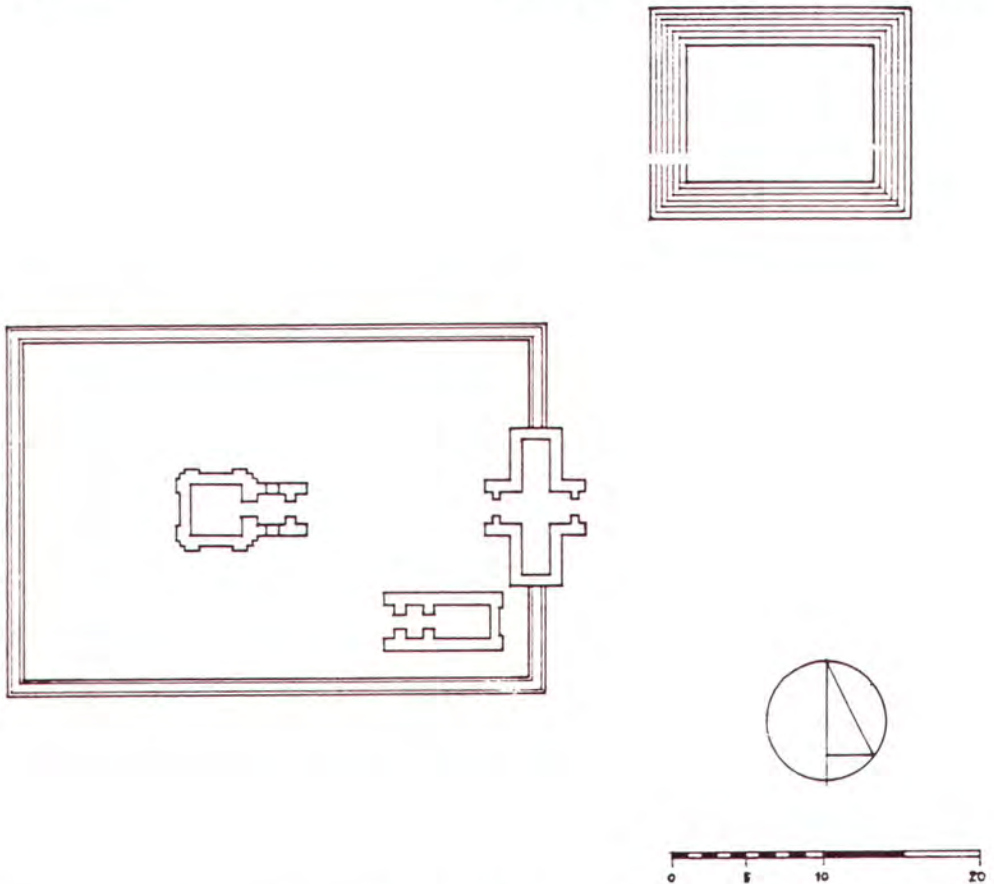


Figure 44. Lay - out of Prasat Nong Ku, Roi Et Province, a typical pattern of Jayavarman VII's hospital chapel in Northeast Thailand.



Figure 45. The main Prang of Prasat Ban Plueng, Surin Province. Later Part of 11th century A.D. The tower built with gray sandstone and the plinth with large laterite blocks.

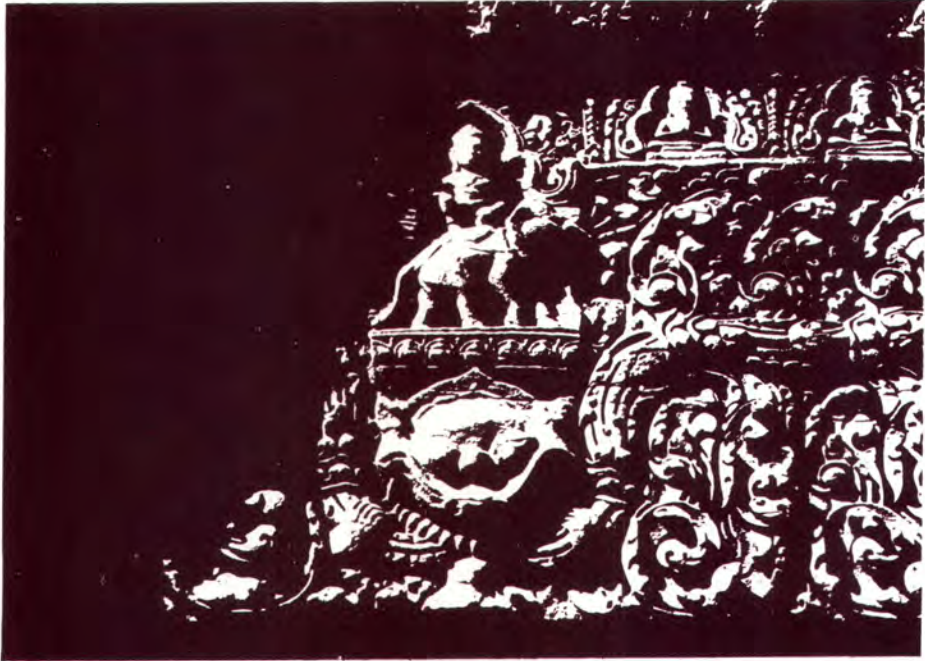


Figure 46. Detail of Fig. 45, east elevation door lintel. Later part of 11th century A.D. Delectable carving of sand stone relief. Indra riding on elephant at the center.

between the Baphuon and Angkor Wat Period with the Prasat Phrathat Narai Chengveng instance.

3. The Peninsular Region/Chaiya School

Works of the Chaiya School concentrated around the district of Chaiya, in Surat Thani Province. The stupas or chedis were built according to the Vajrayana sect, and could be seen from the Chedi at Wat Boromathat Chaiya, the chedi at Wat Kaew, and Chedi at Wat Hluang. All three stupas were likely to have been designed under the same ideology whilst the Chedi at Wat Keaw which has been excavated and had since been restored by the Ministry of Education's Department of Fine Arts in 1979²⁶ provides the most informative evidences.

The plan of the stupa is in the form of a cross which derived from the Mandala of the Jina Buddhas regions according to the doctrine of the sect whereby Vairocana is placed at the central position, Aksobhya to the east, Amitapha to the west, Amoghasiddhi to the north, and Ratanasambhava to the south. (Fig. 48, 49).

The Chedi at Wat Kaew have porches projected in all four directions with niches where images of the Jina Buddhas are enshrined.

Since the plan is in the form of a cross, the corners where the arms of the cross intersected each other on the exterior, were thus infilled to unite the arms and give the corners a jagged form determining the total appearance of the stupa. The concept of the receding tiers which

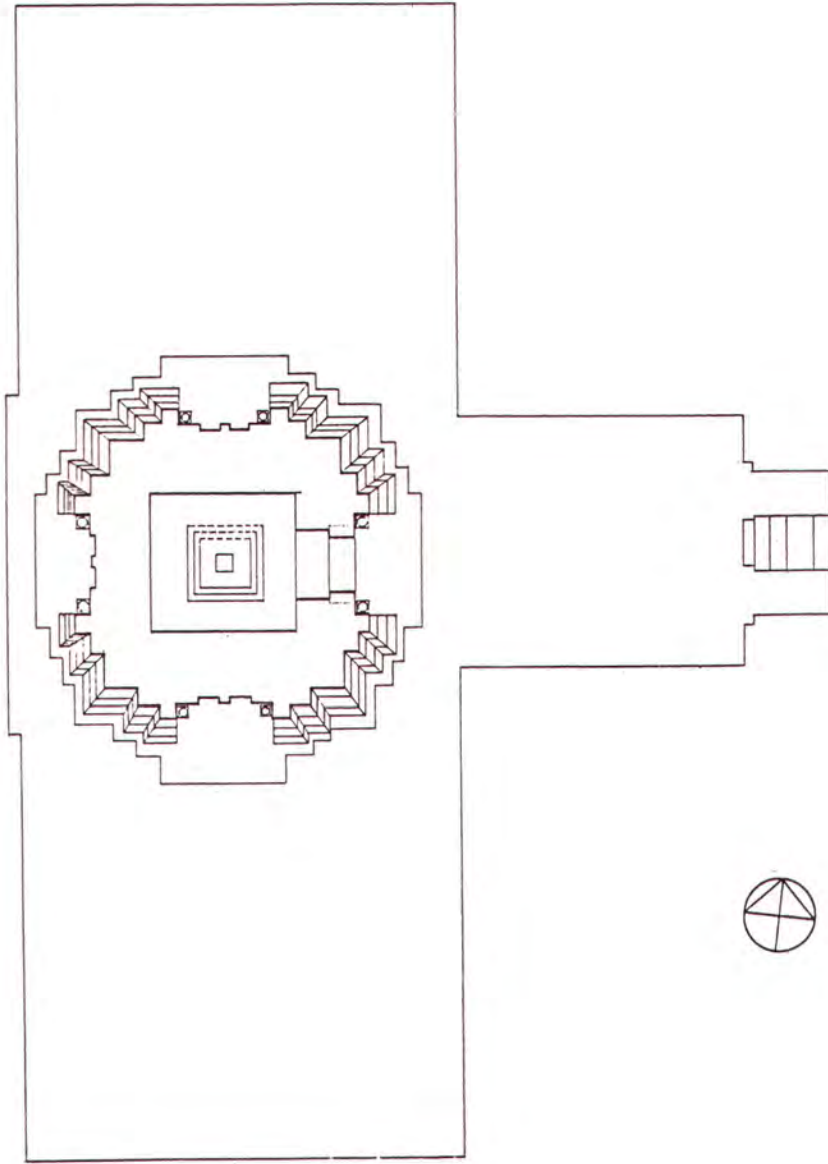


Figure 47. Plan of Prasat Ban Plueng, Surin Province.

derived from the Indian tradition especially in the maritime states, made way for each step of the facade to be adorned with miniature stupas as can be seen from the Chedi of Wat Baromthat Chaiya and the stupas generally found in Indonesia.

After the Chaiya School, the influence

of this style stupa re-emerged around the 13th century in the Peninsula Region from evidences such as the Chedi thought to have been a replica of the original Phra Boromthat Nakhon Sithamarat²⁸ or even the plinth base of the Chedi at Wat Sating Pra at Songkhla. (Fig. 51, 52)



Figure 48. Chedi Wat Kaew, Chaiya District, Surat Thani Province. Peninsular Region/ Chaiya School. About 9th - 10th century A.D. The total structure was built with brick, then carved into various ornament patterns.



Figure 49. South elevation of Chedi Wat Kaew. Major architectural components were carved from its own brick structure, except the door frame of composite stone slabs.

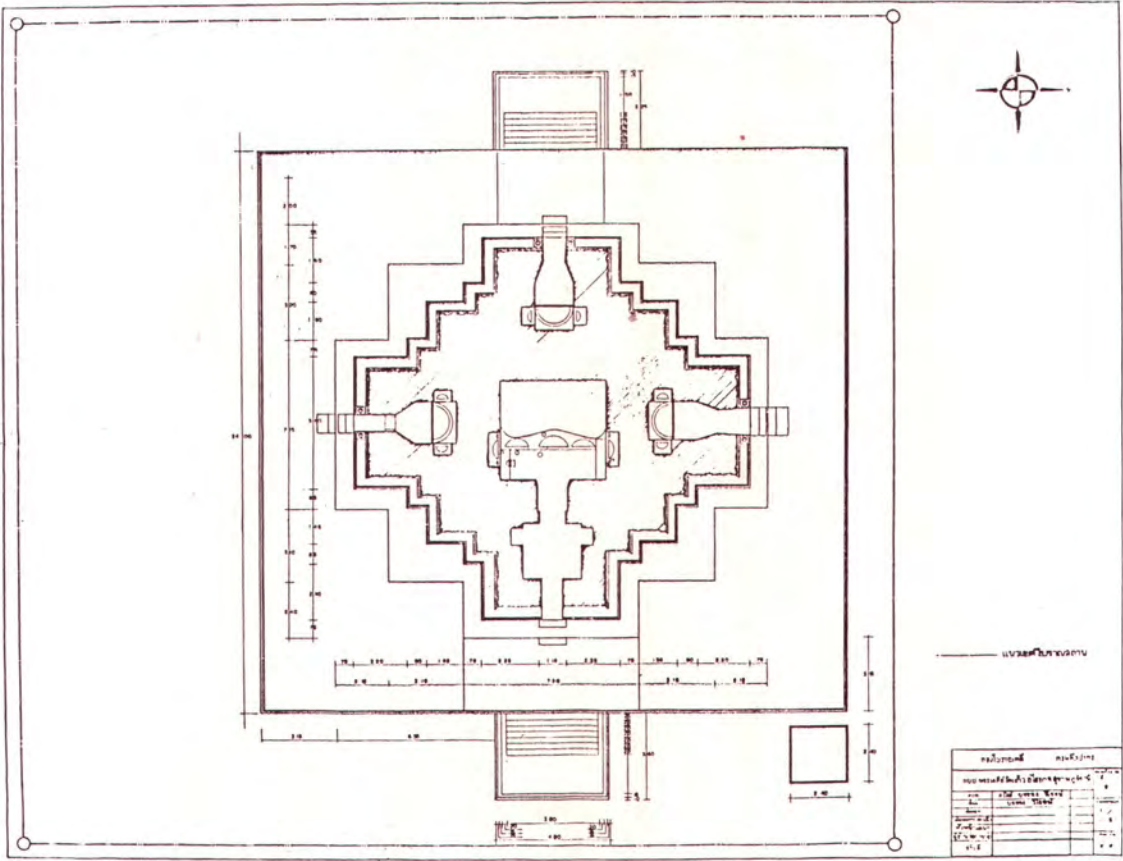


Figure 50. Plan of Chedi Wat Kaew, Surat Thani Province
(after The Fine Arts Department).



Figure 51. Five domes stupa at Wat Pra Boromthat Nakhon Sithammarat. Probably 13th century A.D.



Figure 52. Stupa at Wat Sating Pra, Songkhla Province. Probably 14th Century A.D.

Notes

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