An Old Ritual Capital, a New Ritual Landscape: Understanding the Transformation of Angkor Thom, Cambodia through the Construction and Placement of Theravāda »Buddhist Terraces«

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This paper serves as the first focused study since 1918 exploring the sub-structural remains of Theravāda Buddhist monasteries, known to scholarship as »Buddhist terraces«, at the Cambodian Khmer capital of Angkor Thom. Thought to have been constructed between the late 13th-16th centuries, prayer halls (*vihara* or *praḥ vihar*) and other Theravāda buildings are seen by traditional scholarship to be the products of an officially undocumented but visible religious transition from the Khmer Brahmano-Buddhist royal cult, manifested through the construction of universal temple-mountains and esoteric religious practices, to a more socially-inclusive monastic tradition which abandoned epigraphy, the deification of kings, and large-scale religious building. Data acquired from two seasons of site investigations within Angkor Thom has revealed an expansive collection of over seventy »Buddhist terraces« demarcated by sīmā boundary stones, suggesting not only a notable Theravāda building campaign within this cosmologically designed Mahāyāna Buddhist urban space but also the conversion and incorporation of Brahmano-Buddhist monuments as landmarks of the new religion. The interaction of Buddhist monastic architecture with non-religious urban infrastructure, too, most notably the road-grid of Angkor Thom previously mapped through LiDAR and GIS, has revealed intriguing patterns of construction that appear to match a configuration with the southerly temple of Angkor Wat, heavily restored as a royally patronized Theravāda sanctuary in the mid-16th century. Understanding the significance of this shift is necessary to understanding the re-appropriation of the vast urban ritual landscape of Angkor, and in turn serves as a valid study for further understanding the significance and retransformation of ritual space transcending specifically-delineated historical epochs.

Keywords: Angkor, Cambodia, Buddhism, Theravada, monasteries, ritual, 16th century, archaeology, survey, mapping

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Introduction

Past and present scholarship has typically framed the history of the Khmer Empire (*c.* 802-
1431 CE) within three distinct phases defined primarily by the religious alignment of kings
and the resulting material remains constructed surrounding their capital center at Angkor.
Working within this academic context while excluding traditions of animistic worship,[1] these
three »phases« are traditionally identified as Brahmanic (Śaivism or Vaiṣṇavism), Mahāyā-
na Buddhist, and Theravāda Buddhist.[2] The first two »phases« have been delimited and
interpreted through the analysis of temple inscriptions enclosed within monumental tem-
ple-complexes scattered across Cambodia, Thailand, and Laos;[3] Brahmanic practice is typ-
ically seen as the Khmer historical norm, while Mahāyāna Buddhism is primary associated
with the great king Jayavarman VII (r. 1181-1220) and his immediate successors' expansive
campaign of monumental religious construction. Despite the lack of other extant histori-
cal records such as palm-written texts and chronicles due to Cambodia's tropical climate,
epigraphers have been able to successfully piece together many of the prominent historical
events defining the empire's first five centuries of existence. Thus, an elite-focused history
of the Brahmanic and Mahāyāna Buddhist »phases« forms the majority of our understanding
of what aspects of Khmer Imperial history are deemed significant.

In contrast, the third religious »phase« of Cambodian history at Angkor is poorly docu-
mented and sparsely researched. Theravāda Buddhism, thought to have been worshiped in
Cambodia as early as the 9th century,[4] is believed to have risen to prominence in the late 13th
century[5] and is most notably marked by the cessation of temple-building in favor of the con-
struction of less durable, more localized prayer halls. The 1296 CE account of Angkor by the
Yuan Dynasty emissary Zhou Daguan, entitled *Customs of Cambodia*, has proved invaluable
for understanding Theravāda's early ascendancy alongside reconstructing Khmer livelihoods
and interactions with religion. Alongside his descriptions of monasteries and *bhikkus*[6] within
Angkor Thom, Zhou proclaimed that »every family practices Buddhism«[7] and attests to the
growing dominance of Theravāda practice alongside previous traditions such as Brahman-
ism.[8] His descriptions also correlate with the scant historical evidence recovered from a few
short inscriptions from the first decade of the 14th century translated by Cœdès (K.300;
K.470; K.754)[9], and later votive epigraphy dated to the »post-Angkorian period« (15th-19th

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1   See Groslier, *Angkor and Cambodia,* 164; Ang, La communauté rurale Khmère, 135-154; Ang, Place of animism,
     35-41.

2   Also known as *Hinaya*, or derogatorily as the »Lesser Vehicle« compared to the Mahāyāna »Greater Vehicle«.

3   See *Inscriptions de Cambodge*, ed. Cœdès, Vols. 1-8; Lustig *et al.,* Words across space and time, 12-20.

4   Murphy (*The Buddhist Boundary Markers*, 113) notes that *sīmā* at Phnom Kulen stylistically dated to the 8th-9th
     centuries (199) are more artistically characteristic of Dvaravati examples found on the Khorat plateau instead of
     the »leaves« (Ang, Place of animism, 36) found surrounding modern Cambodian monasteries.

5   NARA, *Western Prasat Top*, 192-193.

6   Monks.

7   Harris, *Zhou Daguan*, 55.

8   Harris, *Zhou Daguan*, 52.

9   K.489, a votive Buddhist inscription found at Terrasse Bouddhique No. 1 (Prah Ngok/ATV001) north of the Bayon
     temple, is undated but should be noted. The main epigraphic evidence for a Theravāda conversion is the switch
     from Sanskrit to Pali as the primary votive language. The final Sanskrit inscription appears at Angkor Wat in 1327
     CE (K.470). See Cœdès, *Etudes Cambodgiennes,* 145-46.

centuries)[10] found primarily within the converted Vaiṣṇavaite temple of Angkor Wat.[11] However, the relative lack of epigraphy in comparison to the previous two »phases«,[12] as well as the lack of new temples built under the auspices of imperial power, departs from trends in traditional Khmer scholarship and its reliance on these sources. This explains in part the neglect of this important period, and as a result Theravāda institutions and practices have often been relegated to historical footnotes[13] or considered narrowly within the conventional »decline and fall« narrative of the Khmer Empire[14] rather than studied for their own historical and archaeological merits.

Following recent trends in Khmer and Angkorian scholarship aiming to explore and publicize the abundant archaeological evidence from this time period in both Angkor and greater Cambodia,[15] this study will explore relationships believed to exist between the numerous Theravāda Buddhist architectural remains constructed at Angkor Thom between the late 13th and early 17th centuries. This objective has been undertaken through the analysis of »Buddhist terraces«, the stone substructural remains of prayer halls delimited by *sīmā* boundary stones. Over seventy »Buddhist terraces« have thus far been identified within and in the immediate vicinity of Angkor Thom, and as ritual architecture these are thought to have indefinitely replaced Śaivaite and Mahāyāna Buddhist temple-mountains as the primary focal spaces of religious worship in Cambodia. Typically erected in recycled stone quarried from older temples,[16] these substructures provided the mechanism through which the ancient Khmer capital was ritually validated and politically renewed by Theravāda-practicing populations of the late- and post-Angkorian Periods, and acted to convert Brahmanic and Mahāyāna Buddhist spaces in a similar manner to the construction of earlier Śaivaite temple-mountains. »Buddhist terraces« also aided in the repurposing and continued use of secular infrastructure at Angkor Thom, namely their placement and construction vis-à-vis the original road-grid of Angkor Thom thought to have first been constructed under Jayavarman VII.[17] Unique patterns of monastic construction along these roads are also hypothesized to correlate with the restoration and conversion of several earlier temples. Most notably Angkor Wat, which became the spiritual hub of Theravāda practice during the reign of King Ang Chan (r. 1516-1566) and his immediate successors.[18] This article thus synthesizes past studies and presents recently collected material evidence from Angkor Thom to demonstrate the distinctiveness of this religious transition and the manifestation of Theravāda Buddhism which has survived in the archaeological record to this day.

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10   The first mention of the »post-Angkorian« period comes from Giteau, *Iconographie du Cambodge.*

11   See Appendix.

12   See study by Lustig *et al.,* Words across space and time, 12-20.

13   Although not always, for example in Thompson, Ancestral Cult in Transition, 273-295; Thompson, *Memoires du Cambodge*, 1-551; Thompson, Buddhist Cosmopolis, 88-119.

14   See Briggs, Ancient Khmer Empire, 54; Cœdès, *Indianized States.*

15   See fn. 13, 33, 69.

16   Marchal, Monuments Secondaires, 26.

17   Gaucher, L'Archéologie Urbaine, 43. His hypotheses likely come from the establishment of the city, and do not come from any published AMS radiocarbon or other dates.

18   Groslier, *Angkor and Cambodia*, 18; Pou, Inscriptions modernes d'Angkor, 99-126. Thirty-eight translations of post-Angkorian inscriptions were published by Pou between 1970-1976. Almost all of these inscriptions were found within Angkor Wat.

A transformation based on place

»Foundational« acts of place-making in the Khmer Empire, defined by Swenson as »the complex process by which built environments were constructed, maintained, perceived, lived, and imagined«,[19] traditionally consisted of an inscription etched onto a stele or temple doorjamb. Alongside votive evocations and religious texts, these detailed various royal lineages or events which occurred during the lives of the respective Khmer kings who commissioned them.[20] The approximately 1300[21] inscriptions thus far identified have, as noted, customarily served as the main source of historical interpretation for the lion's share of medieval Southeast Asian scholarship, and illustrate the role of religious architecture as validations of the kingship of rulers and »cosmic renewal« of the land over which they ruled.[22] Stark notes that the planning, construction, and worship of architectural and spatial places of worship on an imperial scale during the Khmer Śaivaite/Vaishnavaite and Mahāyāna Buddhist »periods« were all factors of this renewal,[23] creating social power radiating outwards from a place of perceived ritual significance.[24] It is thought as well that Khmer rites of cosmic renewal were localized,[25] drawing more from the performance of traditional rites than any specific Brahmano-Buddhist textual tradition to secure power over local elites.[26]

The material result of these repeated ritual performances between the 9th and 13th centuries[27] at Angkor is upwards of twenty temple-landscapes, each thought to have formed the focal points of several meticulously-planned urban/ritual landscapes in the same immediate region.[28] Constructed as monuments central to the propagation of an elite-patronized religion, Śaivaite temple-mountains and later Mahāyāna Buddhist temple-plains[29] formed the literal focal point of both the mortal and divine universes; heaven (the five peaks of Mount Meru), earth (the mortal realm), and water (the Universal Ocean) were represented in different constructed mediums.[30] Similar examples of this degree of urban planning in connection with ritual elements exist within Mesoamerican temple-cities structured surrounding sacred pyramid-temple and astrological centers[31] and Dynastic Chinese notions of *feng shui*[32] found in the construction of cityscapes and palace-complexes to embody the perfect harmonization of the built environment with the universe.

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19   Swenson, Timing is everything, 210.

20   Pottier, Yasovarman's Buddhist Āśrama, 201.

21   Goodall and Wareham, Gifts of power, 174.

22   Mabbett, Devarāja, 204; Wales, *The Universe Around Them*, 111; Marston and Guthrie, *History*, 44;

23   Stark, Southeast Asian urbanism, 75.

24   Brown, *Dvaravati Wheels of the Law*, 3-10; Marston and Guthrie, *History,* 91-93.

25   Ang, Place of animism, 35-36.

26   See Geertz, *Negara*, 1-312; Ang, Place of animism.

27   Ak Yum (7th century) is thought to be the oldest temple mountain in the Angkor region.

28   Wales, *The Universe Around Them*, 121.

29   Mabbett, Devarāja, 203.

30   Dagens, Cosmogonie et architecture, 1-3.

31   See Coe, Social Typology, 65-85 for an older but innovative comparison.

32   See Meyer, »Feng-Shui« of the Chinese city, 138-155.

In these cases, any activity beyond the original intended purpose of a religious monument, urban area, or landscape remain unclear unless explicitly noted. Thus, the recycling of spiritual places and continuous place-making as an alternative yet equally validating form of »cosmic renewal« is poorly researched archaeologically. This comes despite the visible conversion of numerous Khmer religious complexes, the evidence of which rests in the somewhat problematic seriation of Buddhist images and statues featuring identical *mudra* and carving-styles; these have typically been ascribed to the Theravāda tradition in Cambodia through cross-cultural art-historical comparisons with contemporary polities in northern and central Thailand such as Ayutthaya and Sukhothai.[33] As a result, it proves difficult for scholars to determine how the perception of material remains reflecting a specific religious affiliation may have changed either quickly or over time;[34] quoting Van Dyke, »archaeological landscapes are palimpsests – earlier sites and places are avoided, appropriated, reinterpreted, and reconfigured over time« and their products »… followed through life histories that extend from production through multiple reuse and discard«.[35] With that in mind, questions emerge: why were some sites converted and others abandoned? Was this a religious or secular decision, and solely based on patterns of urban settlement? How did an augmented temple or shrine embody a new understanding of universe and polity? How did local or imperial factions influence these monumental conversions? And, more importantly in the case of Angkor Thom, how did a collective understanding of a monument's prior ritual significance factor into any new role it was given by its congregated population?

The repurposing of Khmer Brahmanic and Mahāyāna Buddhist urban infrastructure for Theravāda use in the late Angkorian (*c.* 14th-15th centuries) and post-Angkorian periods raise all these questions. Arguably nowhere else in Southeast Asia did a single geopolitical entity undertake such a drastic shift of the overall cosmic worldview while incorporating such a vast infrastructure of surviving religious monuments from prior affiliations.[36] In addition, the overall structural repurposing of Angkor Thom for Theravāda Buddhist worship, rather than the traditional foundation of a new politico-religious urban center within Angkor, represents a fundamental change in previously established traditions of Khmer urban planning. Angkor Thom was itself constructed in an act of cosmic renewal by Jayavarman VII, and while the capital absorbed numerous Śaivaite temples into its urban layout, Angkor Thom itself was a new creation.

Inclusion of the adoption of Theravāda Buddhism into a narrative of state decline,[37] especially considering that Angkor was indeed abandoned by its Khmer rulers for a series of successive capitals outside of Phnom Penh in the mid-15th century after a century of domination by the Thais of Ayutthaya, often lessens any nuanced or even positive observation of

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33   See Marchal, Notes sur la forme, 588-589; Giteau, *Iconographie du Cambodge*, 1-381; Polkinghorne *et al.*, Evidence, 107.

34   See Shiner, Sacred space, profane space; Assmann, *Religion and Cultural Memory.*

35   Van Dyke, Imagine pasts imagined, 239.

36   Thompson, Buddhist Cosmopolis, 203-205.

37   Garnier, *Ayutthaya,* 42.

the infrastructural, architectural, or spatial innovations attributed to this period of Theravā-da practice at Angkor. It is therefore necessary to rethink these material conversions beyond the reductive narrative of »an absence of new temples«. Instead, Theravāda activity at Angkor is best respected as its own era of continuous construction and restoration within the same ritual landscape, transcending specific religious affiliation but embodying local traditions associated with the same. Angkor was »Angkor« as much as *Yaçodharapura*, *Hariharilaya*, or *Indrapaṭṭha* at various points in time. These politico-religious centers were interpreted through epigraphy, but »Angkor« itself was a timeless place of significance and social memory[38] for populations within Cambodia and Southeast Asia overall.[39] Thus, many of the material remains found within Theravāda-Period Angkor embody a localized »Angkorian« tradition of construction that does not necessarily correlate with the literal translation of any inscription or Sanskrit/Pali text. This suggests a uniqueness to the ritual agency of structures and landscapes within Angkor, indeed communicated through construction, that is not easily comparable to other regional contexts or Buddhist traditions of monastic establishment. The distinctiveness found in the transformation of Angkor Thom will be illustrated below.

Reading the Angkor Thom »Grid«

Angkor Thom was both the longest-serving and terminal politico-religious center built in the Angkor region. Founded as *Indrapaṭṭha*[40], Angkor Thom was commissioned by Jayavarman VII during the late 12th century and was noted by Zhou Daguan as continuing to serve as the principal political center of the Khmer Empire as of 1296 CE. Fifteenth century Thai chronicles also suggest *Indrapaṭṭha* (Phra Nakhon) as the walled »city« sacked at various points by Ayutthayan armies during the mid-late 14th century, which was then definitively defeated at some point surrounding the year 1431.[41]

Much like other Khmer politico-religious centers, this 3x3km urban area embodied the Indic universe with physical manifestations of the divine and mortal realms. In that same vein, Angkor Thom physically represented the Churning of the Ocean of Milk, an episode of kingship validation from Brahmano-Buddhist mythology. The moat surrounding the capital represented the World Ocean, while each causeway into the city was constructed with a row of carved *devas* and *asura* demons. Each row of figures held an enormous *naga*, the churning mechanism. At the center of the city stood the Bayon Temple[42], an architectural pantheon of Brahmano-Buddhist deities that was constructed to embody both Mount Meru, home of Lord Indra, and Mount Mandara, the churning post.[43] The date of the consecration of the Bayon is unknown, as a dedication inscription has never been recovered, but the 216 face-towers which rise from all three enclosures of the temple give stylistic evidence for the foundation of the temple to have occurred during the reign of Jayavarman VII (r. 1181-1220 CE).[44]

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38   Swenson, Interpreting the political landscape, 472.

39   Aasen, *Architecture of Siam*, 61.

40   Jacques, *Khmer Empire*, 296.

41   Vickery, 2k/125 fragment, 55-56; Vickery, Cambodia and its neighbors, 3; Polkinghorne *et al.*, Evidence, 116-117. A discussion on the *Luang Prasoet (LP)* Ayutthayan chronicles and recent unpublished inscriptions can be found in Polkinghorne *et al.*, Evidence, fn. 93, 96.

42   See Appendix for image and floorplan of the Bayon.

43   Williams, Churning of the Ocean of Milk, 151; See also Mus, Sourire d'Angkor, 363-381.

44   Clark, The Bayon, 178.

The construction of the capital also transformed the emplacement and interrelationship of ritual and vernacular structures. However, since almost all non-religious or non-imperial buildings were built of perishable wooden architecture, the reorganization of space is poorly understood.[45] Mapped both by Gaucher[46] and through more recent LiDAR investigations,[47] what remains is a grid-plan of roads. This urban road network was assumedly laid down during the reign of Jayavarman VII,[48] and the canal/moat system flowing northwest to southeast from the Siem Reap River through the capital are also thought to have been installed during this time.[49]

The grid-plan of Angkor Thom is dominated by five arterial roads. Crossing under each *gopura*[50], these formed the main thoroughfares entering and exiting the capital. Four of these roads were perfectly cardinally aligned, radiating outward from the Bayon, and divided Angkor Thom into four subcardinal quadrants; these have often defined a monument's location within the capital.[51] The fifth, the Victory Gate Road, terminated at the Jayavarman VII-era Terrace of the Elephants fronting the 10th-century Royal Palace. As earlier scholars correctly hypothesized,[52] LiDAR and GIS analysis has proved that this road likely predated Jayavarman VII, as the eastern terminus of the Victory Gate Road appears to have been the shore of the late-9th-century East Baray marked by a large cruciform building similar in structure to a contemporary *mandapa* found fronting numerous temples such as Angkor Wat.[53]

As a result of the heavily favored eastern alignment of Śaivaite and Mahāyāna Buddhist structural layouts,[54] almost every ritual feature within Angkor Thom faces east. The grid system appears to also embody this preference, with nearly twice the number of east-west (latitudinal) running roads than those laid on a north-south (longitudinal) alignment. This created rectangular city blocks inside a near-perfectly square city, varying in size,[55] and as a result many smaller religious monuments are flanked on both sides by latitudinal roads without a single longitudinal road in proximity.

Previous ground surveys[56] have shown that the smaller non-arterial roads which cut through the majority of these city blocks measure a maximum of 3km long and 18m wide, and are visible as long, slightly depressed ditches across the otherwise flat landscape.[57] Thus, structures built in direct association with these roads appear to be raised, and in several cases, laterite staircases were sometimes constructed to reconcile the gentle slope between the road

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45 Thompson, Buddhist Cosmopolis, 200.

46 Gaucher, Une utopie réalisée, 64.

47 Evans *et al.,* LiDAR, 1-6.

48 Gaucher, L'Archéologie Urbaine, 41-42.

49 See Groslier, La cité hydraulique angkorienne, 161-202; Fletcher *et al.*, Water management network, 658-670.

50 Gate.

51 Gaucher, L'Archéologie Urbaine, 43.

52 Cœdès, *Indianized States*, 174-176; See Dumarçay and Royère, *Cambodian Architecture*.

53 See Hendrickson, Historic routes to Angkor, 480-496; EFEO, JF 07, 158-166.

54 Gaucher, The city of Angkor, 48-49.

55 City blocks range in size from approximately 145x80m to 285x365m (measured using ArcGIS).

56 Gaucher, Archaeology and town planning, 2.

57 Gaucher, Une utopie réalisée, 67-68.

and the monuments in question. A visible example of this placement survives at Western Prasat Top Temple (*Fig. 1.0*), where burnt *sindora* wood excavated to the southwest of the temple's »Buddhist terrace« returned AMS radiocarbon dates between 1270 and 1360 CE; NARA has interpreted this range as the upper limit range of the initial Theravāda Buddhist renovation of the temple.[58]

Fig. 1.0: Remains of laterite staircase to and from Western Prasat Top Temple and Buddhist terrace facing a cleared »local« road.

This grid system both incorporated older monuments and spatially prescribed the erection of newer constructions. For example, the Baphuon temple, an early-11th-century Śaivaite temple-mountain located just north of the Bayon, formed the terminus of a non-arterial (secondary or local) latitudinal road running through the Northwest Quadrant of the capital; as a result, this particular road is not equidistant between the East *Gopura* and Victory Gate Roads, located 62m closer to the latter. In contrast, the small 1295 CE-founded Śaivaite Mangalartha temple, the final temple with a dedication inscription, was built in direct association with the same latitudinal road some 50m to the south. Thus the main difference between these two temples within the Angkor Thom grid system, aside from their size and varied time periods of construction, was the way in which each monument »interacted« with the urban landscape: the grid system was built to integrate the Baphuon, while the Mangalartha appears to have been constructed in relation to the surrounding roads. Spatial analysis, in this case, can be used as a form of relative dating to determine monuments constructed before and after the implementation of the Angkor Thom road-grid.

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58   NARA, *Western Prasat Top*, 192-193.

»Buddhist Terraces«: Architectural Layout and Ritual Diacritics

It is indeed possible that this grid-plan of local and arterial roads remained in use up until Angkor Thom's definitive abandonment. The most notable evidence for this comes not from excavations along the grid,[59] but through the analysis of the stone and laterite substructures of over seventy substantial Theravāda monastic buildings (*Figs. 2.1-2.4*). A handful of these constructions were first mapped and cleared by Lunet de Lajonquière (1911),[60] and more than sixty others were identified by Marchal (1918),[61] Parmentier (1930),[62] Trouvé (1935),[63] Pottier (1999),[64] and Gaucher (2004)[65] during the 20th century. Marchal, the only scholar thus far to have focused a publication on these remains, grouped them under the all-encompassing structural category of *terrasses bouddhiques* – »Buddhist Terraces«.[66] Since this 1918 publication, Buddhist terraces have been incorporated as evidence of larger arguments exploring Theravāda activity at Angkor, but have thus far not been extensively researched nor has the term itself been properly deconstructed.[67] This inattention appears due to a lack of epigraphic evidence, and Buddhist terraces were commonly relegated to the status of »secondary monuments«[68]. Furthermore, the only Buddhist terraces that have been studied in any detail are those identified within Angkor Thom; a small number exist in the vicinity of other temples at Angkor but are not analyzed in any publication beyond their relative cartographic positions.[69]

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59 These were undertaken from 1992-2004. See Gaucher, Une utopie réalisée, 67-69.

60 Lajonquière, *Carte du Groupe d'Angkor.*

61 Marchal, Monuments Secondaires, 37.

62 Parmentier, *Carte du Groupe et du Parc d'Angkor.*

63 Trouvé, *Angkor: Le Groupe.*

64 Pottier, *Carte Archéologique.*

65 Gaucher, *Schema Directeur.*

66 Marchal, Monuments Secondaires, 1-40.

67 See Giteau, *Bornage Rituel*, 44; De Bernon, About Khmer monasteries, 203; Thompson, Buddhist Cosmopolis, 12; Harris, *Cambodian Buddhism,* 36-67.

68 Marchal, Monuments Secondaires, 1-2.

69 World Monuments Fund, *Preah Khan Conservation Project*, 30-31; Polkinghorne *et al.,* Evidence, 118.

Fig 2.1 (3): Terrace adjacent to Preah Pithu Temple X (Ta Tuot) (ATV016), Terrace J (ATV043), and Terrace Q (ATV037), Angkor Thom: three Buddhist terraces in varied states of clearance/preservation.
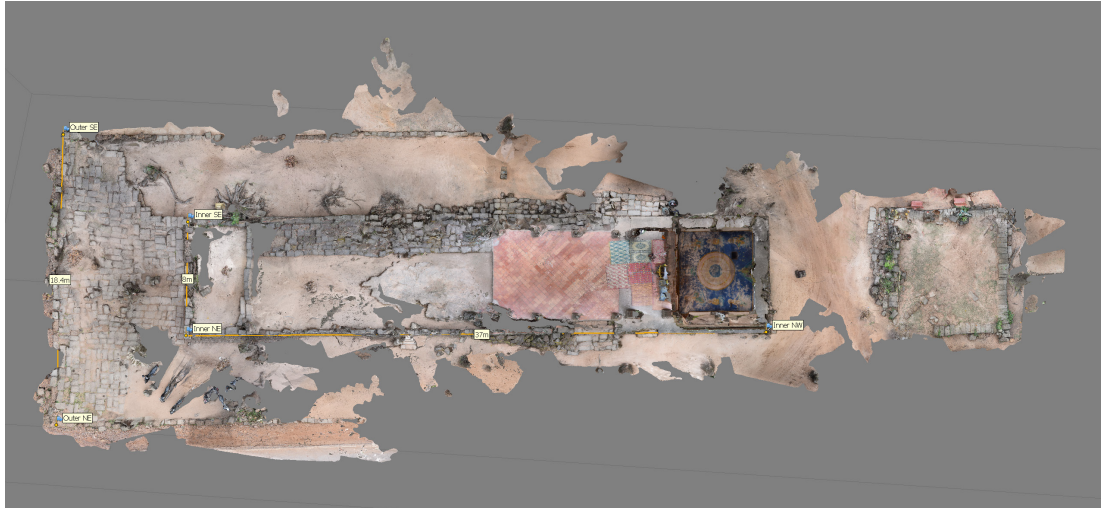
Fig 2.2.: Scaled photogrammetric floorplan with measurements of Terrasse Bouddhique III/Prah Eintep (ATV003), Angkor Thom. Note: the seated Buddha is covered by the roof of a modern pagoda.

Temples affiliated with both Theravāda and Mahāyāna practice, for example the Rajen-dravarman-era (944-968 CE) sanctuary of Bat Chum (K.266),[70] were constructed at Angkor alongside Śaivaite temples as early as the 10th century. Furthermore, a Buddhist *āśrama* was built under Yasovarman I (r. 889-910 CE) in proximity to his state temple at Pre Rup.[71] As stated, Zhou Daguan provides the first account of an active *sangha*[72] at Angkor in 1296 CE,[73] noting »for their temples ... there is just one icon, an exact likeness of the Sakyamuni Buddha ... it is clothed in red, sculpted from clay, and painted in many colors«,[74] a likely ref-erence to the large sandstone statues which form the ritual focal points of many Buddhist terraces identified in this study. Zhou also mentions a royal procession he witnessed, during which »the King« visited »a little golden pagoda in front of which stood a golden statue of the Buddha«.[75] While Zhou Daguan describes saffron-robed monks during this time period, he gives no real indication as to where they practiced beyond »temples«. *Vihāra* or prayer halls, are also mentioned within a handful of inscriptions from the 14th century, most notably the Pali-engraved K.754[76] dated to 1309 CE[77] which describes the dedication of one such building by Indravarman III (r. 1295-1308) prior to his abdication of the throne to pursue the life of a

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70 See Sharrock, Garuda, Vajrapani, and Change, 130.

71 See Pottier, Yasovarman's Buddhist Āśrama, 199-208; Estève and Soutif, Les Yasodhāśrama, 331-355.

72 Monastic order.

73 Zhou is often inaccurate in his identifications of religion beyond the knowledge he carries from a Chinese context. For example, he frequently notes the presence of Taoist worshippers (Haris, *Zhou Daguan*, 52-55), a tradition not endemic to Cambodia during the Angkorian period.

74 Harris, *Zhou Daguan*, 52. Also see Harris, *Cambodian Buddhism*, 67.

75 Harris, *Cambodian Buddhism*, 38.

76 Found at Wat Kok Kphos Temple, Siem Reap Province.

77 Thompson, *Memoires de Cambodge*, 46.

bhikku.[78] This inscription is one of very few; as Lusting *et al.'s* extensive tabulations have illustrated, inscriptions from the 14th century onwards are incredibly rare and thus pass down to scholars a jarringly incomplete historical record.[79]

Alongside large-scale renovations to pre-existing temples such as Angkor Wat, Western Prasat Top, the Bayon, the Baphuon[80], and Phnom Bakheng, Buddhist terraces and stupas of varying sizes are thought to be the only durable buildings constructed at Angkor during both the late- and post-Angkorian periods. As noted, these originally supported a wooden superstructure and were covered by a tall roof applied with thatch or tile.[81] Despite being markedly smaller than earlier Brahmano-Buddhist constructions, the surface area of a »Buddhist terrace« was larger in area than the central sanctuary of any temple or shrine. This larger hall was necessary to accommodate a larger congregation, which physically marked the shift to more inclusive religious practice at Angkor.[82]

The basic floorplan of a Buddhist terrace consists of an earthen mound, not dissimilar to the foundations of a temple, leveled and shaped by varying numbers of tiered retaining walls erected in sandstone or laterite. Floors were earthen, wooden, or tiled flagstones, and were often adorned with guardian statues (*seṇ*) or *naga* balustrades. The central sanctuary comprised of a large stone pedestal or collection of sandstone altars located on the easternmost edge of the highest tier, and either a large sandstone standing or seated Buddha would have been placed atop this pedestal; these sculptures today rarely exist in situ unless they were reconstructed (*Fig. 3.0*). Some Buddhist terraces are also associated with large octagonal or square stupas, either in proximity to or directly to the west of the central sanctuary following the same linear trajectory; others are surrounded by smaller stupas, the number of which suggests continuous significance and patronage of the monastery over time (*Figs. 4.1-4.2*). In some cases, a stone or laterite processional path would connect the terrace from a local or arterial road. All but three Buddhist terraces thus far identified are east-facing.

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78 Epigraphers believe this event to have begun the disassociation of kings with Gods (Wales, *The Universe Around Them*, 123); a Śaivaite monarch is thought to have ruled until he died or was deposed by a rival.

79 Lustig *et al.,* Words across space and time, 12-20.

80 A recent study by Leroy *et al.* (*First Direct Dating*) has dated the 85m *Parīnirvana* image on the western side of the Baphuon within a range of 1408-1451 CE through AMS radiocarbon, taken from charcoal fragments embedded in iron crampons used to support the relief.

81 Zhou Daguan notes that tile was reserved for elite or religious structures (Harris, *Zhou Daguan*, 49-50); roof-tiles have thus far been identified surrounding forty-one Buddhist terraces.

82 Harris, *Cambodian Buddhism*, 36.

Fig. 3.0: Photogrammetric model of a Seated Buddha in situ, Preah Palilay Buddhist Terrace (ATTS001).

Beyond these basic parameters, the architectural variation of Buddhist terraces found at Angkor Thom is noteworthy. Structures built on more vertical earthen mounds (1.9-4.2m in height) appear to have originally been Śaivaite or Mahāyāna Buddhist shrines renovated for Theravāda use, evident from the absence of pedestals in favor of square depressions resembling the interior of a *prasat*[83] (*Fig. 5.0*) or visible renovations made to the original masonry of the structure visible as an architectural »break« (*Fig. 6.0*). Those with flatter, tiered rectangular structures, meanwhile, bear a striking resemblance to the late-14th-16th-century monastic structures found in abundance at the successive Thai capitals of Sukhothai and Ayutthaya (*Fig. 7.0*); in Thailand, these were primarily constructed in baked brick and finished with plaster.[84]
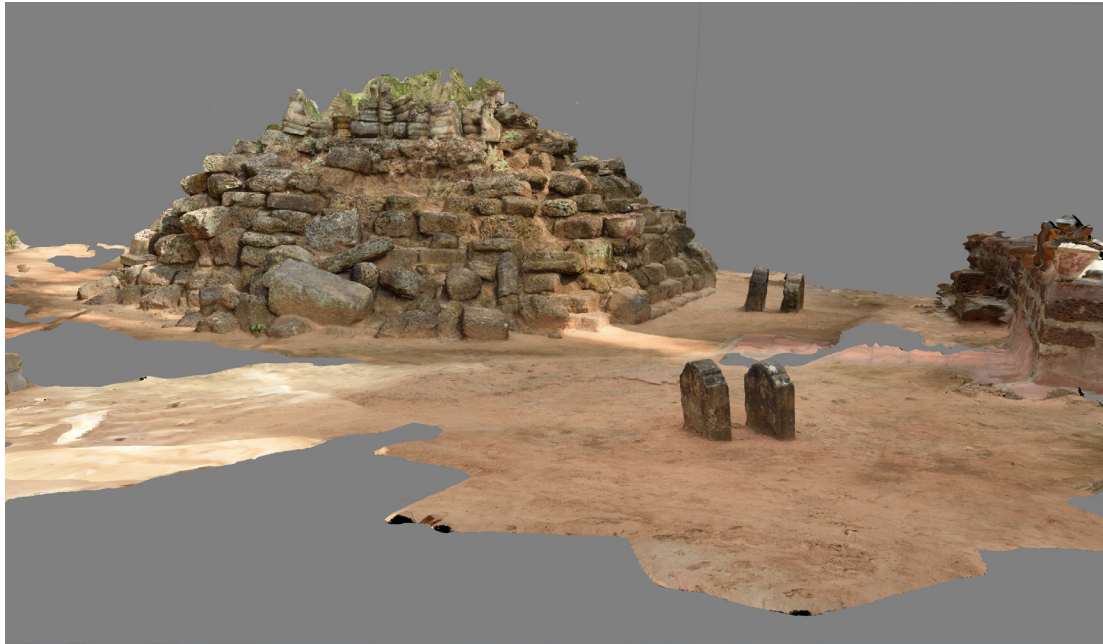
Fig. 4.1: Photogrammetric model of square-based laterite Buddhist Shrine, Terrasse Bouddhique II/Prah Kok Thlok (ATV002)

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83 Temple tower.

84 Doehring, *Buddhist Temple Building in Siam*, C-3; Marchal, Monuments Secondaires, 15; Garnier, *Ayutthaya*, 42; See Appendix for a longer discussion on architectural comparisons between Angkor and Ayutthaya.
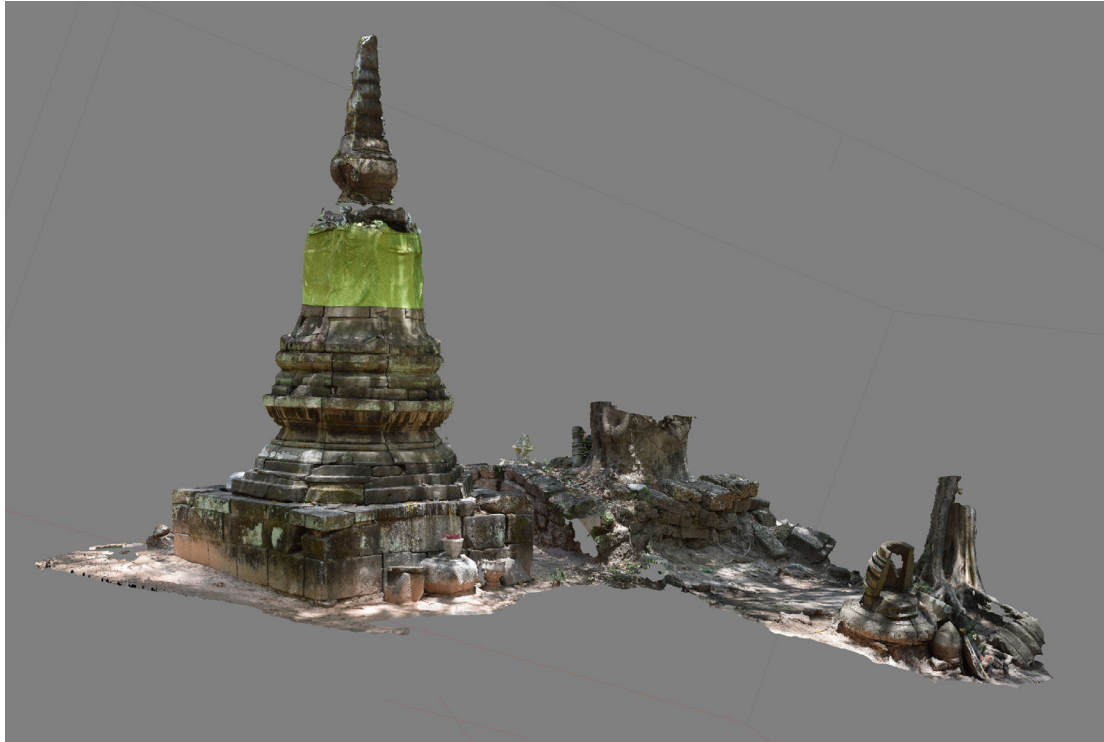
Fig. 4.2: Photogrammetric model of a stupa, Terrace S (ATV057). Reconstructed under Parmentier in 1929.

Thai influence on Angkorian Theravādin architecture and statuary[85] is to be expected during this period, considering the encroachment of Ayutthayan control towards Angkor which occurred prior to its »abandonment«.[86] The practice of Theravāda Buddhism in Cambodia is also thought to have been heavily influenced by Thai traditions, despite gathered evidence to suggest that religious connections were forged between Cambodia and Theravāda polities in Sri Lanka.[87] As a result, indirect or direct Sukothai or Ayutthayan influence on Angkor, possibly even because of direct occupation,[88] is thought to have occurred in the later years of the Khmer Empire.

85   See Giteau, *Iconographie du Cambodge*, 142.

86   Briggs, Ancient Khmer Empire, 244; Vickery, Cambodia and its neighbors, 1-71; Garnier, *Ayutthaya*, 42; Rooney, *Ancient Sukhothai*, 217.

87   Goonatilake, Sri Lanka-Cambodia relations, 196-201. The son of Jayavarman VII, Tamalinda, journeyed to Sri Lanka with a party of Burmese monks to receive blessing and ordination at the Mahavihara (possibly in Anuradhapura) in 1180 CE.

88   See Polkinghorne *et al*., One Buddha can hide another, 575-624; Polkinghorne *et al.,* Evidence, 99-113.

Fig. 5.0: Base of a prasat depression marking the central sanctuary of a possible converted temple (ATV033), SW Quadrant, Angkor Thom. Scale = 1m.
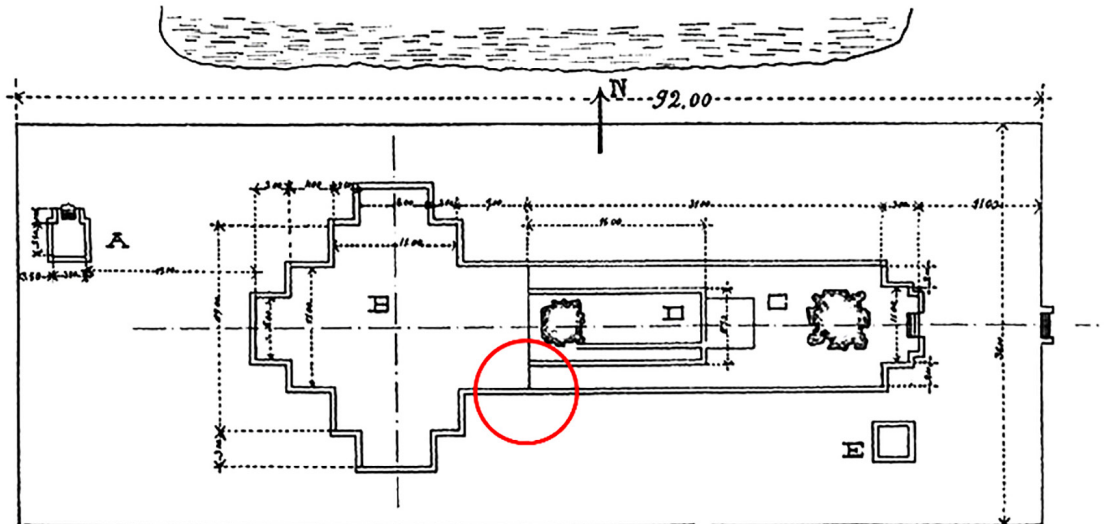
Fig. 6.0 (2): Architectural »break« between vihāra and original building, Terrasse Bouddhique No. 4 (ATV009). Shown referenced on original drawing of Buddhist terrace by Henri Marchal (Monuments Secondaires, Pl. X)

The most ritually significant aspect of Buddhist terraces is the presence of *sīmā*, a series of blessed buried stone orbs or votive deposits[89] demarcating the cardinal and subcardinal points of the majority of Theravāda monastic structures at Angkor Thom. Above ground, the placement of *sīmā* are denoted by carved 8x2 tombstone-shaped boundary markers (*sīmā* stones);[90] these remain in situ or are overturned in close proximity to their original positions (*Fig. 8.1-8.2*). According to the *Mahāvagga* in the *Vinaya Piṭaka* of the Theravāda canon,[91] *sīmā* delineate a place where novice monks can be ordained into the *sangha*. While this Pali text declares that any number of blessed objects can be used to demarcate ordination space,[92] the tradition of erecting boundary stones is thought to have originated in Mon monasteries of the Dvaravati Culture of northern Thailand during the 8th century.[93] The use of *sīmā* is believed to have then been adopted in Sukhothai as early as the 12th century,[94] and was later imported to Cambodia,[95] though the specifics of this cultural transmission are unclear. That said, while *sīmā* vary little from monastery to monastery at the Thai capitals, thirteen distinct artistic styles and shapes of *sīmā* have thus far been identified within Angkor Thom alone, suggesting a degree of individualization of craftsmanship from monastery to monastery.

89 Marchal, Monuments Secondaires, 9.

90 Giteau, *Bornage Rituel*, 108.

91 Murphy, *The Buddhist Boundary Markers*, 88.

92 De Bernon, About Khmer monasteries, 208-211; Murphy, *The Buddhist Boundary Markers*, 88.

93 Murphy, *The Buddhist Boundary Markers,* 77.

94 Murphy, *The Buddhist Boundary Markers*, 201.

95 Jessup, *Temples of Cambodia*, 236.

Fig. 7.0 (2): Side-by-side architectural comparison of image house from Wat Phra Si Sanphet (1), Ayutthaya, and Prah Ngok Buddhist Terrace (ATV001) (2), Angkor Thom.

Oddly, no *sīmā* stones are mentioned within 14th-century inscriptions attributed to early Theravāda patronage in Cambodia, nor are they mentioned in Zhou's account, suggesting that the placement of boundary stones was introduced to Angkor no earlier than the mid-late 14th century, which potentially gives credit to the more dominant city-state of Ayutthaya for the introduction of *sīmā* to Cambodia.[96] NARA, too, dates the placement of the *sīmā* at Western Prasat Top to the 16th century, although it is unclear how they come to this conclusion beyond their studies of block placement through anastylosis.[97] In some instances, especially in more inaccessible areas of Angkor Thom, *sīmā* surround areas containing only fragmented statuary and altars (*Fig. 9.0*).[98]

Fig. 8.1: Pair of sīmā boundary stones in situ, Terrasse Bouddhique No. 3 (ATV007). Scale = 1m.
Fig. 8.2: Sīmā boundary stone uprooted with visible base, Monument 26 (ATV052). Scale = 0.2m.

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96   See Cœdès, *Indianized States*, 236; Vickery, 2k/125 fragment, 54-56

97   See NARA, *Western Prasat Top*, 119.

98   Giteau, *Bornage Rituel*.

Fig. 9.0: Altar scree demarcated by sīmā, Terrace R (ATV049). Scale = 1m.

Thompson classifies Buddhist terraces and other monastic structures, which she categorizes solely as a post-Angkorian architectural feature, as a ritual hybrid of the traditionally separate *vihāra* (prayer hall) and *uposathāgāra* (ordination hall)[99]. Thompson cites K.82, an inscribed stele from the 12th-century Mahāyāna Buddhist temple of Wat Nokor, Kampong Cham Province, written in both Pali and Khmer, which clearly states that *sīmā* were placed surrounding a *vihāra* during its conversion to a Theravādin sanctuary in 1566 CE.[100] Thompson also argues that the term *uposathāgāra* is not found in any epigraphic sources from the Angkorian or post-Angkorian periods.[101] The placement of *sīmā* surrounding this structure therefore permitted both ordination and prayer to take place in a single building, which no doubt established *sīmā*-delineated Buddhist terraces as the most significant structures constructed within Theravāda Angkor for daily ritual.[102] In fact, Buddhist terraces might be best classified as a specific type of Theravāda architecture resembling Ayutthayan prayer halls, while the term praḥ vihar might better reference Theravāda spaces in a Khmer context surrounded by boundary stones irrespective of structural form.[103]

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99 Also known as *ubosot* (Thai) or *bot* (later Cambodian).

100 Thompson, *Memoires du Cambodge*, 402-403.

101 Thompson, *Memoires du Cambodge*, 46.

102 Converted temples such as Angkor Wat were no doubt held in higher regard, and may have been significant enough to bypass the need for *sīmā* to conduct rituals. No Theravāda boundary markers have been unearthed directly surrounding Angkor Wat, the Bayon, the Baphuon, or any other converted temple except for Western Prasat Top.

103 The Khmer term *prah vihar* refers to both Hindu/Mahayana and Theravāda sanctuaries and is today used to reference many unidentified or unnamed ancient sacred places in modern Cambodia. The term *wīhan* is used in the Thai context, as a translation of the more pan-regional term *vihāra*.

Worship directed towards a single monastic structure with multifunctional ritual agencies, atypical to Theravāda worship elsewhere in Southeast Asia, could indeed be directly inspired by the »focal point« position of religious areas within prior Khmer religious practices of Śaivism and Mahāyāna Buddhism. Almost always confined to a single structure, Buddhist terraces appear as no more than an evolution of the traditional prasat space to suit the tenets of a new religious tradition. While clusters of monastic structures do exist,[104] there are very few areas which embody the layout of a Sinhalese or Thai complex with a single *sīmā*-demarcated structure for ordination. Thus, Buddhist terraces reflect the reality that culture is arguably the heaviest influence on religion regardless of instruction given by any traditional text or *sangha* lineage.

Infrastructural Interaction: Old Roads, New Monasteries

Two seasons of extensive site investigation were undertaken at Angkor Thom from February-May 2017 and February-April 2018. Data was initially collected through the layering of 20th-century French hand-drawn maps, GIS data, satellite imagery, and aerial LiDAR data acquired from Phase I (2010-2011) of the Greater Angkor Project.[105] Points of interest were plotted using ArcGIS and uploaded onto a Garmin Montana 6800, and structures/areas which were identified as Buddhist terraces/*praḥ vihar* through ground-truthing were catalogued, measured, and photographed (*Map 1*).

Fifty-nine Buddhist Terraces were catalogued within the walls of the Khmer capital during the time this study was undertaken.[106] As discussed above, this designation denotes *sīmā* stones in situ, rather than those salvaged from other monastic structures and placed in the central sanctuary as votive deposits.[107] Alongside these, classified under the label ATV (Angkor Thom *Vihār/Vihāra*), twelve Buddhist terrace-type structures without *sīmā* stones were also noted under the heading ATTS (Angkor Thom Terrace Structure)[108]. This created a sample size of seventy-one monastic buildings within a 9km² area from which to extrapolate data.[109]

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104 See Appendix Section 2 for a discussion on multi-structured monasteries and structural and spatial connections to Ayutthaya.
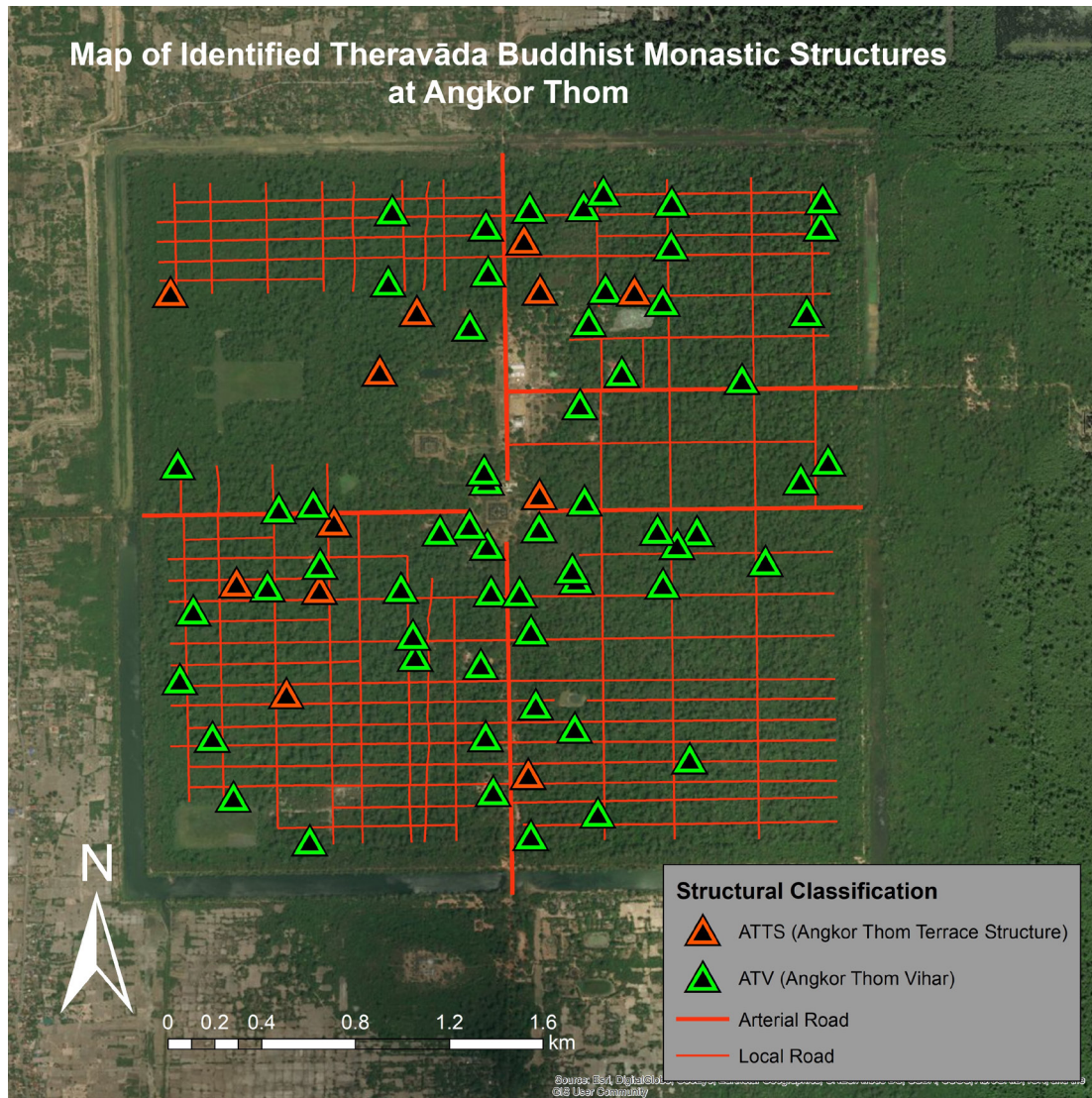
105 Evans *et al.*, LiDAR, 2.

106 Many of these structures were identified on maps of Angkor Thom by Trouvé (*Angkor: Le Groupe*) and by Gaucher (*Schema Directeur*) but were never specifically marked as Buddhist terraces. Gaucher's map notes many now-catalogued Buddhist terraces as »vestiges maçonnée identifié«, »zone de vestige identifiée«, and »zone de vestige étendue non-identifiée/zone de vestige ponctuelle non-identifiée«; no attempts at further classification were undertaken. However, in publication, Gaucher briefly glosses over his drawing of a *sanctuaire Bouddhique* (Terrace H(ATV012)) (Une utopie réalisée, 72-73), but does little more than present this as an element of his fieldwork.

107 Giteau, *Bornage Rituel*, 7-8

108 ATTS classifications do not suggest these structures never were surrounded by *sīmā*; rather, they are no longer in situ. It is assumed that the *sīmā* were either removed from their cardinal and subcardinal places of consecration at an unknown point or the construction of ATTS-classified structures predates the tradition of *sīmā* used to demarcate Theravāda places of worship in Cambodia. More excavation work and absolute dating must be undertaken at sites without *sīmā* to determine a possible structural chronology based on boundary stone placement.

109 The original classification of monuments was undertaken through a series of mapping projects (see fn. 60-65) between 1900-1957, but the numerical system appears individualized by the cartographer *(See Table 1)*.

Map 1: Location of Theravāda Buddhist monastic structures catalogued within Angkor Thom in relation to the ancient road-grid. Grid-plan mapping attributed to Gaucher (Schema Directeur) and Evans et al. (LiDAR, 2).

In conjunction with the analysis of LiDAR, the spatial and structural data observed and documented during this study aided in proving that the Jayavarman VII-era road grid had a direct impact on the placement and construction of Buddhist terraces at Angkor Thom. Thus, the urban infrastructure of Angkor Thom likely remained intact following the »abandonment« of the Khmer elite class in the mid-15th century. All fifty-nine *sīmā*-demarcated Buddhist terraces and twelve non-delineated structures identified at Angkor Thom are constructed within 100m of any road, though non-arterial roads were favored for construction by monastic communities; thirty-two *vihāra* were built more than 100m away from the city's five main arteries. This distribution suggests that monasteries were more likely built to serve small local congregations, a practice that departed notably from the more centralized yet exclusive elite worship embodied by earlier Khmer Śaivaite traditions[110].

Roads no doubt had a significant influence on the placement and construction of monastic structures, given that roads also influenced the construction of secular buildings and domestic dwellings. Buddhist terraces associated with a road running in any direction, even adjacent to the western side closest to the central sanctuary, were almost always found to feature raised landscaping in the form of a »tract«[111] or »ramp« leading directly from the road to the monastery. Bridges are also hypothesized to have been used to connect Buddhist terraces to arterial roads over the dykes which lined them; these may have continued to supply water into the capital after the 15th century,[112] which, in rare cases, are marked with the remains of guardian statues which stood at the terminus of the bridge; these have, over time, tumbled into the extant canal dykes. Modern examples of these bridges can be found south of Angkor in the modern town of Siem Reap, for example at the converted 10th-century temple of Preah Einkosei, where a (formerly) wooden bridge flanked by guardian statues leads across the Siem Reap River to the monastery.

The North-South Gopura Road Zig-Zag

Arterial roads are believed to have continuously formed the major thoroughfares within the capital during the post-Angkorian period despite their terminuses being less clear than earlier epochs. Evidence for this comes from the seemingly largest concentration of Theravāda monastic structures identified anywhere at Angkor Thom built along the South *Gopura* Road. The nine substructures located here, combined with the four monasteries built following the North *Gopura* Road, the complex of Tep Pranam, and six identified Buddhist terrace structures surrounding the Bayon, together form a continuous uninterrupted line of twenty purpose-built monastic structures spanning 3 km from North to South *Gopura*. No structure

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110 Harris, *Cambodian Buddhism*, 36; Woodward, Practice and belief, 250. The argument of »inclusivity« vs. »exclusivity« defined by religious transition is primarily predicated on the expansion of central sanctuary spaces in relation to *prasat*, the rapid production of these spaces in non-centralized areas, and the abdication of Indravarman III rather than his death on the throne as noted in K.754 as a stark contrast to the apotheosis of previous kings. It should be noted that this argument is less predicated on physical evidence and instead on deductive assumptions based on the above in lieu of actual inscriptions, but the sudden change in ritual architecture is no doubt noteworthy and also appears to embody a more inclusive tradition. More work is thus necessary to properly assess social hierarchies vis-à-vis religious practice during the late- and post-Angkorian periods.

111 Marchal, Monuments Secondaires, 24.

112 Fletcher *et al.*, Development of the Water Management System, 65.

is located further than 110m from either arterial road, and no terrace is constructed further than 300m from the next. Furthermore, there is evidence that these monasteries were staggered, allowing for only one monastic structure to be constructed between each pair of latitudinal running local roads intersecting each arterial road (*See Map 2*). No supporting buildings except for brick-inlaid occupation mounds and stupas were found alongside any structure south of the Bayon nor north of Tep Pranam, creating a series of single-structure »focal point« monasteries. These structures may have been more spatially affiliated with others in the layout than any since-disappeared wooden supporting structures, and may have also reflected patterns of dense settlement along arterial routes during this period of Angkor Thom's history. This fascinating spatial phenomenon was designated the North-South *Gopura* Road Zig-Zag.

It is important to note that only thirteen of these structures can be readily associated with any »zig-zag« based on layout alone, and even then without excavation or accurate radiocarbon dates this hypothesis is heavily reliant on spatial association. Tep Pranam for example, undated but originally housing a 9th-century stele imported from a Buddhist *āśrama* dedicated by Yasovarman I (r. 889-910 CE),[113] formed the focal point of its own walled monastic complex, and, similar to others such as Western Prasat Top Temple, featured a »break« between the original Brahmano-Buddhist building and the rectangular *vihāra* renovation. Tep Pranam is therefore really only associated with this zig-zag by extension, being located along the North *Gopura* Road, and does not warrant further discussion. The large *sīmā*-demarcated *vihāra* surrounding the Bayon, too, are most likely associated with this temple and only spatially with a more complex longitudinal alignment of structures; that said, the Bayon undoubtedly played a role in the establishment of the southern portion of this route as a ritually-significant monument.

What is odd about these remaining structures is their relative ordinariness compared to other Buddhist terraces/*praḥ vihar* and monastic »focal point« structures within the capital. In terms of base tier structural area, of which the average of all ATV and ATTS structures at Angkor Thom was measured to be 583.91m², the cumulative average of these thirteen monuments along the zig-zag was almost 90m² less at 495.64m² (*Table 1*).[114] Two converted temples feature in this layout on the Southern Zig-Zag, and three Ayutthayan-style tiered structures and one funerary structure were identified, but the majority of these structures are currently too dilapidated[115] to determine the original layout or to complete a definitive structural typology. Only one features the remains of a monumental Buddha in proximity to its pedestal. This structural variation is of course significant, and suggests both the tenacity of populations to build religious structures along well-traveled urban roads and a gradual structural morphology which, with further research, may someday successfully be chronologized.

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113 Pottier, Yasovarman's Buddhist Āśrama, 200.

114 Measurements recorded in the table were taken of the base tier of each structure. In cases where no masonry could easily be identified, measurements were taken between the four cardinal sīmā.

115 Or have been restored as modern monasteries – *see Table 1*.

Map 2: Map of the North-South Gopura Road Zig-Zag spatial pattern (center), mapped in 2017.

ORIGINAL MAPPED NAME	CLASSIFICATION # FOR THIS STUDY	NOTES	NORTH OR SOUTH ZIG-ZAG?	AREA (m²)
Terrasse IV	ATV004	Modern restoration.	South	1120
Terrace D	ATV013	Ayutthaya-type layout.	North	225
Terrace B (2 of 2)*	ATV014	Faces west, Ayutthaya-type layout.	North	352
Terrace E	ATV015	Ayutthaya-type layout - poor condition.	North	140
Terrace M	ATV032	Modern restoration – measurements based on *Monuments Secondaires* (31).	South	98
Monument 68	ATV033	Converted Temple	South	420
Terrace U	ATV035	Converted Temple	South	350
Terrace V	ATV036	Funerary structure surrounded by *sīmā*.	South	748.24
Terrace Q	ATV037	Ayutthaya-type layout.	South	712.5
N/A	ATV038	East edge has been destroyed - dimensions are of extant remains.	South	505.6
Terrace B (1 of 2)	ATTS003	Only structure with extant pedestal Buddha remains.	North	210
Monument Inedit	ATTS009	Structure unclear, no *sīmā*	South	1240
N/A	ATV058	Structure unclear, dimensions approximate, length based on *sīmā* position.	South	322
			AVERAGE (m²)	495.64

* Marchal (*Monuments Secondaires*, 24-25) grouped these structures together in a single site description.

Table 1: Measurements and structural notes for monasteries mapped as part of the North-South Gopura Road zig-zag spatial alignment.

A traditional ritual importance surrounding the South *Gopura* is suggested in Zhou Daguan's writings, as he notes: »*The seventh month is the time for »rice burning«, when new rice that is ready for harvesting is ceremoniously received outside the south gate, and burned as an offering to all the Buddhas«.*[116] This indicates that such Buddhist affiliations surrounding at least the South *Gopura* may have originated as early as Jayavarman VII's Mahāyāna reforms. Thus, the ritual construction seen here, at least if undertaken during the late Angkorian period, could be intentional and in some manner patronized by local *sangha* groups; it is unclear how involved kings were in the patronage of religious structures, despite evidence for these events noted in K.754. In fact, the procession of independent monasteries finds an interesting parallel to the use of *naga* balustrades, supporting shrines, cruciform terraces, or guardian statues fronting the central sanctuary of earlier temple-mountains like Angkor Wat or Phnom Bakheng.

116 Harris, *Zhou Daguan*, 63. »All the Buddhas« may be indicative of the continued presence of Mahāyāna Buddhism at Angkor.

Using the span of an entire arterial thoroughfare from the North to the South *Gopura* to construct a uniformly spaced layout of religious buildings, the zig-zag configuration points to the continuous cosmological significance of the larger regional spatial configuration of Angkor Thom beyond site-level *sīmā* demarcation. Much like Jayavarman VII's original capital, the most prominent and significant structure most likely remained the Bayon, with two equidistant Buddhist terraces constructed 275 m south demarcating what is likely the southern ritual or spatial boundary of the former state temple. It could even be argued that this layout is undoubtedly truer to the original purpose behind the 12th-century construction of Angkor Thom and that of earlier Khmer temple-complexes: that of ritual significance, regardless of the way it was manifested.

Interpreting the Larger Theravāda Landscape of Greater Angkor

An additional eight Buddhist terraces have thus far been identified outside of Angkor Thom during this study.[117] Each of these is located within a 2.4km range of one of *Indrapaṭṭha*'s five *gopura*, and five of these are located directly or indirectly proximate to an extension of the South *Gopura* Road connecting Angkor Thom to Angkor Wat. Unlikely coincidental, a number of Buddhist terraces, both purpose-built *vihāra* and converted temples, are laid out along this road in a similar zig-zag pattern to what is found on the South *Gopura* Road. These include Baksei Chamkrong, the Yasovarman I-era state-temple of Phnom Bakheng, the Jayavarman VII-era hospital of Ta Prohm Kel, and a small shrine known as Prasat Rorng Ramong. All four of these temples appear to have been restored in a similar manner to Angkor Wat. For instance, the central sanctuary of Phnom Bakheng was converted into a colossal sculpture of a seated Buddha,[118] Baksei Chamkrong features a *parīnirvana* image inside its central shrine,[119] the eastern doorway of Ta Prohm Kel features roundels carved in a post-Angkorian style in a similar manner to Angkor Wat, and a ruined brick shrine with Theravāda statue debris is found immediately north of Prasat Rorng Ramong.

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117 The map by Trouvé notes an eighth Buddhist terrace southwest of Preah Khan on the shore of the Jayatataka Baray, but this has proved inaccessible at the time of writing.

118 Late 9th-early 10th century original construction. The seated Buddha was dismantled in 1916 by French conservators. The outline of a block *parīnirvana* on the western edge can still be seen. There is also a small bronze *buddhapāda* below the eastern side of the temple thought to mark the spot where a monastery previously existed.

119 10th-century original construction. This image is identical in style and size to one found in the *bakan* of Angkor Wat.

Two additional Buddhist terraces are found along this route, with an area of dilapidated Buddhist terraces and hilltop pedestal-structures found approximately 500m south of Angkor Wat; these small *praḥ vihar* may have been directly or indirectly affiliated with the northerly temple (*Map 3*). Within the Angkor Wat complex as well, two Buddhist terraces were identified north and south of the interior causeway.[120]

Beyond the North *Gopura* segment of the zig-zag, meanwhile, a Buddhist terrace identified in the second enclosure of the Jayavarman VII-era temple complex of Preah Khan in 1997 suggests a trend of continued northward expansion of Theravāda occupation[121]. This hypothesis is supported by the transformation of the central sanctuary of Preah Khan to incorporate a stupa of similar architectural style to those found surrounding the Bayon. Identical *sīmā* stones delineating the Preah Khan Buddhist Terrace known today as Wat Preah Khan and the more southern of the two at Angkor Wat suggest a similar date of consecration as well (*Fig. 10.0*). Future excavation work at the latter Buddhist terrace[122] will no doubt help in solidifying this theory.

120 Polkinghorne *et al.,* Evidence, 118. Polkinghorne cites Cœdès' earlier translation of the Nong fragment (translated by Cœdès, Essai de Classification, 15-28) which describes the erection of two *vihara* following the conquest of Angkor by Chao Sam Phraya in 1431-1432 CE at the request of abbots living at Angkor Wat called *Jetavana* and *Vet Noi.*

121 Important to note, however, is that other temples not located on this trajectory were also repurposed. For example, Ta Prohm features a Buddhist terrace structure with Buddhist statue remains in the Fourth Enclosure to the southeast of the road leading to the East Gate of the Third Enclosure

122 Excavations are noted to have occurred at »Wat Preah Khan« in World Monuments Fund, *Preah Khan Conservation Project*, 30-31, immediately following the identification of the structure in 1995-1997 but have never been published.
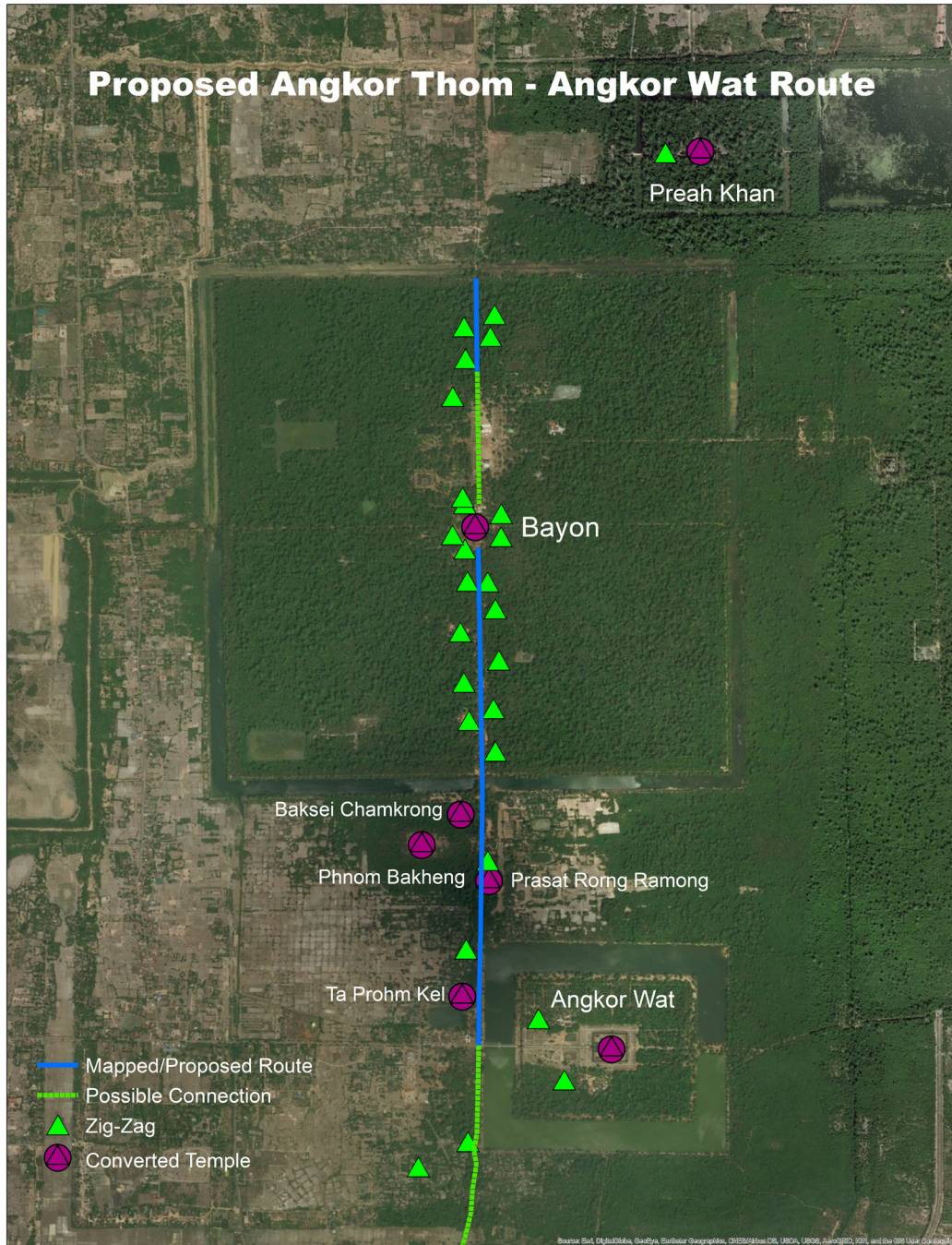
Map 3: Proposed route of converted monuments and Buddhist terraces between Angkor Wat and Angkor Thom, with possible extensions/incorporations north and south of Preah Khan Temple and monasteries mapped south of Angkor Wat.

Inscriptions from 1577 and 1586 CE (IMA 2/3)[123] commissioned by the royal successors of Ang Chan[124] in the *bakan*[125] of Angkor Wat detail its restoration and the installation of Buddhist images in the temple's formerly Vaiṣṇavaite *prasat*. This makes clear that Angkor Wat was established as the regional focal point of Theravāda ritual practice and post-Angkorian imperial worship,[126] considering that inscriptions have been found almost nowhere else in Angkor dating to this period. The temple's significance also continued into the 17th century; inscriptions from Angkor Wat dating to 1630 and 1684 rededicating *Preah Poan* (Angkor Wat's Hall of 1000 Buddhas) with votive deposits of statuary are evidence of this.[127] Elite factions thus no doubt continuously viewed Angkor as Cambodia's spiritual heartland in a manner similar to earlier Śaivaite kings[128] regardless of any political situation Cambodia faced.

Fig. 10.0 (2): Identical sīmā surrounding Buddhist terraces at Preah Khan (left) and Angkor Wat (right).

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123 Pou, Inscriptions modernes d'Angkor, 99-126.

124 The former was completed by the Queen Mother and the latter by a court dignitary (Thompson, Buddhist Cosmopolis, 204-207).

125 Central Sanctuary, specifically used to reference the uppermost tier of Angkor Wat.

126 Thompson, *Memoires de Cambodge*, 410-420.

127 Giteau, *Bornage Rituel*, 116

128 Wales, *The Universe Around Them*, 123.

However, while this oft-cited evidence has typically been given to support the argument that Angkor was never definitively abandoned, these inscriptions have rarely been utilized in order to answer questions concerning the relationship between Angkor Wat and other repurposed areas such as Angkor Thom. For example, why do exponentially more Theravāda monastic structures exist inside Angkor Thom than at Angkor Wat? Why, compared to the rest of Angkor, do Theravāda ritual places cluster along the road between both sites, and almost exclusively between both sites? Were these temples, and by extension the Buddhist terraces along this route, converted simply out of convenience and an abundance of space or was it a result of a higher ritual purpose? And, most importantly, what relationship did populations at these two sites (and those surrounding other converted temples or *vihāra* on this road) have with one another to spur this volume of monastic construction?

The continued preservation of much of the Angkor Thom road-grid, the volume of constructed Buddhist terraces, and the sheer number of converted Brahmano-Buddhist monuments are evidence that a religiously-active population within the ancient capital continuously augmented the ritual landscape in which they lived to suit the needs of contemporary worshippers, regardless of the mid-15th-century exodus of their former rulers. Because it is not clear what relationship rulers and elites had with the lay residents or *sangha/bhikkus* at Angkor Thom between the 15th and 16th centuries, no answer as to why some temples were converted and others were not can currently be given. It is thus entirely possible that the entire layout within Angkor could simply be chalked up to convenience, with ritual architecture opportunely erected and restored along an arterial thoroughfare continuously used as a transportation route between the spiritually-significant Kulen Hills to the north and the Tonle Sap Lake to the south. That said, the semi-ritualization of roadways indeed has precedence in Angkorian history; the construction of roads leading solely to and from Angkor during the 10th to 11th centuries[129] or the construction of rest-houses and fire-shrines along roads between major temple-complexes during the reign of Jayavarman VII are evidence of this.[130] The infrastructure found forming this zig-zag is no doubt multifaceted, especially at Angkor Thom where the vestiges of three separate ritual traditions form the interpretable archaeological remains, but if viewed as agents continuously enabling patterns of human activity across the same landscape they can be seen to act as a cohesive whole achieving a combined result, regardless of the unknown original purpose.[131]

It lastly deserves mention that a single undedicated relief located in the southeast pavilion of the Bayon's third enclosure provides additional evidence of the connection between these two complexes *(Fig. 11.0)*. The relief, shallowly carved with crude flat chisel-marks suggestive of late/post-Angkorian artistry[132] atop what appears as an earlier incomplete Jayavarman VII-era depiction of a religious procession, may in fact depict three of the five central towers forming the *bakan* of Angkor Wat. This image could, of course, be simply dismissed as

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129 Hendrickson, Historic routes to Angkor, 482. An ancient Khmer highway lined with Jayavarman VII-era rest-houses and fire-shrines was mapped between Angkor and Phimai (modern Thailand).

130 See Hendrickson, People around the Houses of Fire, 63-79.

131 See Smith, *Political Landscape*; Martin, Agents in interaction, 286.

132 Roveda, *Carved Reliefs*, 56; Polkinghorne *et al.,* One Buddha can hide another, 596. In the hallway immediately south are etched figures in a similar artistic style to those found in »Victory« bas-reliefs located in the NE Quadrant of the Third Enclosure at Angkor Wat. These are denoted by K.296 and K.297 as being carved in 1546 and 1564 CE.

Fig. 11.0: Bas-relief hypothesized to depict Angkor Wat (sīmā center-right), Bayon Temple.

incomplete, or incorrectly identified as Angkor Wat due to the carved Shiva *lingam* visible in the central tower, but a carving potentially depicting a *sīmā* stone at the right edge of the temple platform appears to reveal the relief's association with the larger program of Theravāda Buddhist place-making at Angkor suggested here. Whether this relief possibly commemorated the re-consecration of Angkor Wat by the immediate successors of Ang Chan or any previous Khmer ruler remains unclear, but the carved *sīmā* likely proves that the Theravāda populations functioning at the Bayon, as evidenced by the Buddhist terraces and stupas surrounding the temple, viewed Angkor Wat as significant.[133]

Conclusion: A Framework for »When« as well as »What«
A 1609 CE account by Spanish historian Bartolomé de Argensola describes the overgrown state of a walled city, which is likely Angkor Thom, less than half a century after the restorative activities of Ang Chan at Angkor Wat were first mentioned by various European chroniclers[134]:

> »One finds the interior within inaccessible forests, a city of six thousand houses, called Angon. The monuments and roads are made of marble ... There is a strong wall ... The bridges are supported by stone giants ... There are epitaphs, inscriptions ... And in all this city ... there were no people, no animals, nothing living ... Today the city is uninhabited.«[135]

To believe this is to suggest that any relationship between Angkor Wat and Angkor Thom lasted little longer than the end of the 16th century. De Argensola's chronicles, too, appear to chronologically coincide with the sack of the contemporary Cambodian capital of Longvek in 1594 CE by Thai forces from Ayutthaya. After this time, Angkor became part of a neglected border region, shifting from Thai to Cambodian hegemony multiple times during the ensuing centuries.[136] Epigraphic evidence suggests that Angkor Wat remained the sole ritually patronized complex in the Angkor region then afterwards, but numerous small laterite pedestals and altar screes identified within Angkor Thom not easily identified as Buddhist terraces feature post-Angkorian-style Theravāda statuary.[137] It is thus possible that small religious groups remained active within the former capital, dismantling Buddhist terraces and earlier monuments to create small vernacular *vihāra* alongside various animistic rituals.[138]

At present, problems of absolute chronology remain in the absence of more than a few epigraphic or radiocarbon dates, which, in turn, limits any thorough interpretation of how monastic construction and activity may have progressed at Angkor Thom in relation to what has been observed across the urban landscape. The role of ritual architecture within the Theravāda transformation of Angkor was indeed complex, multifaceted, and more likely than

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133 While numerous temple-reliefs are carved on the walls of the Bayon, no publications have argued that any of these appear to depict real, active sites of worship.

134 Groslier, *Angkor and Cambodia*, 52-71.

135 Higham, *Civilization of Angkor*, 140.

136 Wales, *The Universe Around Them*, 121.

137 Giteau, *Histoire d'Angkor*, 16-18.

138 Ang, Place of animism, 37-38.

not gradual across four centuries based on the variation of both structure and *sīmā*, and further research will no doubt shed light on the »when« of this visible religious transition from Brahmano-Buddhism. The discussion presented here exploring the spatial variation within Angkor Thom created by the construction of Buddhist terraces/*praḥ vihar* in relation to earlier features of the urban landscape serves as an intriguing case study and framework from which to expand our understanding of both the imperfect and idiosyncratic nature of religion-based urban planning in Southeast Asia. Angkor and its Theravāda remains, as has been argued through this paper, undoubtedly embody that idiosyncrasy.

About the author

Andrew Harris is a PhD Candidate studying Archaeology in the Department of Anthropology at the University of Toronto, with previous education at the School of Oriental and African Studies in London, UK (MA Distinction, History of Art and Archaeology) and Queen's University, Kingston (BA Hons., History). His Doctoral Research consists of an in-depth analysis of monastic construction at Angkor Thom, Cambodia, between the 14th and 17th centuries through survey, GIS analysis, and excavation within a theoretical framework of social memory, place-making, and spatial context, with an estimated defense date of mid-2020.

References

Aasen, Clarence, *Architecture of Siam: A Cultural History Interpretation* (Kuala Lumpur, 1998).

Ang Choulean, The place of animism within popular Buddhism in Cambodia: The Example of the Monastery, *Asian Folkore Studies* 47/1 (1988) 35-41.

Ang Choulean, La communauté rurale Khmère du point de vue Sacré, *Journale Asiatique* 277/1-2 (1990) 135-154.

Assmann, Jan, *Religion and Cultural Memory*, translated from German by Rodney Livingstone (Stanford, 2006).

de Bernon, Olivier, About Khmer monasteries: organization and symbolism, in: Pierre Prichard and Francois Lagirarde (eds.), *The Buddhist Monastery: A Cross-Cultural Survey* (Paris, 2003) 209-218

Briggs, Lawrence Palmer, The Ancient Khmer Empire, *Transactions of the American Philosophical Society*, New series 41/1 (1951) 1-295.

Brown, Robert, *The Dvaravati Wheels of the Law and the Indianization of Southeast Asia* (Leiden, 1996).

Clark, Joyce, The Bayon: an archaeological and architectural study, in: Joyce Clark (ed.), *Bayon: New Perspectives* (Bangkok, 2007) 138-229.

Coe, Michael D., Social typology and the tropical forest civilizations, *Comparative Studies in Society and History* 4/1 (Nov. 1961) 65-85.

Cœdès, Georges, Essai de Classification des documents historiques conservés à la bibliotheque de l'École Française d'Extreme-Orient, *BEFEO* 18/9 (1918) 15-28.

Cœdès, Georges, Études Cambodgiennes, *BEFEO* 28/1 (1928) 81-146.

Cœdès, Georges, *The Indianized States of Southeast Asia* (Honolulu, 1968).

Dagens, Bruno, Cosmogonie et architecture: l'appropriation de l'Inde par le Cambodge ançien (2005). Retrieved on 20 February 2019: www.clio.fr/bibliotheque/cosmogonie_et_architecture_l_appropriation_de_l_inde_par_le_cambodge_ancien.asp

De Vos, Ashley, The Buddhist monastic architectural tradition of Sri Lanka. In: Prichard, Pierre and Francois Lagirarde (eds.), *The Buddhist Monastery: A Cross-Cultural Survey.* (Paris, 2003) 38-58.

Doehring, Karl, *Buddhist Temple Building in Siam* (Bangkok, 1916).

Dumarçay, Jacques, Les Effets Perspectifs de L'Architecture de l'Asie Méridionale, *Memoires Archéologiques* (BEFEO: 1993), pp. 1-40.

Dumarçay, Jacques and Pascal Royère, *Cambodian Architecture: Eighth to Thirteenth Centuries*, Handbook of Oriental Studies 3: Southeast Asia 12 (Leiden, 2001).

EFEO (Henri Parmentier), *Journal des Fouilles* 7 (Siem Reap, Juillet 1928 - Janvier 1930).

Estève, Julia and Dominique Soutif, Les Yasodhar*āśrama*, marqueurs d'empire et bornes sacrées: conformité et spécificité des stèles digraphiques khmères de la région de Vat Phu, *BEFEO* 97/98 (2010) 331-355.

Evans, Damian, Roland J. Fletcher, Christophe Pottier, Jean-Baptiste Chevance, Dominique Soutif, Boun Suy Tan, Sokrithy Im, Darith Ea, Tina Tin, Samnang Kim, Christopher Cromarty, Stéphane De Greef, Kasper Hanus, Pierre Bâty, Robert Kuszinger, Ichita Shimoda and Glenn Boornazian, Uncovering Archaeological Landscapes at Angkor Using LiDAR, *PNAS* 110/31 (2013) 12595–12600.

Fletcher, Roland J., Dan Penny, Damian Evans, Christophe Pottier, Mike Barbetti, Matti Kummu, Terry Lustig and APSARA Department of Monuments and Archaeology Team, The water management network of Angkor, Cambodia, *Antiquity* 82 (2008) 658-670.

Fletcher, Roland, Christophe Pottier, Damian Evans and Matti Kummu, The development of the water management system of Angkor: a provisional model, *IPPA Bulletin* 28 (2008) 57-66.

Garnier, Derick, *Ayutthaya: Venice of the East* (Bangkok, 2004).

Gaucher, Jacques, Archaeology and town planning: an Indian model in Southeast Asia, Urban Morphology 6/1 (2002) 46-49.

Gaucher, Jacques, The City of Angkor: what is it? *Museum International*, Vol. 54, No. 1&2 (2002b) 28-36.

Gaucher, Jacques, *Schema Directeur Archéologique D'Angkor Thom: Evaluation, Risques, Recommandations. FSP »Site d'Angkor: Patrimoine et Développement« Mission archéologique française à Angkor Thom* (Paris, 2004).

Gaucher, Jacques, Angkor Thom, une utopie réalisée? Structuration de l'espace et modèle indien d'urbanism dans le Cambodge Ancien, *Arts Asiatiques* 59 (2004) 58-86.

Gaucher, Jacques, L'Archéologie Urbaine à Angkor Thom, in: EFEO (ed.), *Un Siècle D'Histoire: L'École Française D'Extrême Orient et le Cambodge* (Paris, 2011) 39-44.

Geertz, Clifford, Negara: *The Theatre State in Nineteenth-Century Bali* (1980).

Giteau, Madeleine, *Le Bornage Rituel des Temples Bouddhiques Au Cambodge*, BEFEO 68 (Paris, 1969).

Giteau, Madeleine, *Histoire D'Angkor* (Paris, 1974).

Giteau, Madeleine, *Iconographie du Cambodge post-Angkorien,* Publications de l'EFEO 100 (Paris, 1975) 1-381.

Goonatilake, Hema, Sri Lanka-Cambodia relations with special reference to the period 14th-20th centuries, *Journal of the Royal Asiatic Society of Sri Lanka*, New Series 48 (2003) 191-211.

Goodall, Dominic and Andrew Wareham, The political significance of gifts of power in the Khmer and Mercian Kingdoms 793-927, *Medieval Worlds* 6 (2017) 156-195.

Groslier, Bernard P., *Angkor and Cambodia in the Sixteenth Century according to Portuguese and Spanish Sources* (Paris, 1958).

Groslier, Bernard P., La cité hydraulique angkorienne: exploitation ou surexploitation du sol?, *BEFEO* 66/1 (1979) 161-202.

Harris, Ian, *Cambodian Buddhism: History and Practice* (Honolulu, 2004).

Harris, Peter, *Zhou Daguan: A Record of Cambodia – The Land and its People.* (Chiang Mai, 2007).

Hendrickson, Mitch, Historic routes to Angkor: development of the Khmer Road System (9th-13th centuries AD) in mainland Southeast Asia, *Antiquity* 84 (2010) 480-496.

Hendrickson, Mitch, People around the Houses with Fire: archaeological investigation of settlement around Jayavarman VII's »resthouse« temples, *Journal of Khmer Studies.* UDAYA, 9 (2008) 63-79.

Higham, Charles, *The Civilization of Angkor* (London, 2001).

Inscriptions du Cambodge, Georges Cœdès (ed.), EFEO (Textes et documents sur l'Indochine) 1-8 (Paris, 1937, 1942, 1951, 1952, 1953, 1954, 1964, 1966).

Jacques, Claude, *The Khmer Empire: Cities and Sanctuaries from the 5th to the 13th Century* (Bangkok, 1997).

Jessup, Henry Ibbitson, *Temples of Cambodia: The Heart of Angkor* (Bangkok, 2011).

Lajonquière, Lunet De, *Inventaire Descriptif des Monuments du Cambodge*, 1: 50.000 (Paris, 1911).

Leroy, Stéphanie, Mitch Hendrickson, Emmanuelle Delqué-Kolic, Enrique Vega and Philippe Dillmann, First direct dating for the construction and modification of the Baphuon temple mountain in Angkor, Cambodia, *PLOS* One (2015), DOI: 10.1371/journal.pone.0141052.

Lustig, Eileen, Damian Evans, and Ngaire Richards, Words across space and time: an analysis of lexical items in Khmer inscriptions, sixth-fourteenth centuries CE, *Journal of Southeast Asian Studies* 38/1 (2007) 1-26.

Mabbett, Ian W., Devarāja, *Journal of Southeast Asian History* 10/2 (1969) 202-223.

Marchal Henri, Monuments secondaires et tèrrasses bouddhiques d'Ankor Thom, *BEFEO* 18 (1918) 1-40.

Marchal, Henri, Notes sur le forme du stupa au Cambodge, *BEFEO* 44/2 (1951) 581-590.

Martin, Andrew, Agents in inter-action: Bruno Latour and agency, *Journal of Archaeological Method and Theory* 12/4 (2005) 283-311.

Marston, John, and Elizabeth Guthrie, *History, Buddhism, and New Religious Movements in Cambodia* (Honolulu, 2004).

Meyer, Jeffrey F., »Feng-Shui« of the Chinese city, *History of Religions* 18/2 (1978) 138-155.

Murphy, Stephen, *The Buddhist Boundary Markers Of Northeast Thailand And Central Laos, 7th-12th Centuries CE: Towards An Understanding Of The Archaeological, Religious And Artistic Landscapes Of The Khorat Plateau*. Unpublished PhD Thesis (University of London, 2010).

Mus, Paul, Le sourire d'Angkor: art, foi et politique bouddhiques sous Jayavarman VII, *Artibus Asiae* 24/3-4 (1961) 363-381.

NARA, *Western Prasat Top Site Survey Report on Joint Research for the Protection of the Historical Site,* NARA National Research Institute for Cultural Properties (ed.) (Siem Reap, 2012).

Parmentier, Henri, *Carte du Groupe et du Parc d'Angkor: map recto,* 1: 40.000 (Paris, 1930).

Pichard, Pierre, The Thai monastery. In: Prichard, Pierre and Francois Lagirarde (eds.), *The Buddhist Monastery: A Cross-Cultural Survey.* (Paris, 2003) 93-117.

Polkinghorne, Martin, Christophe Pottier, and Christian Fischer, One Buddha can hide another, *Journal Asiatique*, 301/2 (2013) 575-624.

Polkinghorne, Martin, Christophe Pottier and Christian Fischer, Evidence for the 15th century Ayutthayan occupation of Angkor, in: Siam Society (ed.), *The Renaissance Princess Lectures: In Honour of Her Royal Highness Princess Maha Chakri Sirindhorn on Her Fifth Cycle Anniversary* (2018) 99-113.

Pottier, Christophe, *Carte Archèologique de la Règion d'Angkor Zone Sud*. Unpublished PhD Thesis (Université de Paris III , 1999).

Pottier, Christophe, Yasovarman's Buddhist Āśrama in Angkor, *BEFEO* 1032 (2004) 199-208.

Pou, Saveros (née Lewitz), Textes en kmer moyen. Inscriptions modernes d'Angkor 2 et 3, *BEFEO* 57 (1970) 99-126.

Rooney, Dawn, *Ancient Sukhothai: Thailand's Cultural Heritage.* (Bangkok: 2008).

Roveda, Vittorio, *Sacred Angkor: The Carved Reliefs of Angkor Wat* (Bangkok, 2002).

Sharrock, Peter D., Garuda, Vajrapani, and change in Jayavarman VII's Angkor, *Journal of Southeast Asian Studies* 40/1 (2009) 111–151.

Shiner, Larry E, Sacred space, profane space, lived space, *Journal of the American Academy of Religion* 40/4 (1972) 425-436.

Smith, Adam, *The Political Landscape: Constellations of Authority in Early Complex Polities* (Berkeley, 2003).

Stark, Miriam, Southeast Asian urbanism: from early city to classical state, in: Norman Yoffee (ed.), *The Cambridge World History, Vol. 3: Early Cities in Comparative Perspective, 4000 BCE – 1200 CE* (2015) 74-93.

Swenson, Edward, Timing is everything: religion and the regulation of temporalities in Precolumbian Peru, in: Arthur Joyce and Sarah Barber (eds.), *Religion and Politics in the Ancient Americas* (New York, 2017) 210-233.

Swenson, Edward, Interpreting the political landscape of early state religions, in: Michael Lambek and Janice Boddy (eds.) *A Companion to the Anthropology of Religion,* (London, 2013) 471-488.

Thompson, Ashley, The ancestral cult in transition: reflections on spatial organization of Cambodia's early Theravāda complex, in: Marijke J. Klokke and Thomas de Bruijn (eds.), *Southeast Asian Archaeology: Proceedings of the 6th International Conference of the EurASEAA*, (Hull, 1998) 273-295.

Thompson, Ashley, *Memoires du Cambodge*. Unpublished PhD thesis (Université de Paris VIII, 1999).

Thompson, Ashley, Pilgrims to Angkor: a Buddhist ›cosmopolis‹ in southeast Asia? *Bulletin of Students of the Department of Archaeology, Royal University of Fine Arts, Phnom Penh* 3 (2004) 88-119.

Trouvé, Georges and Henri Marchal, *Angkor: Le Groupe: D'Apres Le Plan Dressée Par Georges-Trouvé en 1934 et Complêté Par Henri-Marchal En 1935*, 1: 20.000 (Paris, 1957).

Van Dyke, Ruth M., Imagine pasts imagined: memory and ideology in archaeology, in: Bernbeck Reinhart and Randall H. McGuire (eds.), *Ideologies in Archaeology* (Tucson, 2011) 233-253.

Vickery, Michael, The 2k/125 fragment: a lost chronicle of Ayutthaya, *The Siam Society* 65/1 (1977) 1-81.

Vickery, Michael, Cambodia and its neighbors in the 15th century, *ARI Working Paper Series* 27 (2004) 1-71.

Wales, H.G. Quartrich, *The Universe Around Them: Cosmology and Cosmic Renewal in Indianized South-East Asia* (London, 1977).

Williams, Joanna, The Churning of the Ocean of Milk – Myth, Image, and Ecology. *India International Centre Quarterly* 19/1-2 (1992) 145-155.

Woodward, Hiram W. Jr., Practice and belief in ancient Cambodia: Claude Jacques *Angkor* and the *Devaraja* question, *Journal of Southeast Asian Studies* 32/2 (Jun., 2001) 249-261.

Woodward, Hiram W. Jr., Some Buddha images and the cultural developments of the late Angkorian Period, *Artibus Asiae*, 42/2 (1980), 155-174.

World Monuments Fund, *Preah Khan Conservation Project: Report IX, Field Campaign VI* (New York, 1999).

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Maps

Map 1: Location of Theravāda Buddhist monastic structures catalogued within Angkor Thom in relation to the ancient road-grid. Grid-plan mapping attributed to Gaucher (Schema Directeur) and Evans *et al.* (LiDAR, 2).

Map 2: Map of the North-South Gopura Road Zig-Zag spatial pattern (center), mapped in 2017.

Map 3: Proposed route of converted monuments and Buddhist terraces between Angkor Wat and Angkor Thom, with possible extensions/incorporations north and south of Preah Khan Temple and monasteries mapped south of Angkor Wat.

Tables

Table 1: Measurements and structural notes for monasteries mapped as part of the North-South Gopura Road zig-zag spatial alignment.
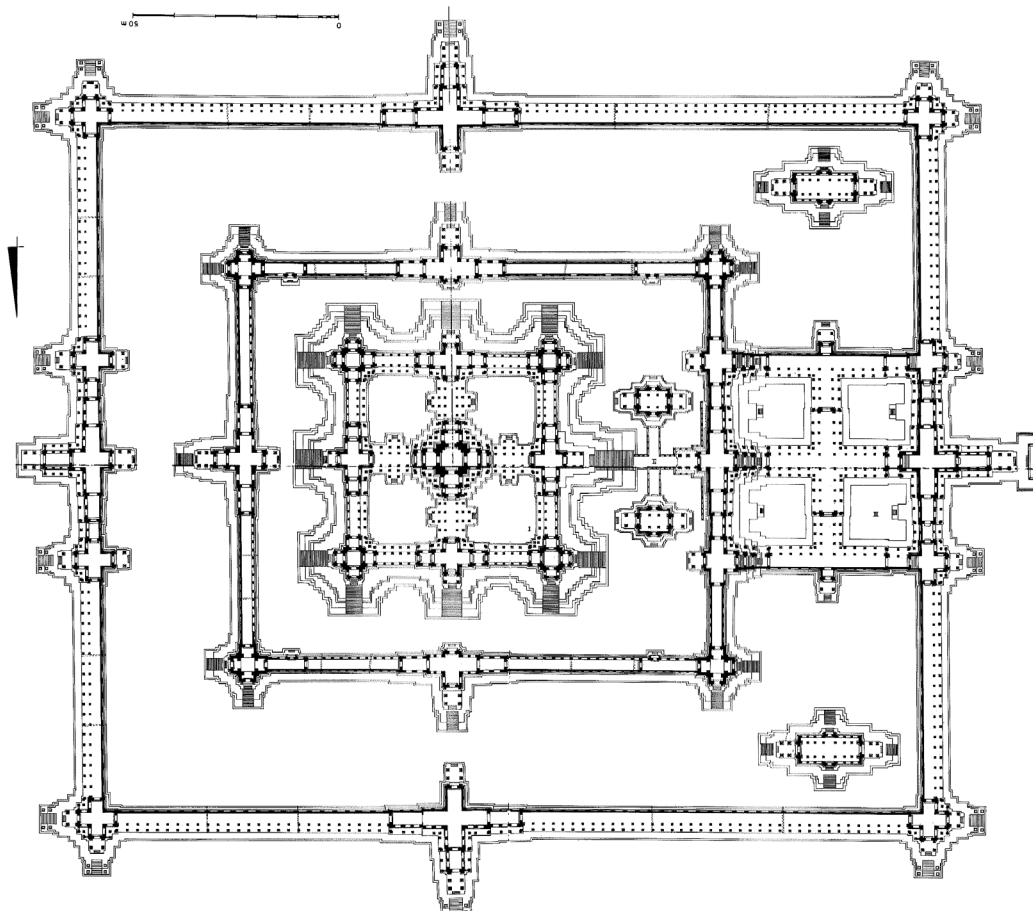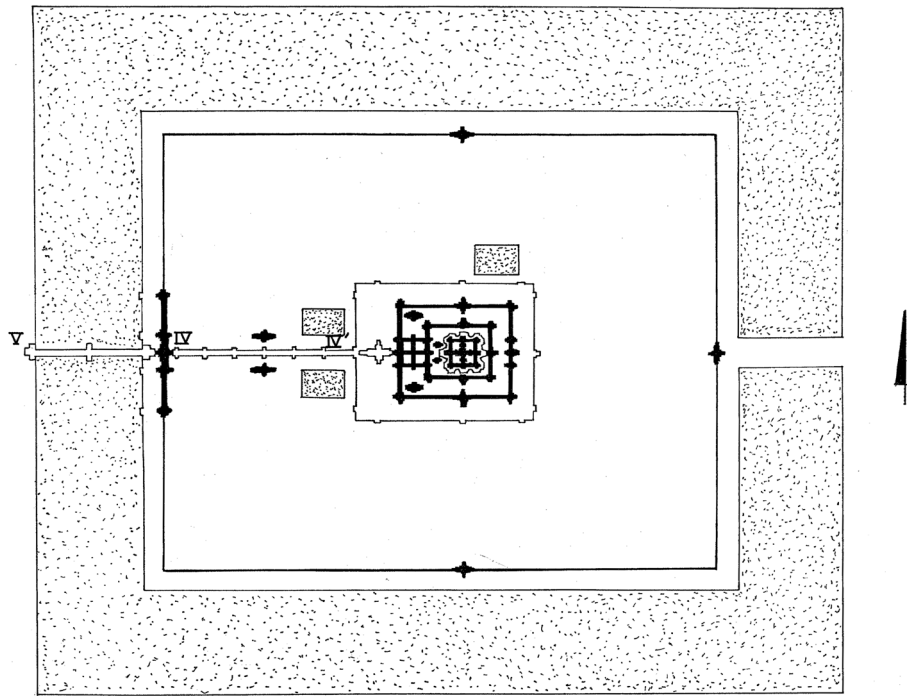
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Appendix

SECTION 1
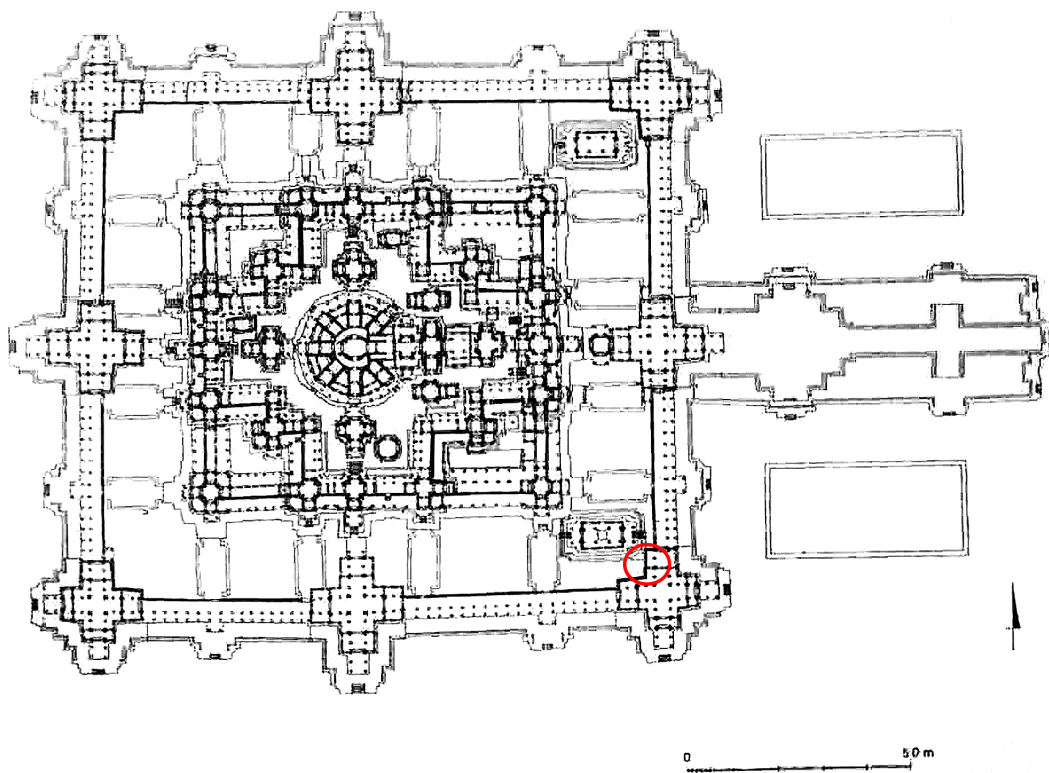*Images, Floorplans and Maps*

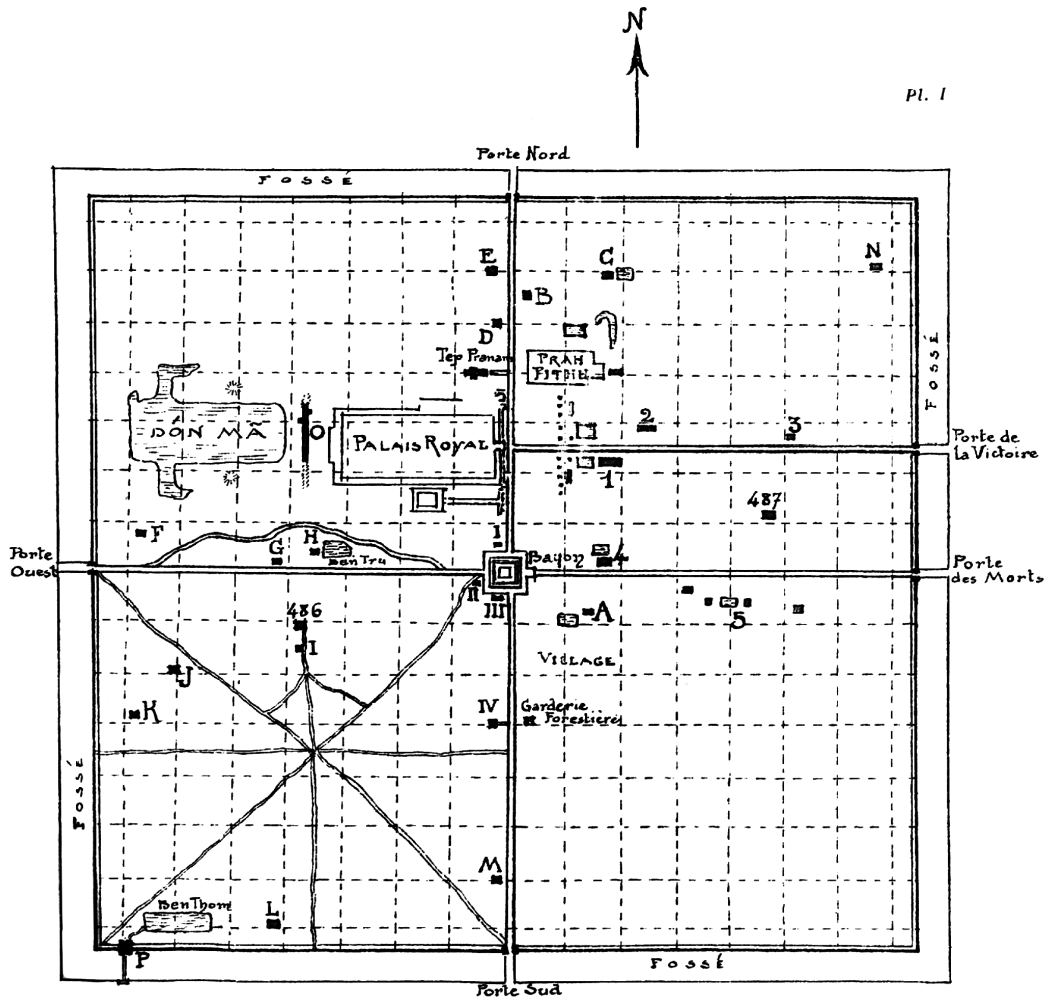*Appendix Fig. 1.0: Angkor Wat Temple*

Appendix Fig. 2.0: Angkor Wat Temple and Site-Plan (Dumarçay, Les Effets Perspectifs, 32)

Appendix Fig. 3.0: Bayon Temple, Angkor Thom

Appendix Fig. 4.0: Bayon Temple Floorplan, Angkor Thom, with Bayon sīmā bas-relief location circled (Dumarçay and Royère, Cambodian Architecture, Fig. 80)

Appendix Fig. 5.0: Hand-Drawn Map. Titled: Pl I: Plan d'Ankor Thom. Created by Henri Marchal in 1918 (Marchal, Monuments Secondaires)

SECTION 2
Ayutthayan/Sukhothai Cultural Context and Architectural Comparison:
Expanded from Text

The majority of cross-cultural observations made in this study of Buddhist terrace/*prah vihar* structures come from the analysis of similar monuments found at the two successive Thai capitals of Sukhothai (*c.* 1180-16th century CE) and Ayutthaya (1350-1767 CE) (Fig. 6.0). These capitals served as centers of cultural, political, and religious influence in Southeast Asia, and are thought to have visually and spatially influenced the religious architectures of nearby polities such as the Lanna Empire (1292-1775), Lao Lan Xang (1353-1707) and the Kingdom of Cambodia (1434 - present). Both, in extension, were influenced by Khmer monuments as both are believed to have been occupied between the 11th and 13th centuries by governors and/or princes who answered to Angkor. With a lack of epigraphic or written sources, evidence of this influence in Cambodia is mainly structural but is easily visible at Angkor alongside later successive seats of power such as Srei Santhor (*c.* 1434), Longvek, (1511-1594), and Oudong (1618-1863)[139].
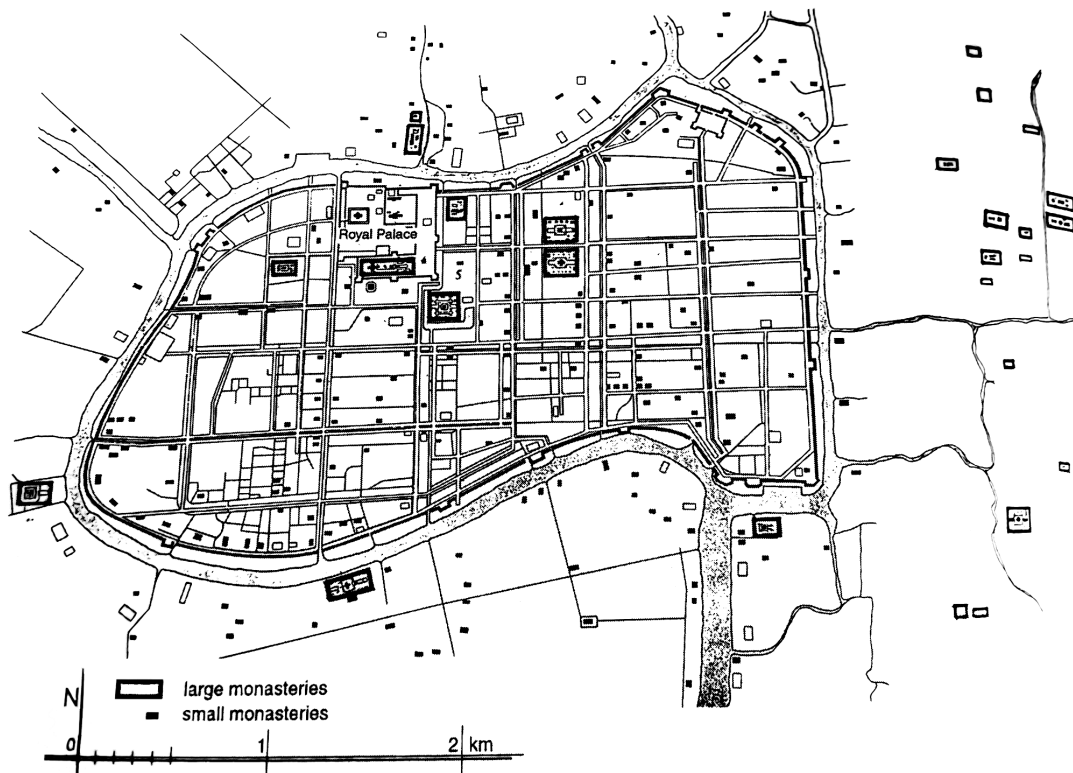
Appendix Fig. 6.0: Map of Ayutthaya (Pichard, The Thai monastery, 100)

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139 Located north of modern Phnom Penh.

The geopolitical influence of these two polities over Cambodia is recorded in several Siamese Ayutthayan chronicles such as the 2k/125 fragment translated by Vickery and the *Luang Prasoet* translated by H. R. H. Prince Damrong, as well as the Burmese Glass Palace Chronicle of 1796 CE. As early as 1180 CE Sukhothai rebelled against the Khmer rule of Jayavarman VII, an event undocumented in Khmer inscriptions from the time period. Zhou Daguan notes a war between Sukhothai and the Khmer Empire at some point prior to his arrival at Angkor, and writes that »as a result of repeated wars with the Siamese the land has been completely laid to waste«.[140] It is clear at this point from the splintering of Khmer provinces in modern Thailand into smaller states, with foundation myths dating to the late 12th to early 14th centuries, that Angkorian influence over the region was dwindling; the Kingdom of Lopburi (c. early 13th-14th centuries) sent independent missions to China in 1299 CE.[141]

The Kingdom of Sukhothai is often presented as the »Golden Age« of the Thai civilization, but this history is heavily influenced by the efforts of Chakri Dynasty (1792 CE - present) Thai kings such as Mongkut II (r. 1851-1868 CE) to create a national historical narrative;[142] this occurred in order to legitimize the independence of the Kingdom of Siam to British and French invaders who had already absorbed Burma and Indochina (Laos, Vietnam, and Cambodia), respectively, into their colonial empires. Modern Thailand was thus, according to tradition, established after a legendary uprising against the Khmer Empire in 1180 CE, and Thai art, culture, and politics are reported to have reached their peak at Sukhothai during the next two centuries.

By 1350 CE, the Kingdom of Ayutthaya (Siam) was founded following a rebellion of princes from Lopburi, and for four centuries was one of the most dominant polities in Southeast Asia; the Kingdom of Sukhothai was absorbed in the process. Successive Siamese attacks on Angkor between 1350 and 1431 CE[143] were one of the primary causes of the collapse of the Khmer Empire and the abandonment of Angkor by the elites and royalty; Angkor remained populated until at least the 17th century, but the frontier with Siam proved too dangerous and too far inland to reap valuable income and taxation from maritime trade through the Mekong Delta.[144] Angkor thus changed hands between Ayutthaya and Longvek multiple times until 1594 CE when Longvek was sacked by forces dispatched by King Naresuan the Great (r. 1590-1605 CE). Following this, Cambodia was governed by a series of puppet-rulers from Siam and neighboring Vietnam at Oudong. Angkor, meanwhile, remained under Siamese dominion until 1907 CE when it was brought with Siem Reap, Banteay Meanchey, and Battambang provinces under the dominion of the French Empire.

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140 Harris, *Zhou Daguan*, 79.

141 Cœdès, *The Indianized States*, 160.

142 Aasen, *Architecture of Siam*, 44.

143 Dates for these attacks are suggested by various inscription/chronicle fragments to be 1350 CE, 1380, 1394, and/ or 1418 CE, with the most accurate date coming from 1431 CE (Vickery, Cambodia and its neighbors, 3-4).

144 Giteau, *Histoire d'Angkor*, 111.

The monastic tradition which promoted Theravāda Buddhism in post-Angkorian (c. 1431-1863 CE) Cambodia is most likely derived from that which was practiced within monastic communities in Sukhothai or Ayutthaya. The current form practiced in Cambodia was heavily augmented by French officials following rebellions by the *sangha* against colonial rule in the late 19th century,[145] but the architecture built to facilitate this tradition no doubt descends from structures built at Angkor Thom. Comparisons of structures at Angkor with monastic complexes at Ayutthaya are admittedly more easily and accurately made than comparisons with those at Sukhothai, which are convoluted by undocumented building phases and renovations during the 15th-16th centuries.[146] This brief appendix section will thus focus on structural and spatial layouts of monastic buildings built within the latter of the two capitals.


Appendix Fig. 7.0: Ubosot *of Wat Phra Phai Luang (12th-13th century), Sukhothai*[147]

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145 Marston and Guthrie, *History*, 51.

146 Pichard, The Thai monastery, 94

147 The Khmer-style *prang* which centers Wat Phra Phai Luang is thought to predate the Kingdom of Sukhothai, and may have been erected as early as the reign of Suryavarman II (1102-1150). The *ubosot* features a laterite foundation with brick renovations, which points to its construction using materials from the original Khmer temple or its foundation during an earlier period than the renovation of the complex.

The first imperially-constructed Ayutthayan monastic complexes are no doubt influenced by the layout of Khmer *prasat*, with a large *prang* anchoring the monastery flanked by rectangular brick *wīhan* (*prah vihar/vihāra*) facing east and *sīmā*-demarcated *ubosot* to the west; the *wīhan* and *ubosot* were often connected to a narrow cloister which circumambulated the *prang* in a similar manner to corridors constructed at temple-complexes commissioned by Jayavarman VII. Image houses, supplementary prayer halls, and funerary stupas are placed surrounding the main complex over time; these were, like Sukhothai, often renovated or augmented over time and these renovations are either documented in chronicles or inscriptions. The earliest monasteries at Ayutthaya such as Wat Ratchaburana (*Figs. 8.1-8.3*) and Wat Mahathat (Ayutthaya) feature this layout, and were also discovered to house reliquary deposits within the crypts of their *prang*.[148]
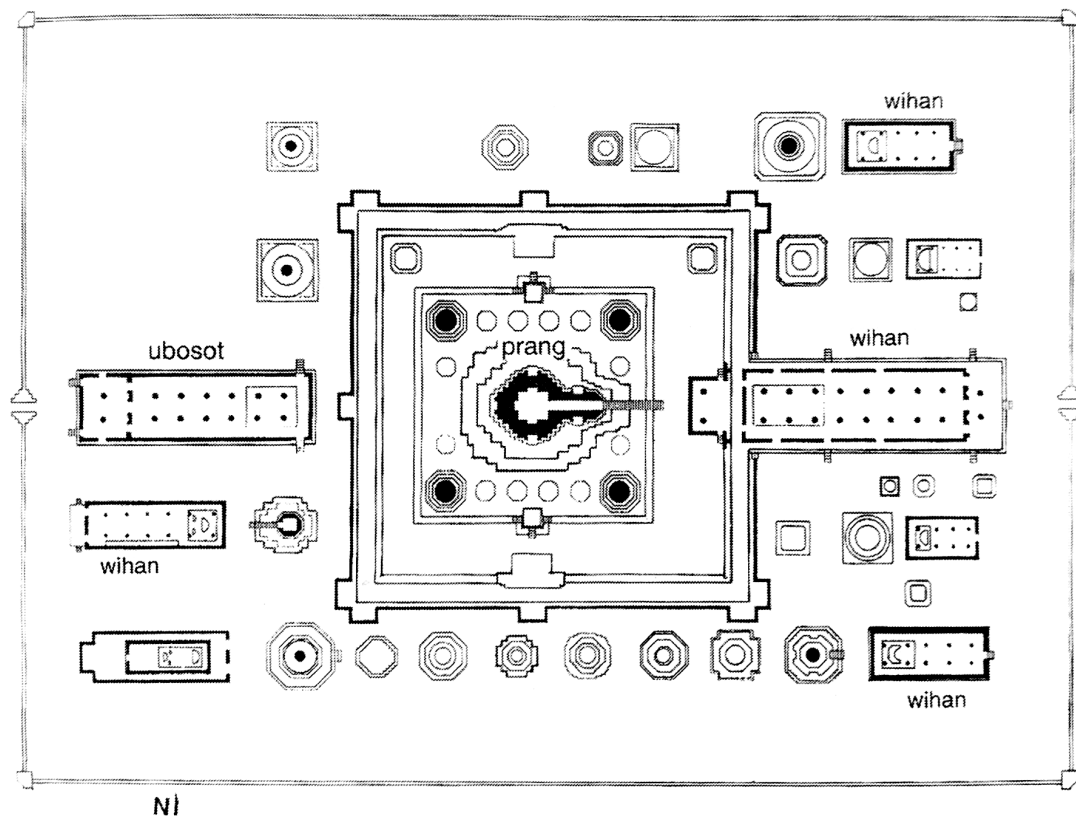
Appendix Fig. 8.1: Floorplan of Wat Ratchaburana, Ayutthaya (Pichard, The Thai monastery, 101)

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148 Woodward, *Some Buddha images*, 160.

*Appendix Fig. 8.2:* Wīhan *of Wat Ratchaburana facing eastward, Ayutthaya*

Monasteries dedicated or thought to have been constructed during the mid-15th-early 16th centuries at Ayutthaya, such as the late 15th-century royal complex of Wat Phra Si Sanphet (*Fig. 9.0*), relegate the *ubosot* to the size of smaller image houses while the *wīhan* remains prominent in its original east-facing direction. Stupas (*chedi*) also change during this period, and feature a bell-shape with a conical ribbed spire instead of the earlier *prasat*-influenced architecture. This may be indirectly influenced by earlier Sri Lanka *dagoba* (large mound stupa) architecture, but more likely from Burma or Lanna[149] to the northwest.

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149 *Chedi* thought to have been erected during this period feature a variety of different styles; for example, Wat Thammikarat (north of the city) among others features a ribbed conical mound similar to *chedi* found in Lanna (modern Chiang Mai region), while Wat Yannasen nearby features a triangular prismic spire.

Appendix Fig. 8.3: Prang *of Wat Ratchaburana, Ayutthaya*

To make a brief comparison to extant architecture at Sukhothai, the majority of the temples such as Wat Mahathat (Sukhothai) feature the *ubosot* as a secondary structure to a more typical *wīhan-prang* layout. The layout of localized, less prominent monasteries at Sukhothai are similar to those of Ayutthaya, although the *chedi* is often replaced by a large brick-and-plaster standing Buddha image which may be indicative of an earlier tradition.
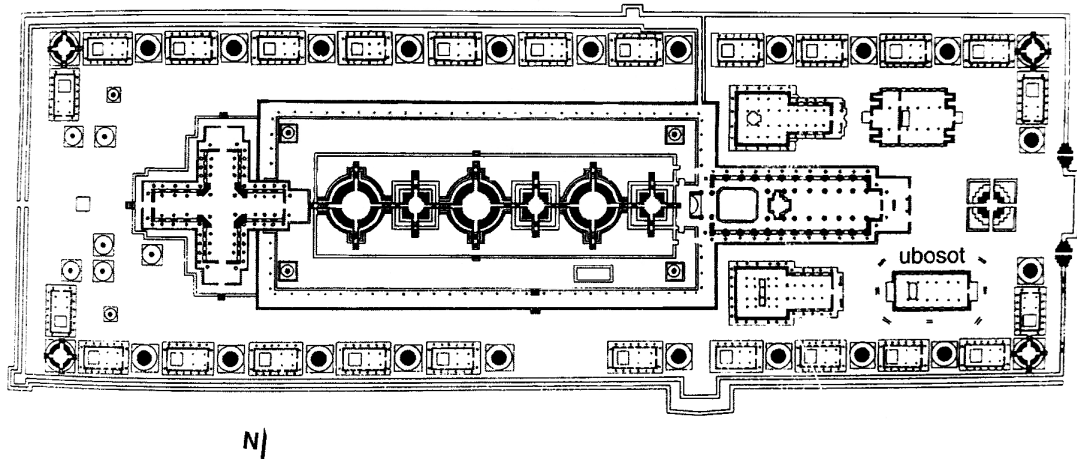
Appendix Fig. 9.0: Floorplan of Wat Phra Si Sanphet, Ayutthaya (Pichard, The Thai monastery, 101)

The later period of Ayutthaya, from the 17th to the mid-18th century prior to its destruction in 1757 CE by the Burmese, is poorly-represented by inscriptions, but is thought to feature eastward-facing *sīmā*-demarcated structures directly attached with, or linear to, *chedi* in similar styles to those constructed in earlier centuries. The one exception is the enormous Wat Chaiwatthanaram commissioned in 1630 CE under King Prasat Thong (r. 1629-1656) as a brick replica of Angkor Wat's central *bakan* with a soaring Khmer-style *prang*. In all cases, the *wīhan* has been entirely replaced by the *ubosot* and all structures are eastward-facing.

Appendix Fig. 10.0: Wat Maha Saman, Southwest Area, Ayutthaya

Outside the central areas of Ayutthaya, for example in the southwest of the capital and on the northern riverbank of the Khlong Muang tributary (*See Fig. 6.0*), a scattering of small local monasteries[150] feature various types of differently-styled *chedi*, but no foundation inscriptions have been found for these;[151] it is thus possible that the *wīhan-prang-ubosot* layout from the earlier periods was reserved for imperially commissioned architecture. Confined monastic complexes indeed feature an *ubosot*, but single-hall monasteries with a *wīhan-chedi* layout do not; instead, there may be an *ubosot* in the vicinity of a large cluster of *wīhan* or image houses. If the monastery is incredibly remote, the *ubosot-chedi* layout seems to dominate structural planning; this may indicate a later manufacture.

With these factors in mind, there are no monasteries or monastic complexes that feature the *wīhan-prang-ubosot* layout thus far identified at Angkor. As no absolute dates are currently published for the placement of *sīmā* at Angkor, there is also no sense of when the boundary stone tradition within the capital began. *Sīmā* are believed to be a product of direct influence from Ayutthaya, originating from large boundary stones surrounding earlier Mon Dvaravati (6th-11th centuries) *ubosot* and *wīhan* which have been debated to have in turn descended from megalithic stones demarcating ancient burials.[152] It is thus not clear when

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150 Many of these structures can be found today in Somdet Prah Si Nakharin Park in Ayutthaya.

151 In a similar manner to Angkor, those not associated or in proximity to an imperially commissioned monastic complex or a main arterial thoroughfare.

152 See Murphy, *The Buddhist Boundary Markers*, 365-372 for a thorough debate on this theory.

this tradition arrived at Angkor, although Zhou Daguan does not mention *sīmā* within his description of the earliest Theravāda Buddhist monasteries in 1296 CE. It is argued within the body of the paper that the demarcation of a *prah vihar* with *sīmā* is a tradition of centrality descended from the construction of temples, and until the mid-late eras of monastic construction at Ayutthaya no *ubosot* were believed to have been built as solitary structures and thus the focal points of worship. *Sīmā*-demarcated structures thus formed a single area of a »cluster« of buildings forming a monastery, each with a different function, which because of the *prasat* tradition or a simple lack of resources rarely exists at Angkor.

That said, the overall rectangular structure, the raised southern tract, the central sanctuary pedestal, the *mudra* of of each Buddha statue, the relative dimensions of each building, the gradual shift to Sinhalese bell-shaped stupas, baked bricks used in the renovations of various *prah vihar* over time, and, as noted, the tradition of the placement of *sīmā*[153] are directly influenced by architecture in both successive Thai capitals. Styles of *sīmā*, too, can be traced back to temples at Ayutthaya.[154] Even the remains of Khmer-inspired Thai *prang* in brick are thought to have been constructed, for example at one of the hypothesized yet unexcavated 15th-century *praḥ vihar* at Angkor Wat[155] (*Figs. 11.1-11.2*). This is best illustrated in the body of the paper in Fig 7.0 which features a direct comparison between the Buddhist terrace/*prah vihar* Prah Ngok (ATV001) at Angkor Thom and an image house at Wat Phra Si Sanphet (late 15th-mid 16th centuries) at Ayutthaya.

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153 *Sīmā* in a Thai context are first dedicated with the placement of a *sīmā* kil, a blessed stone orb that cements its place as an ordination hall. At Angkor, votive deposits beneath sīmā have been identified and have included bronze figures, burnt offerings such as bones or charcoal, and/or glazed local or Chinese ceramics.

154 The identical *sīmā* at Wat Preah Khan and Angkor Wat are in turn identical to a set found at Wat Wora Chet Tha Ram in northwestern Ayutthaya dated to 1593 CE by a foundation inscription (See Fig 12.0).

155 See fn. 125 in main text.

Appendix Fig. 11.1: Buddha »niche« from prang-*shaped* chedi*, Wat Mahathat, Ayutthaya*

Appendix Fig. 11.2: Remains of a possible prang-*shaped central sanctuary within an unexcavated* praḥ vihar *(AWBT001), Angkor Wat*

Appendix Fig. 12.0: Sīmā *from Wat Wora Chet Tha Ram (c. 1593-1605 CE), Ayutthaya, and Wat Preah Khan (Date Unknown), Angkor*

It is also possible to explore connections with the Buddhist traditions of Sri Lanka, which are thought to have originally influenced earlier Mon Dvaravati Theravāda traditions in Thailand as early as the 6th century CE.[156] Connections between Angkor and Sinhalese monks and monarchs have been determined to have been established at various points in time, but there are very few architectural connections that can be made directly between Khmer and Sinhalese structures based on site comparisons alone. Photographs of early 20th-century French clearance work surrounding the Bayon reveal that one structure, called ATV051,[157] was found to feature »guardstones« depicting Buddhas flanking its eastern causeway, a Sinhalese tradition possibly dating as early as the Buddhist history of the holy city of Anuradhapura in the 4th century CE,[158] alongside *sīmā* (*Figs. 13.1-13.2*). Noteworthy too is the presence of a Sinhalese-style stupa with a conical ribbed spire within the central sanctuary of Preah Khan Temple, though it is unclear whether this formed the original focal point of the temple or whether this was a later augmentation. Comparisons with Sinhalese architectural traditions also come from analysis of the Temple of the Tooth Relic found at the briefly serving capital of Yapahuwa (1272-1284 CE), where the temple takes on the form of a Khmer *prasat*[159] up a mountainside (*Fig. 14.0*).

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156 Thompson, *Memoires du Cambodge*, 56. Known as *murugala* in Pali; guardstones at the base of steps in monastic residential quarters at Anuradhapura (c. 4th-12th centuries CE) are left blank and resemble *sīmā*, while those fronting more prominent buildings such as *dagoba* (enormous rounded brick stupas – not Yoda's home planet in Star Wars) feature carved *lokapala* (guardian), dwarf, or *nāgarāja* (serpent-king) figures.

157 This structure was originally called Prah Ngok, the title now given to the large *prah vihar* (ATV001) to the south, and has been partially destroyed in its contemporary use as a refuse for broken colonettes placed there during the anastylosis of the nearby Baphuon Temple undertaken intermittently between 1960-2011.

158 De Vos, Tradition of Sri Lanka, 53.

159 Goonatilake, Sri Lankan-Cambodian relations, 193.

Appendix Fig. 13.1: Remains of »Prah Ngok« (ATV051) , Angkor Thom

Appendix Fig. 13.2: Image house (Paṭimāghara/Piḷimagē), Lankarama Complex (Established 1st century CE), Anuradhapura.

However, compared to the visible similarities between Ayutthayan and Sukhothai monastic architecture, the direct or indirect influence of the Sinhalese Theravāda architectural tradition on Angkor appears speculative at best. It could be argued that the scholarly enthusiasm to make these comparisons stems from the identification of a fragment of the Burmese Glass Palace chronicle noting that the son of Jayavarman VII, Tamalinda, traveled to the Mahavihāra monastery at Anuradhapura in 1180 CE to learn the *dharma*.[160] More likely, however, past Sri Lankan-Cambodian Theravāda Buddhist exchanges are often emphasized over those with Ayutthaya and Sukhothai in order to avoid retreading historically sensitive ground without an abundant historical record available.

Appendix Fig. 14.0: Temple of the Tooth Relic (c. 1272 – 1284 CE), Yapahuwa, Sri Lanka

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160 Harris, *Cambodian Buddhism*, 23. Harris notes that he stayed there for 10 years but died in Burma instead of returning to Cambodia, so the introduction of Theravāda Buddhism was later if one is to believe the end of the account in the *Glass Palace Chronicle*.