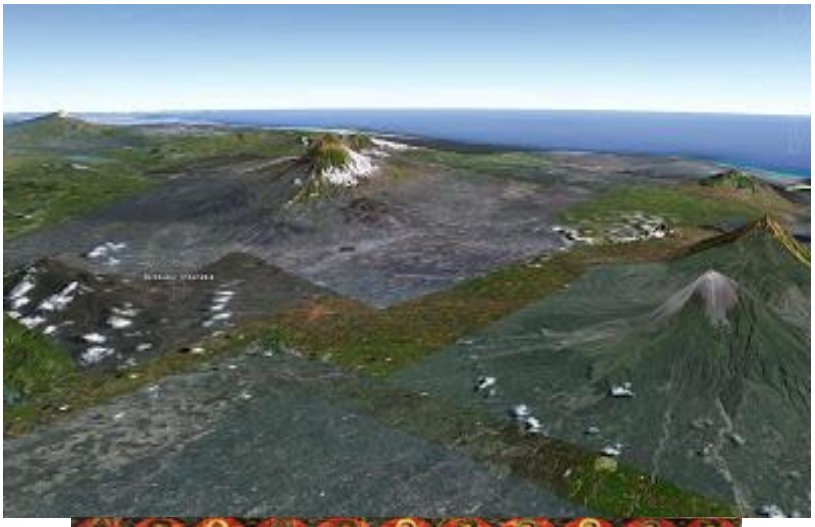
Borobudur as Buddhist Mandala ?
Dr Uday Dokras



Mandala in Borobudur

The Buddha says:—"
They who speak much are blamed. They who speak a little are blamed. They who are silent are also blamed. In this world there is none who is not blamed."

Note: In 2020 we uploaded an article titled"Borobudur Temple as a Mandala"This is additional material to supplement those ideas

Borobodur as the Ultimate Buddhist Temple

Borobudur, was built during over a half century by the Sailendra Dynasty after Mahayana Buddhism was introduced from the Srivijaya Kingdom of South Sumatra in the early half of the 8th century AD. Many Buddhism images and reliefs in Borobudur

were made referencing Gandavyuha and Vajrayana/Esoteric Buddhism from Sri Lanka and East India. Unlike Angkor it is not Converted but originally Buddhist.

The stepped pyramid shape without an inner space as found at Borobudur is found in neither India nor Sri Lanka. And there are no stupas with that similar shape in Southeast Asia prior to Borobudur. Similar shaped monuments are found only in South Sumatra etc. This type of monument, originating from the mountain religions of Megalithic culture that predated the introduction of Buddhism continued through the Historical Age. Borobudur can be seen as a massive monument of this origin, decorated in Buddhism style.

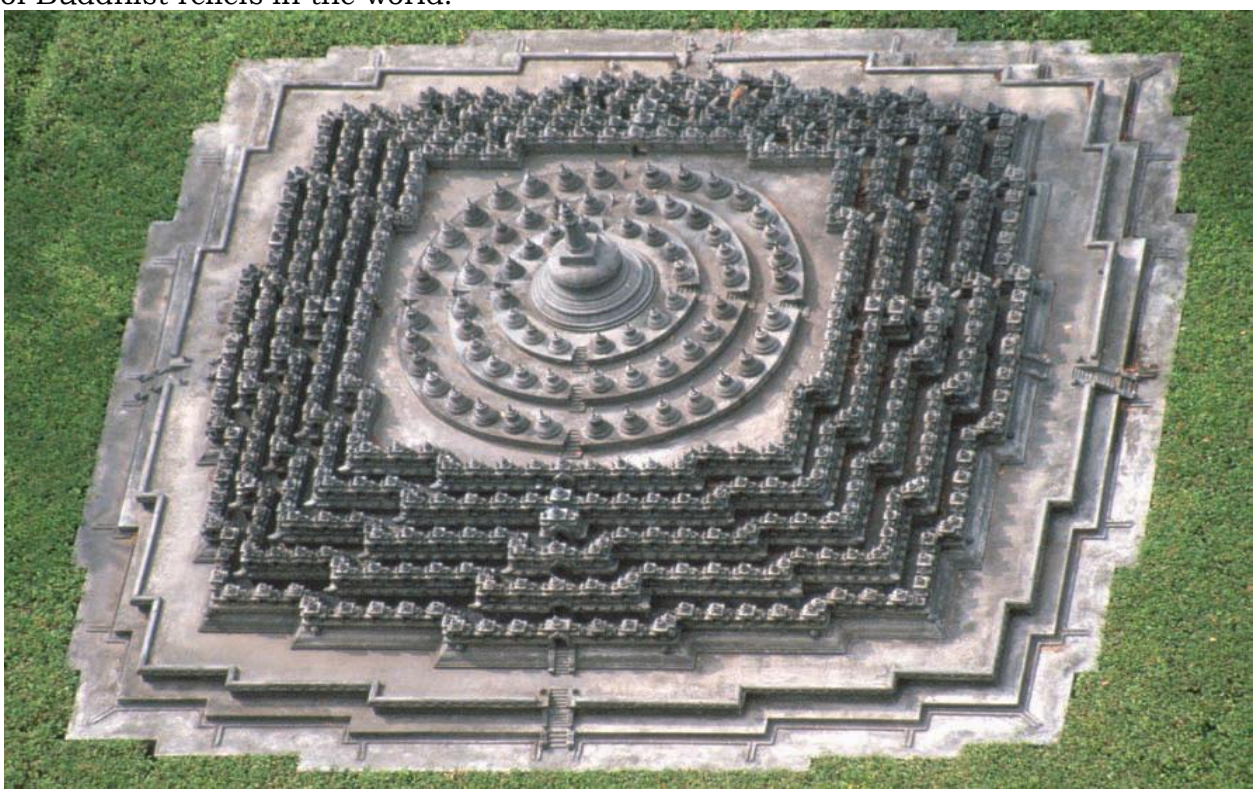
Borobudur in Java

Borobudur is a step pyramid, built around a natural hill, comprised of a broad platforms topped by five walled rectangular terraces, and they in turn are topped by three round terraces. Each terraces is outlined with ornaments and statues and the walls are decorated with bas reliefs. More than two million blocks of volcanic stone were carved during its construction. Pilgrims have traditionally walked around the monument in a clockwise manner moving up each of the five levels, and in process covering five kilometers.

Unlike most temples, Borobudur did not have actual spaces for worship. Instead it has an extensive system of corridors and stairways, which are thought to have been a place for Buddhist ceremonies. Borobodur also has six square courtyards, three circular ones, and a main courtyard within a stupa at the temple's peak. The entire structure is formed in the shape of a giant twirling staircase, a style of architecture from prehistoric Indonesia.

Borobudur is a three' dimensional model of the Mahayana Buddhist universe. The climb to the top of the temple is intended to illustrate the path an individual must take to reach enlightenment. At the main entrance on the east side, visitors can not even see the top. Scholars believed this was intensional. At the top was the ideal of Buddhist perfection, the World of Formlessness. The architecture and stonework of this temple has no equal. And it was built without using any kind of cement or mortar!

Borobudur resembles a giant stupa, but seen from above it forms a mandala. The great stupa at the top of the temple sits 40 meters above the ground. This main dome is surrounded by 72 Buddha statues seated inside perforated stupa. Five closed square galleries, three open circular inner terraces, and a concentric scheme express the universe geometrically. At the center of the top of the temple is a beautifully shaped stupa which is surrounded by three circles of smaller stupas that have the same shape. There are 72 of these, each with a Buddha statue inside. Touching them is supposed to bring good luck. Unfortunately many had their heads lopped off by 19th century explorers looking for souvenirs. The 72 small latticed stupas look like perforated stone bells. The temple is decorated with stone carvings in bas-relief representing images from the life of Buddha— the largest and most complete ensemble of Buddhist reliefs in the world.



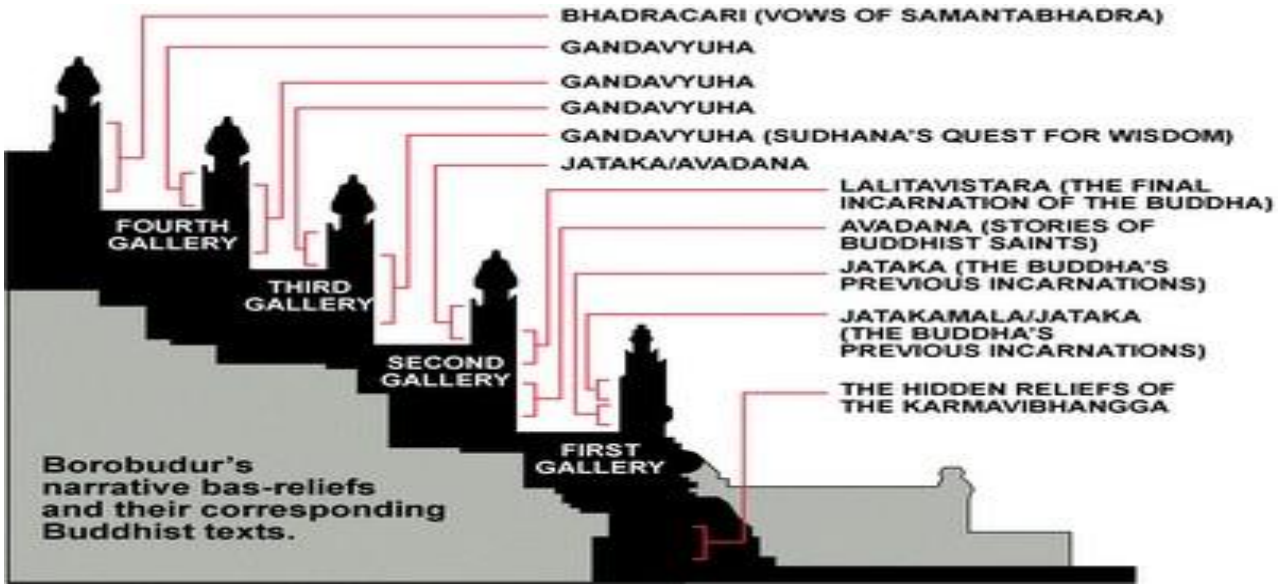
Borobudur is both a shrine to the Lord Buddha and a place for Buddhist pilgrimage. The ten levels of the temple symbolize the three divisions of the religion's cosmic system. As visitors begin their journey at the base of the temple, they make their way to the top of the monument through the three levels of Budhist cosmology, Kamadhatu (the world of desire), Rupadhatu (the world of forms) and Arupadhatu (the world of formlessness). As visitors walk to the top the monument guides the pilgrims past 1,460 narrative relief panels on the wall and the balustrades.
Indian connect in History of Borobudur

Borobudur was built by the Sailendra Dynasty kings in the 8th and 9th centuries, around that time that Charlemagne ruled Europe. When it was completed an epic poet from Ceylon wrote: "Thus are the Buddha incomprehensible, and incomprehensible is the nature of the Buddhas, and incomprehensible is the reward of those who have faith in the incomprehensible." According to UNESCO: Founded by a king of the

Saliendra dynasty, Borobudur was built to honour the glory of both the Buddha and its founder, a true king Bodhisattva. This colossal temple was built between AD 750 and 842: 300 years before Cambodia's Angkor Wat, 400 years before work had begun on the great European cathedrals. Little is known about its early history except that a huge army of workers worked in the tropical heat to shift and carve the 60,000 square meters of stone.

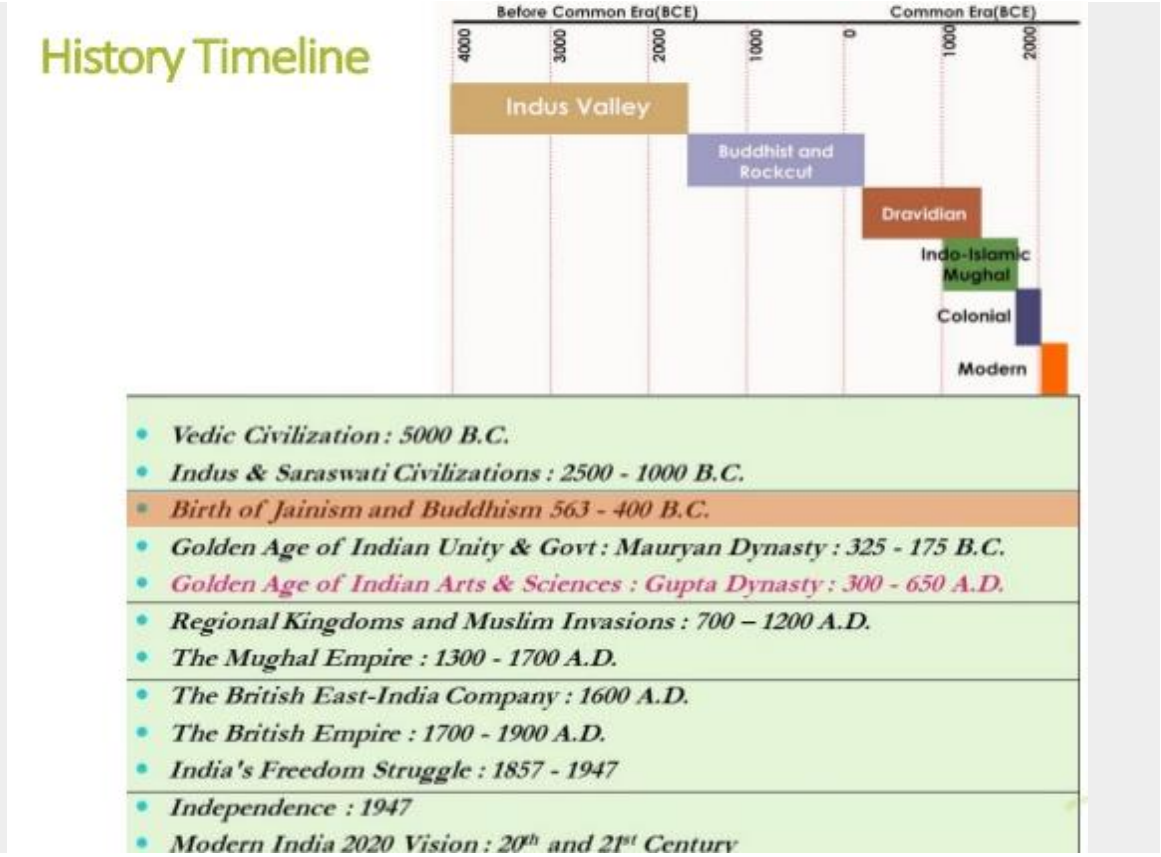
Why it was built remains a mystery. There are no written records on the subject. No ancient cities have been found nearby. There is no clear sanctuary as a place of worship and no room to store icons. Many historians and archeologists believe that Borobudur is not a temple but rather a kind of advertisement for Buddhism. According to an expert on the subject, John Mikic, Borobudur was built to "to engage the mind" and to "give a visual aid for teaching a gentle philosophy of life."

Borobodur was an active religious center until the 10th century when it was abandoned for reasons that are not clear. At the beginning of the 11th century AD, because of the political situation in Central Java, divine monuments in that area, including the Borobudur Temple became completely neglected and given over to decay.According to UNESCO: the Stylistically the art of Borobudur is a tributary of Indian influences (Gupta and post-Gupta styles).



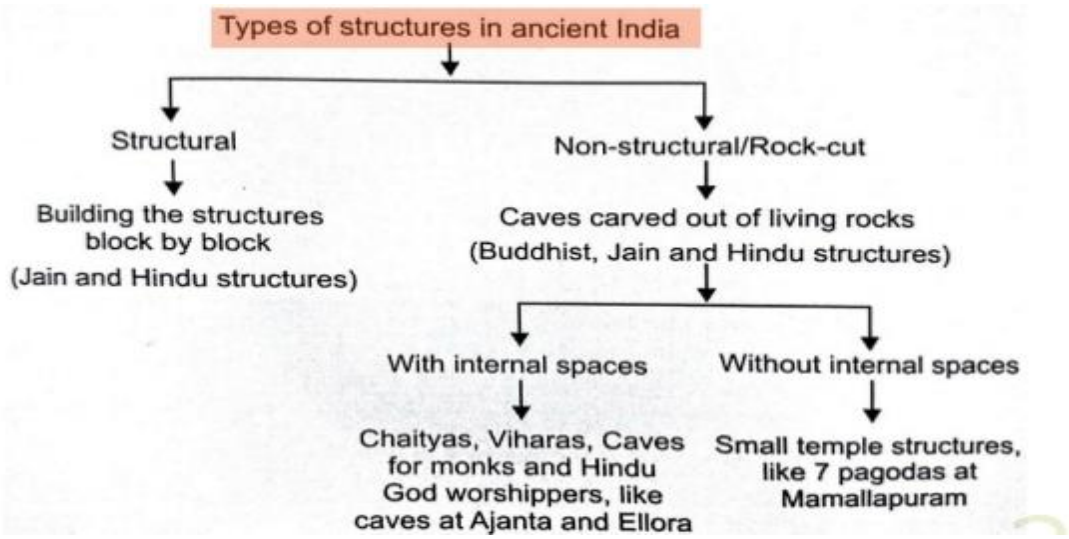
Borobudur, northwest view

Buddhist Architecture-Viharas- BUDDHIST ARCHITECTURE



The early structures that were built during the empires were permanent in nature and long lasting. Non-Structural or rock-cut means that they were carved out of mountain cliff or huge rocks.

The Buddhist Architecture began with the development of various symbols, representing aspects of the Buddha's life(563BCE- 483BCE). Indian Emperor Ashoka, not only established Buddhism as the state religion of his large Magadh empire, but also opted for the Architectural monuments to spread Buddhism in different places. The major features of this style are Stupas, Stambhas, Chaityas, Viharas. Beginning of Buddhist architecture in India was in the 3rd century BCE.. Three types of structures are associated with the religious architecture of early Buddhism: monasteries



1. (Viharas), places to venerate relics
2. (stupas), and shrines or prayer halls
3. (chaityas also called chaitya grihas), which later came to be called temples in some places.

This religion initially did not involve making of figures or idols but gradually the followers started making sculptural representations of Buddha. There are 2 phases of Buddhism:

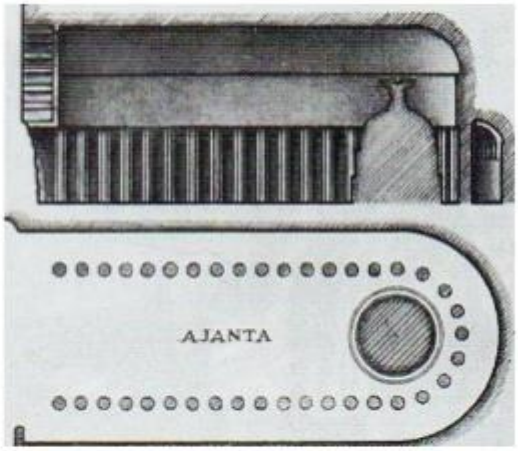
1. HINAYANA- 2ND CENTURY BC- 2ND CENTURY AD
2. MAHAYANA- 3RD CENTURY AD – 7TH CENTURY AD

Viharas initially were only temporary shelters used by wandering monks during the rainy season, but later were developed to accommodate the growing and increasingly formalized Buddhist monasticism(monkhood). An existing example is at Nalanda (Bihar). The initial function of a stupa was the veneration and safe-guarding of the relics of the Buddha. The earliest surviving example of a stupa is in Sanchi (Madhya Pradesh). In accordance with changes in religious practice, stupas were gradually incorporated into chaitya-grihas (prayer halls). These reached their high point in the 1st century BC, exemplified by the cave complexes of Ajanta and Ellora (Maharashtra). The Pagoda is an evolution of the Indian stupa. Buddhist architecture in India

•100ft by 40ft by 33ft

•Same roof ribs

•Two tiered stupa with circular base and elongated dome



Cave No 10 at Ajanta

Buddhist architecture emerged slowly in the period following the Buddha's life, along with the Hindu temple architecture. Brahmanist temples at this time followed a simple plan – a square inner space, the sacrificial arena, often with a surrounding ambulatory route separated by lines of columns, with a conical or rectangular sloping roof, behind a porch or entrance area, generally framed by freestanding columns or a colonnade. The external profile represents Mount Meru, the abode of the gods and centre of the universe. The dimensions and proportions were dictated by sacred mathematical formulae. This simple plan was adopted by Early Buddhists, sometimes adapted with additional cells for monks at the periphery (especially in the early cave temples such as at Ajanta, India). The basic plan survives to this day in Buddhist temples throughout the world. • The profile became elaborated and the characteristic mountain shape seen today in many Hindu temples was used in early Buddhist sites and continued in similar fashion in some cultures. • In others, such as Japan and Thailand, local influences and differing religious practices led to different architecture. Gupta period temple at Sanchi besides the Apsidal hall with Maurya foundation Evolution of Buddhist Architecture Early Buddhist Architecture.

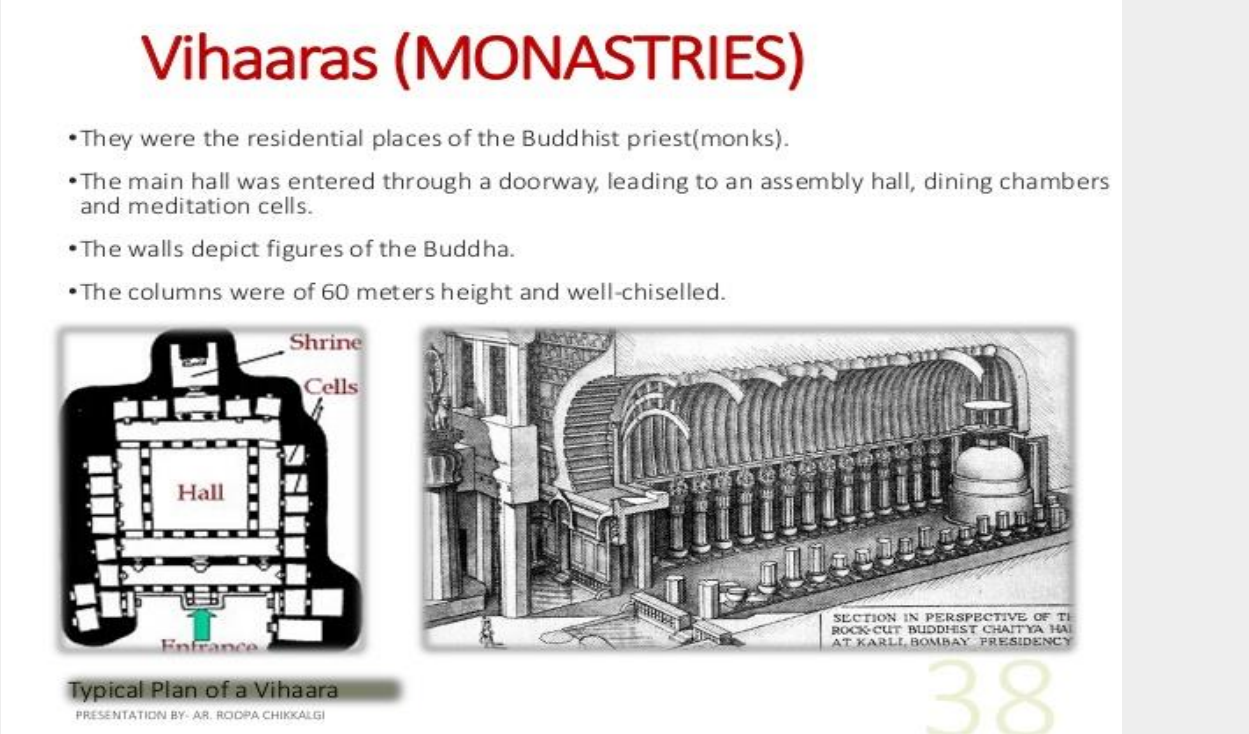
Early Buddhist temples: Early temples were often timber, and little trace remains, although stone was increasingly used. Cave temples such as those at Ajanta have survived better and preserve the plan form, porch and interior arrangements from this early period. As the functions of the monastery-temple expanded, the plan form started to diverge from the Brahmanist tradition and became more elaborate, providing sleeping, eating and study accommodation. A characteristic new development at religious sites was the stupa. Stupas were originally more sculpture than building.• One of the earliest Buddhist sites still in existence is at Sanchi, India, and this is centred on a stupa said to have been built by King Ashoka (273-236 BCE). The original simple structure is encased in a later, more decorative one, and over two centuries the whole site was elaborated upon. The four cardinal points are marked by elaborate stone gateways. As with Buddhist art, architecture followed the spread of Buddhism throughout south and east Asia and it was the early Indian models that

served as a first reference point, even though Buddhism virtually disappeared from India itself in the 10th century. The Borobudur Temple, Indonesia Buddhist Temple during Gupta Period.

Decoration of Buddhist sites became steadily more elaborate through the last two centuries BCE, with the introduction of human figures, particularly on stupas. However, the Buddha was not represented in human form until the 1st century CE. Instead, aniconic symbols were used. This is treated in more detail in Buddhist art, Aniconic phase. It influenced the development of temples, which eventually became a backdrop for Buddha images in most cases. Temples became Backdrop for Budhha images Buddhisttemples

Architectural History FEATURES OF BUDDHIST ARCHITECTURE

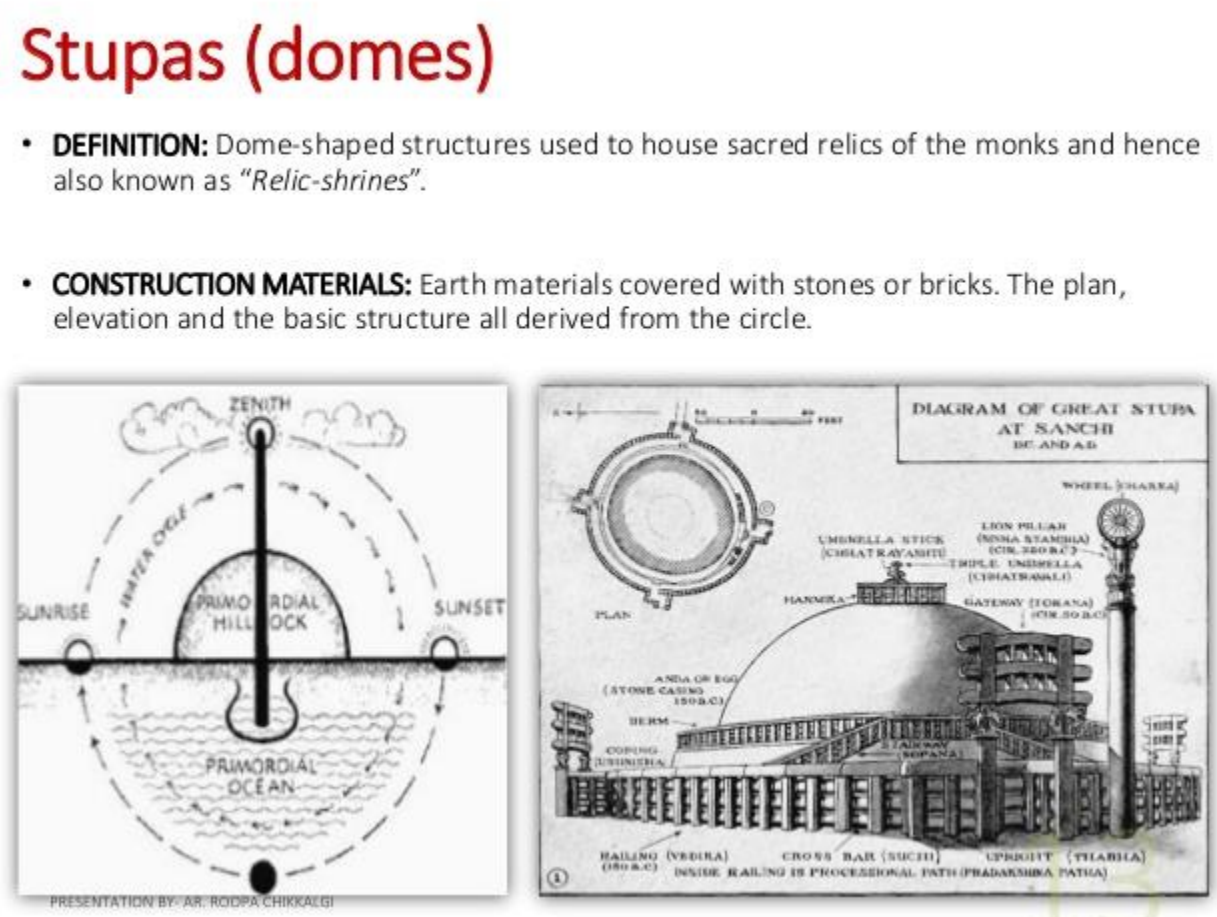
The major features of this style are: Stupas (Buddhist shrine) Stambhas (Pillars) Chaityas (Caves) Vihaaras (Monasteries) • Out of these, the prominent examples of Chaitya Hall and Viharas can be found in Rock-Cut Architecture. Even the Stupa can be found in certain Chaitya halls in a miniature form. Features of Buddhist architecture.



Stupas (domes) DEFINITION: Dome-shaped structures used to house sacred relics of the monks and hence also known as “Relic-shrines”. CONSTRUCTION MATERIALS: Earth materials covered with stones or bricks. The plan, elevation and the basic structure all derived from the circle. STUPA IS MOUND OF THE EARTH ENCLOSING A RELICCAN BE COMPARED WITH THE MASSIVE FORM OF THEGREAT PYRAMIDS OF EGYPT. THEY ALSO CALLED AS THUPPA IN PALI, DAGABA INSIMBALI, TOPE IN ENGLISH & DHATUGRABH IN SANSKRIT.(DHATUGRABH=RELICS PRESERVED IN VESSEL CLASSIFIED INTO THREE TYPES.:

1.SARIKA STUPA-raised over body relics.
2.PARIBHOJIKA STUPA - erected over the articles, like the bowl, the sanghati
3. UDDESHIKA STUPA- Stupas built as commemorative monuments.

Structural Features: The spherical dome symbolized the infinite space of the sky. The dome is called as anda or egg. The dome is a solid brick work is 36.60M in dia, and 16.46M high. • A large hemispherical dome which is flat at the top, and crowned by a triple umbrella or Chattra on a pedestal surrounded by a square railing or Harmika. A railing enclosed called Vedica which is about 3.35 M high leaving an ambulatory passage or pradikshina path with the gateways. The upper ambulatory passage (midhi) 4.87M high from the ground and 1.8M wide. There are four gateways known as Toronas at the cardinal points of the campus. Toronas built by ivory or metal worker. Elevation Plan.



PLANNING OF SANCHI STUPA

Stone vedicaUpper Ambulatory 1.8m wide3.35m high Harmika or triple umbrella Suchi 60 cm dia Urdhava patas 45cm dia 60-90 cmc/c Ushnisha Steps leading to upper ambulatoryLower Ambulatory 3.35 m. high.

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Toranas at Sanchi Toranas are associated with Buddhist stupas like the Great Stupa in Sanchi, as well as with Jain and Hindu structures, and also with several secular structures. In the 1st century BCE, four elaborately carved toranas (ornamental gateways) and a balustrade encircling the entire structure were added around the sanchi stupa built during Mauryan period.

Stambhas (pillars) The next development was the free standing monolithic columns erected over sites selected because of their sacred associations. They were basically stone objects.

DEFINITION: In the context Of Hindu Mythology, stambha, is believed to be a cosmic column. DESIGN: A stambha consists of a circular column or shaft slightly tapering towards the summit (monolithic). On top of this shaft is the Persepolitan bell or the inverted lotus shaped base. Above this is the abacus on top of which rests the crowning sculpture. These three portions were carved out of a single stone (monolithic). The famous iron pillar from the Gupta period is a fine specimen, withstanding exposure to rain & storm, yet remaining smooth and unrusted bearing testimony to the mastery of Indian metal-casting.
Iron Pillar Ashokan Pillar

CHAITYAS -A Buddhist shrine or prayer hall with stupa at one end. Made for large gatherings of devotees. Made in rock-cut due to permanency of structure. Chaityas were influenced by ascetic lifestyle of Vedic period and tendency of hermits to retire in solitude. Basic Characteristics Accommodates Stupa. Apsidal Plan. No division between nave and chaitya i.e space for congregational service not clearly defined. Vaulted hall. Colonnades. Side aisles.

Why a Chaitya Hall? : The stupa evolved from being a funerary mound carrying object of worship, had a sacral value. Building needed to accommodate copies of stupa and provide shelter. A structural house for religious activities. Birth of temples with idol worship. Building had almost circular plan and a domed roof.

Chaityas (caves) The next significant development was the rock-cut architecture. Its earliest and most imp. Marvel was the Lomas Rishi Cave, at Barabar hills, Bihar. Derived from timber huts and wooden arch. of Vedic times. They were rectangular halls, with finely polished interior walls. There were a number of well proportioned pillars, generally around 35, and a semi-circular roof. Opposite one entrance stood a stupa. All the pillars have capitals on them, with carvings of a kneeling elephant mounted on bell-shaped bases.

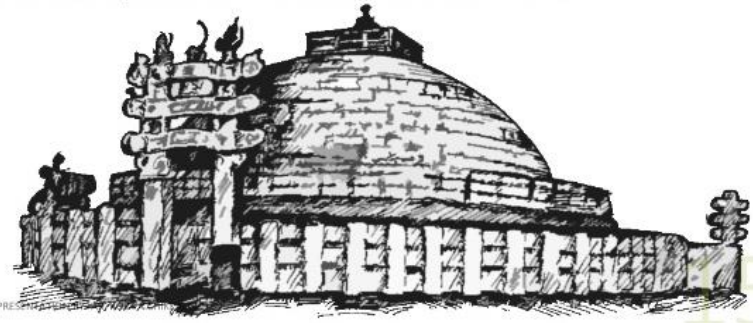
Architecturally, chaityas show similarities to Roman Design concepts of columns and arch. The monks built many structures which were carved out of a single massive rock, done with hammer and chisel, bare hands. The chaityas were almost 40 meters long, 15 meters wide and 15 meters high. Chaityas (caves)

DESIGN: The pillars had three parts: prop, which is the base which is buried into the ground; the shaft, the main body of the pillar which is polished and chiseled; and capital, the head of the pillar where figures of animals are carved. The Stupa at the end of the Chaitya Hall has an umbrella at the top. This Umbrella suggests association with Buddhism. There is a wooden facade, made out of teak wood. The facade makes it look as if the entire structure was resting on the back of an elephant with ivory tusks and metal ornaments.

Architectural Features: Wooden construction inspired from Vedic period imitated in natural rock. Supplemented with wooden surfaces for e.g.. Screens etc. (half timber construction) Shows similarities to Roman concept of column and arch, but no evidence of any relation.

Architectural FeaturesRectangular halls with finely polished interior walls. Well proportioned pillars with capitals(around 35). Semi circular roof. Pillar had three parts: prop, base buried in ground and shaft. Stupa at the end. Extensive use of motifs, decorative and symbolic.

- Sanchi Stupa is located 40 km north east of Bhopal, and 10 km from Besnagar and Vidisha in the central part of the state of Madhya Pradesh.
- Sanchi Stupa was built by Ashoka (273-236 B.C.)
- Sanchi Stupas is located on the top of the Sanchi hill, which raise about 100M high above the plain.
- The 'Great Stupa' at Sanchi is the oldest stone structure in India



- The spherical dome symbolized the infinite space of the sky. The dome is called as anda or egg.
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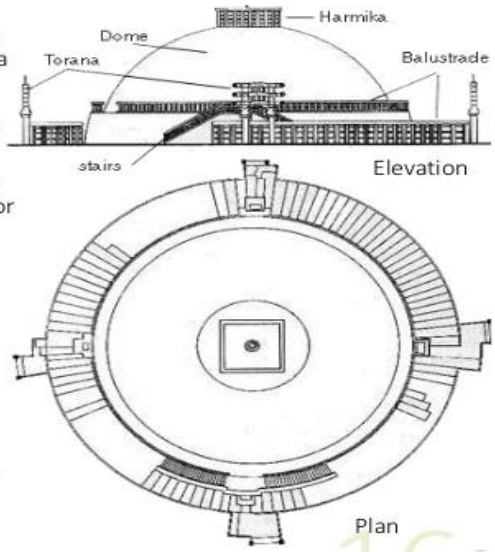

PRESENTATION BY- AR. ROOPA CHIKKALGI

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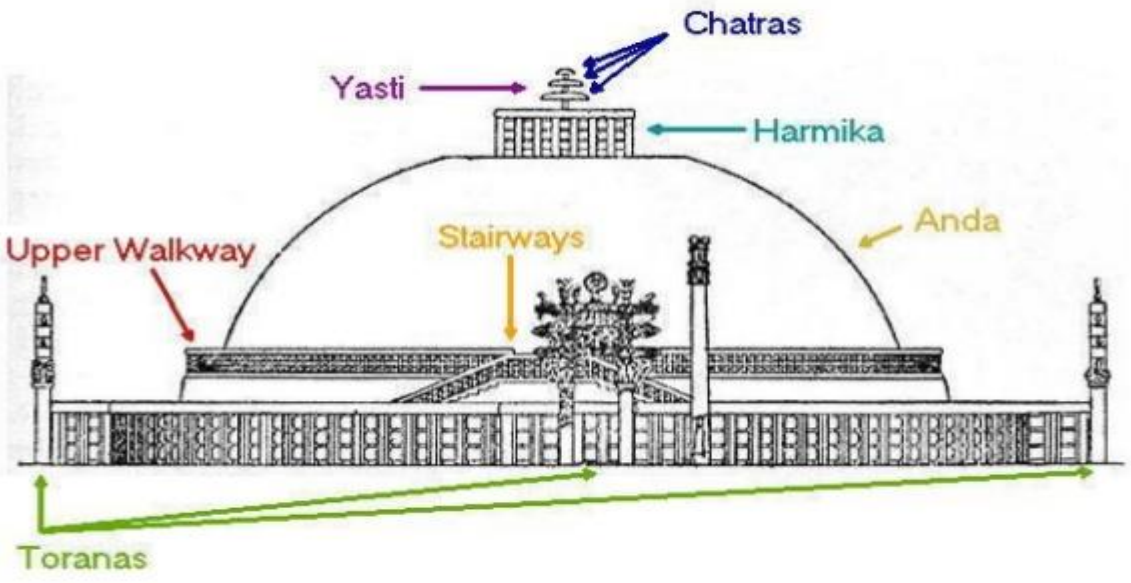
Chaitya Arch : Chaityas normally had a great-horseshoe archway with a wall or screen below. There was sun window in center of the archway for light.
Evolution of Chaitya Hall

VIHARAS A monastery, arrangement of cells for accomodation of monks Dwellings were simply wooden construction/thatched bamboo huts Near settlements on trade routes After first century AD, Viharas came in as educational institutes



Basic Characteristics Quadrangular court for gathering Surrounded by small cells Front wall incorporated a shrine for image of Buddha Cells had rock cut platforms for beds Viharas were not alike in design Doorways were on sides of the walls of main hall.Construction and Materials Rock-cut architecture basically used wooden construction down to joinery details Hardly structuralIn brick, corbelled arches are used, and very large bricks to for large span motifs used floral patterns, animals(used throughout the kingdom)

Vihaaras (MONASTRIES) They were the residential places of the Buddhist priest(monks). The main hall was entered through a doorway, leading to an assembly hall, dining chambers and meditation cells. The walls depict figures of the Buddha. The columns were of 60 meters height and well-chiselled. Typical Plan of a Vihaara

WHY WESTERN GHATS •Uniformity of texture in hills. Horizontally stratified. Ends in perpendicular cliffs. BUILDING STRATEGYCliff was made perpendicular Entry was made A small excavated for architect monk Excavation from top to bottom .Subsequently other cells were build. Ajanta Cave No. 10 100ft by 40ft by 33ft Same roof ribs Two tiered stupa with circular base and elongated dome. Bhaja(150 b.c) Most primitive hall. 55ft by 26ft, side aisles 3.5ft wide and high stilted vault 29ft high with closed rank wood ribs. Facades have numerous mortice holes for fixing elaborate wooden frontages Simple stupa with cylindrical base and a wooden harmikaa and chhatri. One central doorway+2 side ones. Projection balcony supported on four pillars. H shaped framework held by projection beams.

Ajanta No.9 Entire hall rock carved. Rectangular plan, ceilings of side aisles flat with perpendicular pillars. Doorway in centre and a window on either side, topped by elegant cornice. Lattice windows around archways. No wooden ribs bracing the vaults.

Mahayana Phase- 400 A.D -600 A.D: Basic Characteristics -Main seats of this school were Ajanta, Ellora, Auarngabad. There was a change in iconography since both schools perceived different imagery of Buddha. Elements of Chaitya Halls remained same. Viharas became finer and more elaborate. Ajanta Cave No. 26 •68ft by 36f by 31 ft. Last Ajanta Hall. More ornamented, right from pillars, elaborate triforium, and recessed panels. Portico had 3 doorways with Chaitya window above. Decline of style by excessive workmanship.

Ellora Caves:Caves excavated out of low ridge hills, Buddhists occupied best site. Dhedwada group(caves 1 to 5) and 6 to 12 were two main groups Mahanwada cave(no.5) had both monastery and hall, it had two parallel platforms for seating of priests Later group had chaitya hall no. 10 Cave no. 2 has 48 pillars colonnade attached with side gallery. Cushion pillar comes in focus now.Caves 66 to 12 -Largest monasteries. No. 12 is knows as tin thaal(thre stories), can lodge 40 priests (108ft by 60 ft). Does not have any ornamentation. Access is through pillared verandah. All three floors are different.

Inspiration and influence.Inspired from Vedic wooden construction techniques, prevalent to Buddhism coming in vogue. Inspired Indian temples, for eg. Early Brahmanical temples in South India (for eg. Chaitya window motif), temples at Sanchi. Even Jain caves got influenced from Buddhism, fro eg. Udaigiri. Spread to North East.Temples Since the same guild of artists worked for all the religions, there is hardly any difference in the treatment of the Buddhist, Brahmanical and Jain temples in a particular region at a given period. The oldest existing temple is temple at Sanchi, which is also the earliest known example of Gupta temple style. The only décor was at the entrance present with bands of scrolls and pillars. This temple lays the logical foundation of temple architecture in North India, which developed in due course a shikhara over its basic form.
The Mahabodhi Temple is a Buddhist temple in Bodh Gaya, marking the location where the Buddha, is said to have attained enlightenment. Bodh Gaya is located about 96km from Patna, Bihar. Next to the temple, on its western side, is the holy Bodhi tree and the monastery there the Bodhimanda Vihara. The tallest tower is 55 metres (180 ft) tall. Holy Bodhi tree Mahabodhi Temple

Sanchi Stupa

- Sanchi Stupa is located 40 km north east of Bhopal, and 10 km from Besnagar and Vidisha in the central part of the state of Madhya Pradesh.
- Sanchi Stupa was built by Ashoka (273-236 B.C.)
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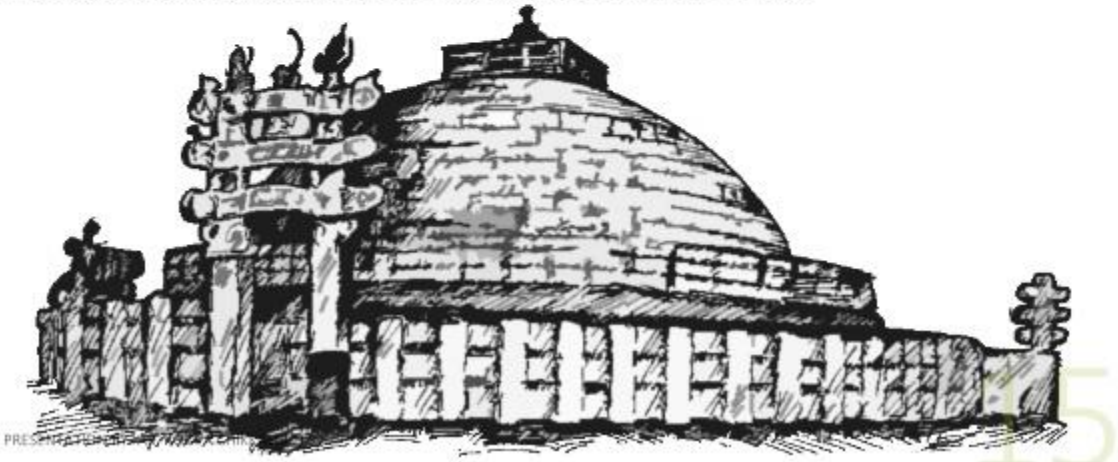
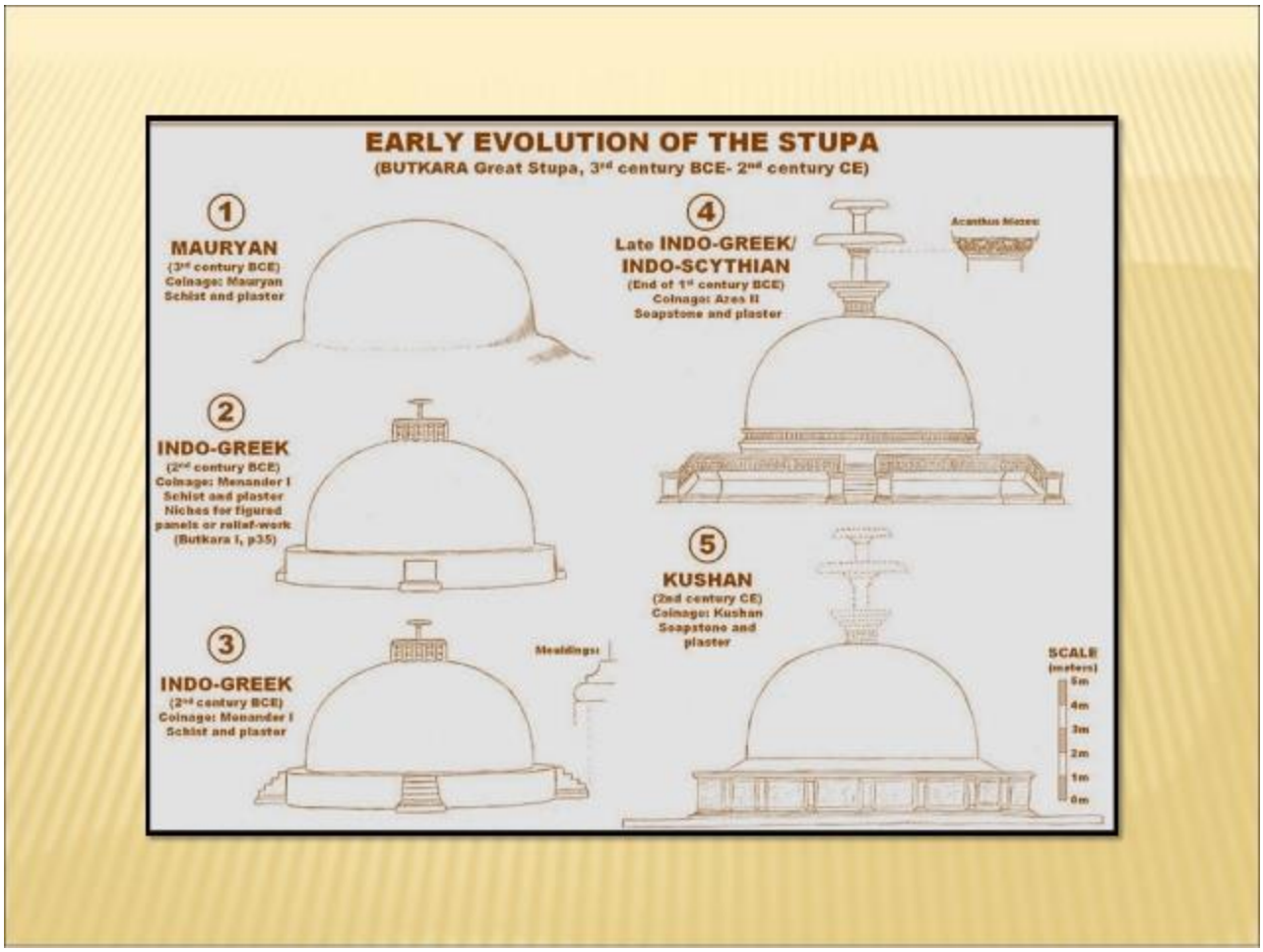


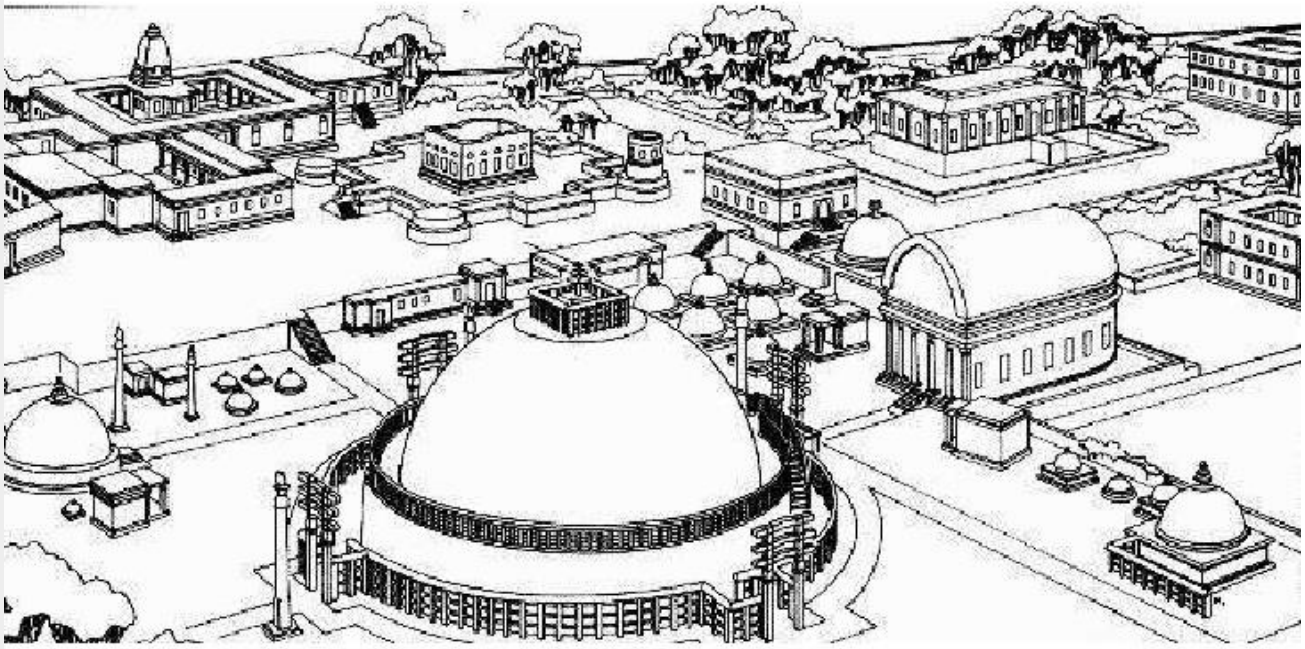


The 'Great Stupa' at Sanchi is the oldest stone structure in India. Sanchi Stupas is located on the top of the Sanchi hill, which raise about 100M high above the plain. Sanchi Stupa was built by Ashoka (273-236 B.C.) Sanchi Stupa is located 40 km north east of Bhopal, and 10 km from Besnagar and Vidisha in the central part of the state of Madhya Pradesh.

LOCATION: Stupas were erected over the sacred relics of the monks and worshiped with great reverence. They are therefore known as Relic-Shrines. The stupa more then a funeral mound was planned like a Vedic village.

Great Stupa, Sanchi (Madhya Pradesh)- Dharmaksha stupa

SITE PLANNING



There are four gateways known as Toronas at the cardinal points of the campus. Toronas built by ivory or metal worker. Plan and elevation of Sanchi Stupa.The terrace (midi) 4.87M high from the ground was added thus creating a separate and upper ambulatory passage 1.8M wide. At the base of the dome is a high circular terrace probably meant for parikrama or circumambulation and an encircling balustrade. ϖ a railing enclosed called Vedica which is about 3.35 M high leaving an ambulatory passage or pradikshina path with the gateways. ϖ a large hemispherical dome which is flat at the top, and crowned by a triple umbrella or Chattra on a pedestal surrounded by a square railing or Harmika. ϖ The dome is a solid brick work is 36.60M in dia, and 16.46M high. The spherical dome symbolized the infinite space of the sky, abode of God. The dome is called as anda or egg or.

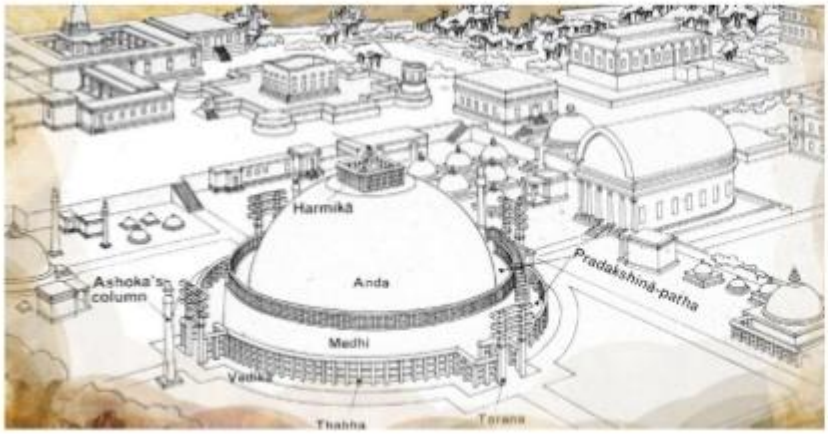
The top panels is crowned with Tri-Ratna symbol of the Buddhist trinity, Buddha, the law (dharma) and monastic community (sangha) with wheels of justice in the centre which rest on elephant sϖ The panels have volutes at their terminal ends surmounting with animal sculpture. ϖ These columns support three separate horizontal panels between each of which is row of ornamental balusters. ϖ Torona consist of 2 square upright columns with capitals or lion of elephant heads denoting strength. ϖ The total height of this erection is about 10. 36M with a width of 3M. Ashok chakra The Gateway 'Torona'ϖhaped pedestal.

FEATURES Harmika or triple umbrella Upper Ambulatory 1.8m wide3.35m high Stone vedica Ushnisha Urdhava patas 45cm dia 60-90 cmc/c Suchi 60 cm dia Lower Ambulatory 3.35 m. high Steps leading to upper ambulatory. Front View of sanchi stupa Column of Torna Front View of Torna Elephants and Yakshi of the Eastern Torana, Great Stupa, Sanchi, mid-1st century BC - AD 1st century View of Torna from upper ambulatory. these niches were mostly provided to erect Buddha's statue.

Delicately carved with beautiful floral and geo-metrical patterns. Site Mapϖ a line of sculptured ornaments.run below it ϖThe facing of stone basement has 8 niches, ϖThe Stupa consist of large tower built in stone masonry at the basement for a height of 13M and in brick masonry above for a height 34M. built by Ashoka and later rebuilt in the Gupta period. ϖ situated Benares. 6.5KM to the north of a commemorative Stupa, built in 7th centuary.

Buddhist architecture in India

- Viharas initially were only temporary shelters used by wandering monks during the rainy season, but later were developed to accommodate the growing and increasingly formalized Buddhist monasticism(monkhood). An existing example is at Nalanda (Bihar).
- The initial function of a stupa was the veneration and safe-guarding of the relics of the Buddha. The earliest surviving example of a stupa is in Sanchi (Madhya Pradesh).



- In accordance with changes in religious practice, stupas were gradually incorporated into chaitya-grihas (prayer halls).
- These reached their high point in the 1st century BC, exemplified by the cave complexes of Ajanta and Ellora (Maharashtra).
- The Pagoda is an evolution of the Indian stupa.

- The spherical dome symbolized the infinite space of the sky. The dome is called as anda or egg.
- The dome is a solid brick work is 36.60M in dia, and 16.46M high.
- A large hemispherical dome which is flat at the top, and crowned by a triple umbrella or Chattra on a pedestal surrounded by a square railing or Harmika.
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- The upper ambulatory passage (midhi) 4.87M high from the ground and 1.8M wide.
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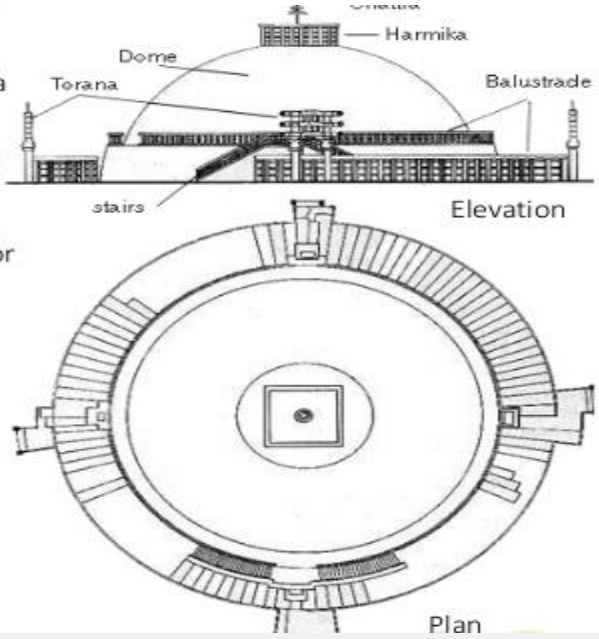
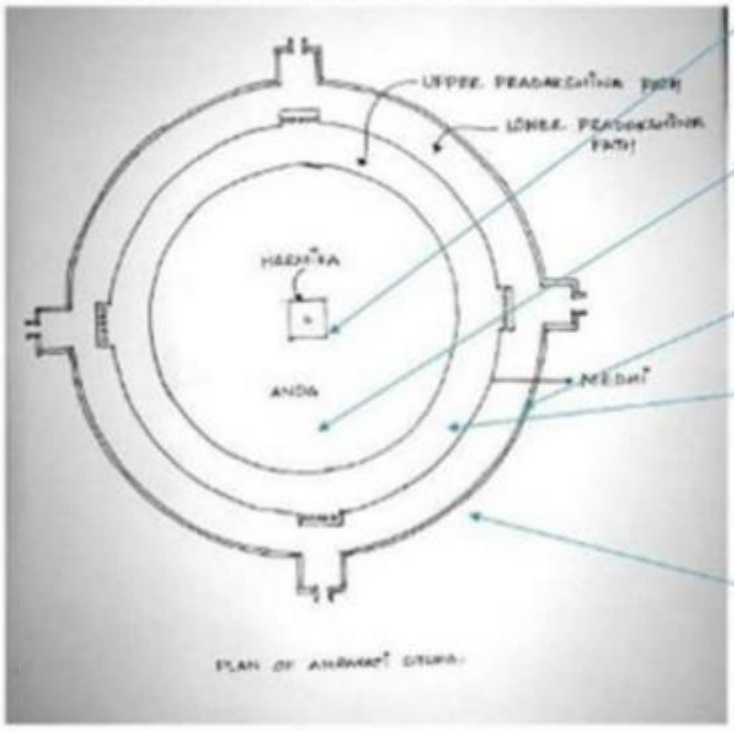


PLANNING OF SANCHI STUPA



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gateways known as 'TORANAS' at the cardinal points to the compass and are slightly staggered from the railing enclosing stupa.

•The ambulatory or pradakshina path is fenced by railing 3.35m high all around the stupa.

•Outside the railing there once stood the famous ashoka pillar, the fragments of which are noticed now to the right of southern torana

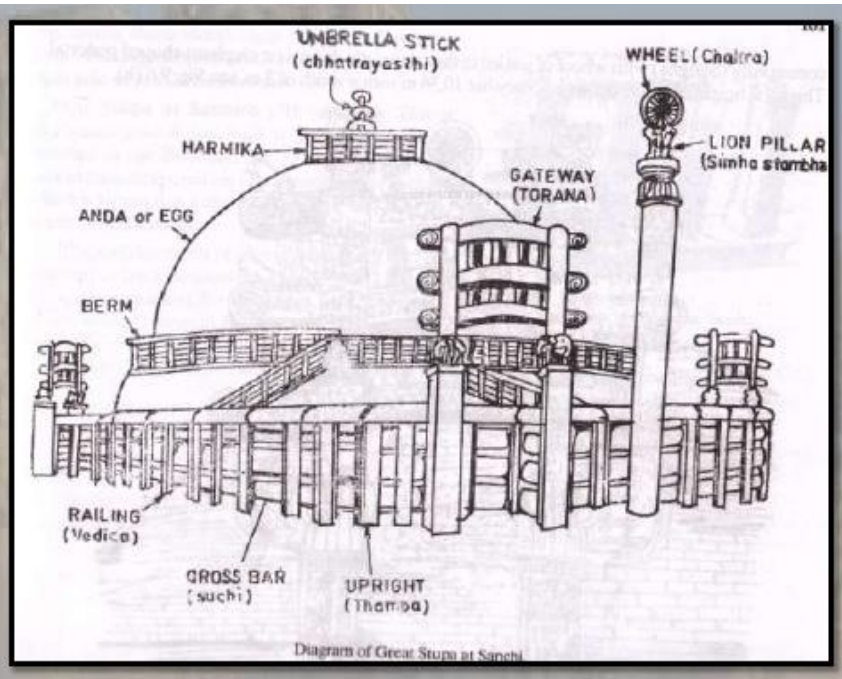

Diagram of Great Stupa at Sanchi

Buddhist Architecture- Stupa

- STUPA IS MOUND OF THE EARTH ENCLOSING A RELICCAN BE COMPARED WITH THE MASSIVE FORM OF THEGREAT PYRAMIDS OF EGYPT
- THEY ALSO CALLED AS THUPPA IN PALI, DAGABA INSIMBALI, TOPE IN ENGLISH & DHATUGRABH IN SANSKRIT.(DHATUGRABH=RELICS PRESERVED IN VESSEL

CLASSIFIED INTO THREE TYPES.

•*SARIKA STUPA*-raised over body relics.
•*PARIBHOJIKA STUPA* - erected over the articles, like the bowl, the sanghati

•UDDESHIKA STUPA- Stupas built as commemorative monuments.

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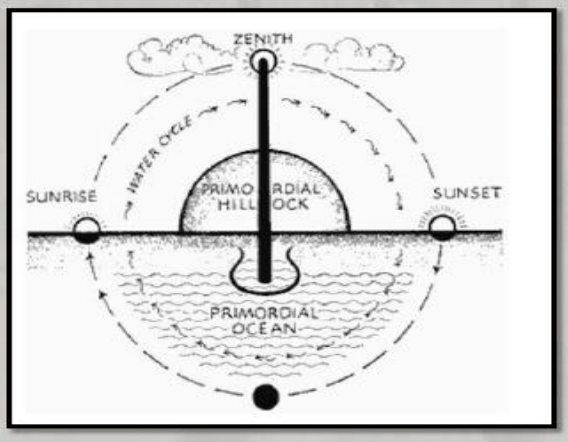
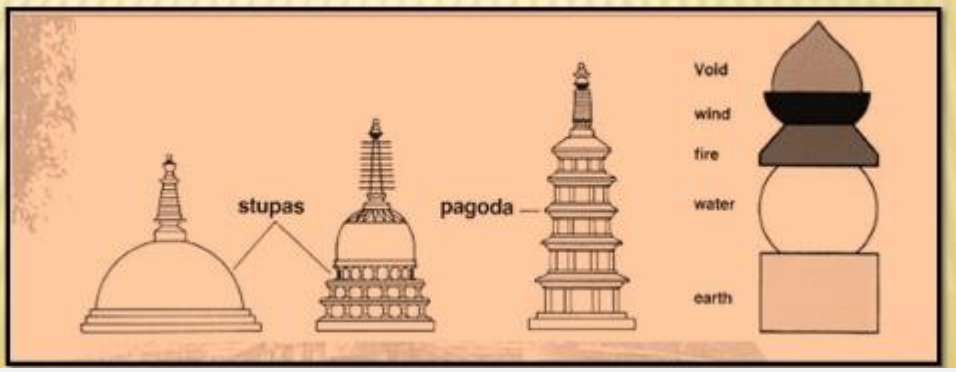
STUPA

- A stupa is a mound-like structure containing buddhist relics, typically the remains of Buddha, used by Buddhists as a place of worship.
- These stupas are the circular tumuli built of earth, covered with stone or brick, the plan, elevation, section and the total form of which were all derived from circle.



Stupa become a cosmic symbol in response to a major human condition: death. With the enlightenment of the Buddha, stupa became a particularly buddhist symbol.

- After many years of teaching Buddha died at the age of 80 .his body was cremated and ashes were divided in to eight parts the ashes were then deposited in several special mound –shaped monuments called Stupas
- Umbrella were often mounted at the top of stupa as a sign of honor and respect
- Also known as thupa ,thope, pagoda ,dagoba

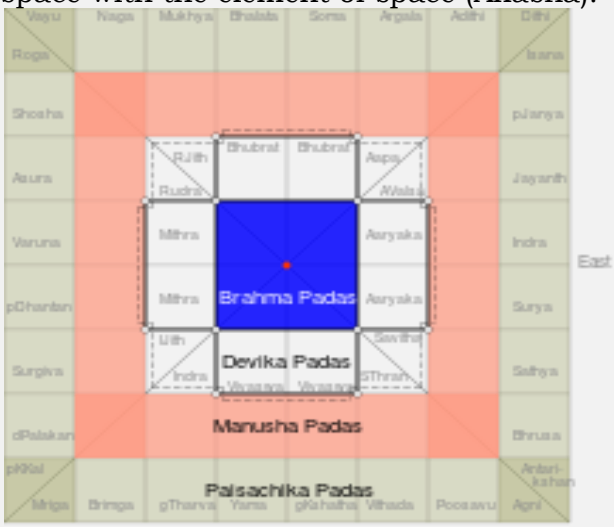


MANDALA AND HINDU TEMPLE ARCHITECTURE

Although there have been various arguments by authors of Indian temple architecture like Stella Kramrisch and Michael W. Meister about the applicability of the Vastu Purusha Mandala as a governing device for temple architecture, it is safe to say that for formulating the layout of the temple, the Vastu Purusha Mandala has been an imperative tool. Though the 8 x 8 grid or the Manduka Vastu Mandala has been used in various temples of Indian architecture, it is to be noted that regional differences have played a major influence on the workability of the mandala design throughout India. Customarily, mandalas were spaces for the symbolic consciousness of universal theories which help in the awakening of the individual psyche. The mandalas can be thought of as diagrams that function as a cue to reach a contemplational state which is the primary aim of the tradition. The form of the temples that are based on the regulating lines of the mandala were meant to create spaces that bring about a "physical and spatial" communion between God and man. [1]

The Vastu Purusha Mandala contains a minimum of nine sections signifying the directions north, south, east, west, northeast, northwest, southeast, southwest and the centre represented as square grids. In the Vastu Purusha Mandala, the Purusha's head is located in the northeast direction and this is considered utmost sacred. In the southwest are his feet and his knees and elbows in the northwest and southeast. Kept open and clear in the centre part of the diagram are his main organs and his torso. Starting from a single undivided square of 1 x 1 there are grid patterns ranging up to 32 x 32 thus making it 1024 sections. Architecturally, the adaptation of the Vastu Purusha Mandala has been seen in the design of houses, palaces, temples and even cities. Integrating it into the design brings a certain amount of order in the design. Here, the squares are assumed as cubes of architectural spaces.

The five elements of earth, water, fire, air and space correspond with specific sections of the Vastu Purusha Mandala. The south-west direction is associated with the element of earth(Bhumi); south-east with the elements of fire (Agni); north-east with the element of water (Jala); north-west with the element of air (Vayu) and the centre space with the element of space (Akasha). [2]



Manduka Mandala - Hindu Temple 64 padas

Indian temples are microcosm of Cosmos, acting as a connecting bridge between physical world and divine world through their proportional arrangement. Mandapa, which were entrance porches in the beginning became an integral part of the temple

plan in providing additional functions and in form providing an ex- pression of cosmos especially in elevation. Ashapuri temples analyzed here, corresponds to Nagara temple proportions varying in proportionas they belong to two different styles of nagara Architec- ture. From the study of Adam Hardy it is said that they possessed temples of different styles in Nagara other than these two. The site of Ashapuri seems to be a place for the development of the Ngara school of archigtecture.

The Gupta Dynasty ruled the North Central India between the 4th and 6th centuries CE and is considered a golden age for arts. The Dynasty was founded by Chandragupta I who acceded to the throne in 320 CE. The Guptas were the first to build Hindu and Buddist temples to fulfill a certain purpose.This style of architecture displays a variety of beautifully adorned towers, engravings and carvings, and rock cut shrines in their temples. Unfortunately very few among the many temples of the Gupta Dynasty survive today. https://www.thehansindia.com/posts/index/Hans/2016-05-31/Understanding-Gupta-Architecture/231823

During the Gupta empire—from about 320 to 550 CE—emperors used Hinduism as a unifying religion and helped popularize it by promoting educational systems that included Hindu teachings; they also gave land to brahmins. The Gupta emperors helped make Hinduism the most popular religion on the Indian subcontinent. North Central India saw the first purpose-built Hindu (and also Buddhist) temples which evolved from the earlier tradition of rock-cut shrines.

Cosmos: In Gupta-era India, the square was considered to be the perfect shape and often used as a representation of the cosmos. Gupta temples often served as monuments to multiple deities, not just one, so this understanding of things united within the cosmos is significant. Gupta rule, while solidified by territorial expansion through war, began a period of peace and prosperity marked by advancements in science, technology, engineering, art, dialectics, literature, logic, mathematics, astronomy, religion, and philosophy. Buddhism greatly influenced the Indian religion. It gave to Indian people a simple and popular religion. It rejected ritualism, sacrifices and dominance of priestly class. Buddhism spread rapidly because its teachings were very simple and it was taught in the language of the people. The patronage of two great emperors — Ashoka and Kanishka — made it a world religion. Its opposition to the caste system made it popular among the castes that were considered low.

The Borobudur monument combines the symbolic forms of the stupa (a Buddhist commemorative moundusually containing holy relics), temple mountain (based onMount Meru of Hindu mythology), and the mandala (a mystic Buddhist symbol of the universe, combining the square as earth and

The Shailendra dynasty (IAST: *Śailēndra* derived from Sanskrit combined words *Śaila* and *Indra*, meaning "King of the Mountain", was the name of a notable Indianised dynasty that emerged in 8th-century Java, whose reign signified a cultural renaissance in the region. The Shailendras were active promoters of Mahayana Buddhism with the glimpses of Hinduism, and covered the Kedu Plain of Central Java with Buddhist monuments, one of which is the colossal stupa of Borobudur.The Shailendras are considered to have been a thalassocracy and ruled vast swathes of maritime Southeast Asia, however they also relied on agricultural pursuits, by way of intensive rice cultivation on the Kedu Plain of

Central Java. The dynasty appeared to be the ruling family of both the Medang Kingdom of Central Java, for some period, and the Srivijaya Kingdom in Sumatra.

The inscriptions created by Shailendras use three languages; Old Malay, Old Javanese, and Sanskrit - written either in the Kawi alphabet, or pre-Nāgarī script. The use of Old Malay has sparked speculation of a Sumatran origin, or Srivijayan connection of this family. On the other hand, the use of Old Javanese suggests their firm political establishment on Java. The use of Sanskrit usually indicates the official nature, and/or religious significance, of the event described in any given inscription. After 824, there are no more references to the Shailendra house in the Javanese ephigraphic record. Around 860 the name re-appears in the Nalanda inscription in India. According to the text, the king Devapaladeva of Bengala (Pala Empire) had granted 'Balaputra, the king of Suvarna-dvipa' (Sumatra) the revenues of 5 villages to a Buddhist monastery near Bodh Gaya. Balaputra was styled a descendant from the Shailendra dynasty and grandson of the king of Java.
From Sumatra, the Shailendras also maintained overseas relations with the Chola kingdom in Southern India, as shown by several south Indian inscriptions. An 11th-century inscription mentioned the grant of revenues to a local Buddhist sanctuary, built in 1005 by the king of the Srivijaya. In spite the relations were initially fairly cordial, hostilities had broken out in 1025.

Rajendra Chola I the Emperor of the Chola dynasty conquered some territories of the Shailendra Dynasty in the 11th century. The devastation caused by Chola invasion of Srivijaya in 1025, marked the end of Shailendra family as the ruling dynasty in Sumatra. The last king of Shailendra dynasty — the Maharaja Sangrama Vijayatunggavarman — was imprisoned and taken as hostage. Nevertheless, amity was re-established between the two states, before the end of the 11th century. In 1090 a new charter was granted to the old Buddhist sanctuary, it is the last known inscription with a reference to the Shailendras. With the absence of legitimate successor, Shailendra dynasty seems ceased to rule. Other family within Srivijaya mandala took over the throne

The Sailendras and indian buddhism The rise of the pāla dynasty in the 8th century ad brought paradigm shifts in Buddhist text, ritual, and sacred architecture that sent cultural waves across the expanding maritime and land trade routes of Asia.The architectural concepts travelled in the connected Buddhist world between the Ganges valley and Java. A movement of architectural ideas can be seen from studying the corpus of the temples in the Pāla (750–1214 AD) and Śailendra (775–1090 AD)domains of India and Indonesia. This led to a paradigm shift in the design of a *stūpa* architecture at Kesariya (Bihar) that emphasizes the arrangement of deities in the circular maṇḍalic fashion with a certain numerological configuration of life-size Buddha figures placed in the external niches of the monument. This new architectural concept possibly played a key role in the development of a more elaborate structure of Borobudur in Java.The architectural linkages emerge stronger with the central fivefold structure of the temples of the Pālas and Śailendras. In order to make the essential comparison, a quick method of drawing architectural plans is developed that is based on the basic measurements and not archaeological plans.

Architectural development in *stūpa* structure: The main archaeological sites of the middle and lower Ganges plain were recorded in the 19th century by Alexander

Cunningham, following the travel accounts of the Chinese scholar-pilgrims Faxian (c. 337–422) and Xuanzang (c. 602–64). Northeast India contained not only early Buddhist *stūpa*s and monastic complexes, but also a range of *stūpa* structures that advanced from the traditional hemispherical *stūpa* of Sanchi, through the cruciform, terraced *stūpa* structure of Nandangaṛh to the elaborate *stūpa-maṇḍala* of Kesariya. Most of the Pāla structures that may have served as a model for Central Javanese temples are in dilapidated state today, making it difficult to track the architectural borrowings.

But since 1998, the ASI excavations of some parts of Kesariya Stupa in Bihar,India have uncovered striking design similarities with the massive Central Javanese *stūpa* of Borobudur, whose stepped pyramid structure and maṇḍalic arrangement of deities in circular

This article demonstrates how the spread of Buddhism through maritime routes was closely linked with commercial activities, and how these networks were different from overland routes. It also provides a survey on early India–China networks and introduces the activities of Buddhist monks and the importance of Śrīvijayan rulers and their contribution to the maritime spread of Buddhism. In the second part, the article discusses the role of Sri Lanka and the Bay of Bengal networks in the maritime

transmission of Buddhism. It shows that Buddhism spread in various forms from one cultural zone of Asia to another. It also demonstrates that the transmission of Buddhist doctrines, images and texts was a complex process that involved itinerant monks, traders and travellers.[1]
The Buddhas of Borobudur, for example, resemble in some ways the stone Buddhas of the Pāla Buddhist monastery of Ratnagiri in Odisha . There are unresolved debates about the origin of the Śailendra dynasty69 and their sudden rise to power in Central Java in c. 750–1090 that coincided with a massive surge in temple construction that included Borobudur (c. 760–830) and Candi Kalasan.

The construction dates of Buddhist monuments of the Śailendras and the Pālas are close and they have many design features in common. We have already seen how the design ideas for Buddhist art and architecture were circulating from the 5th century. It was the network of monks, artists, and craftsmen that made possible the construction of the huge monuments and ritual centres.

The first record of the association of the Śailendras and Pāla India is dated to the Kelurak inscription of c. 778 and the last inscription found in India referring to Śailendras is the smaller Leiden copperplate inscription of c. 1090.By then, the ties between the two states had been sustained for more than three centuries. [2]

From an architectural point of view, a monument like Borobudur can only have been the culmination of a long period of artistic gestation. Wolff Schoemaker (1924: 22) suggests three to four centuries of an autochthonous gestation period and argues about the lack of an autonomous development of sculpture in Java. Given the Śailendra-Pāla contacts and the construction of the earlier Śaiva temples on the Dieng plateau, it is not beyond the bounds of possibility in this connected Buddhist world that a breakthrough development in the Pāla domain, which transformed a *stūpa* into a *maṇḍala* of life-size Buddhas, was enhanced with narrative reliefs at Somapura and Vikramaśīla and reached its ultimate form of expression on Javanese soil. Jordaan has argued that the Śailendras built their monuments in direct cooperation with Indian architects and craftsmen. This seems possible at the high conceptual level of architectural design, but at the level of relief carving and highly innovative *stūpikā* design there is no trace of non-Javanese influences.[3]

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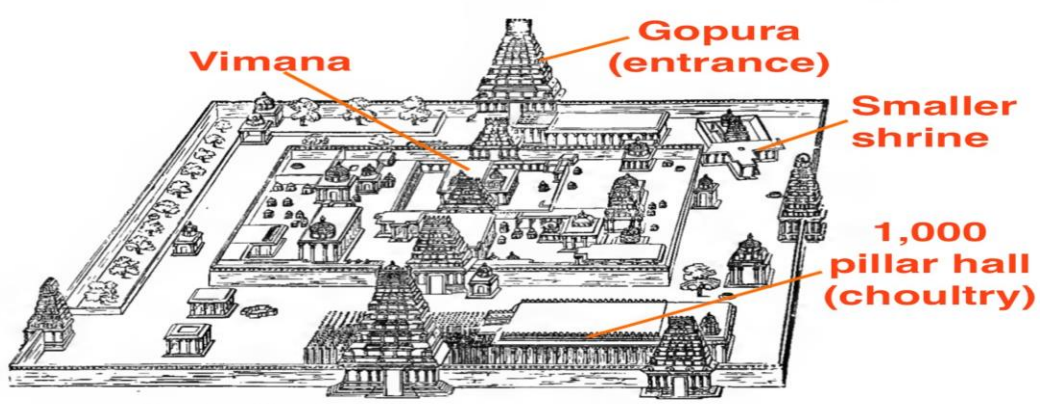


Temple at Tiruvallûr (from Râm Râz's Essay on the Architecture of the Hindus).

MANDALA

A mandala "circle" is a geometric configuration of symbols. In various spiritual traditions, mandalas may be employed for focusing attention of practitioners and adepts, as a spiritual guidance tool, for establishing a sacred space and as an aid to meditation and trance induction. In the Eastern religions of Hinduism, Buddhism, Jainism and Shintoism it is used as a map representing deities, or specially in the case of Shintoism, paradises, kami or actual shrines.

In New Age, the mandala is a diagram, chart or geometric pattern that represents the cosmos metaphysically or symbolically; a time-microcosm of the universe, but it originally meant to represent wholeness and a model for the organizational structure of life itself, a cosmic Religious meaning

In Hinduism, a basic mandala, also called a *yantra*, takes the form of a square with four gates containing a circle with a center point. Each gate is in the general shape of a T. Mandalas often have radial balance.

A *yantra* is similar to a mandala, usually smaller and using a more limited colour palette. It may be a two- or three-dimensional geometric composition used in *sadhanas*, puja or meditative rituals, and may incorporate a mantra into its design. It is considered to represent the abode of the deity. Each *yantra* is unique and calls the deity into the presence of the practitioner through the elaborate symbolic geometric designs. According to one scholar, "Yantras function as revelatory symbols of cosmic truths and as instructional charts of the spiritual aspect of human experience"

Many situate *yantras* as central focus points for Hindu tantric practice. *Yantras* are not representations, but are lived, experiential, nondual realities. As Khanna describes:
Despite its cosmic meanings a *yantra* is a reality lived. Because of the relationship that exists in the Tantras between the outer world (the macrocosm) and man's inner world (the microcosm), every symbol in a *yantra* is ambivalently resonant in inner–outer synthesis, and is associated with the subtle body and aspects of human consciousness.

The term 'mandala' appears in the Rigveda as the name of the sections of the work, and Vedic rituals use mandalas such as the Navagraha mandala to this day.
The science behind these constructions is that, the temple architecture gives cosmic force to the main idol in the Garbha Griha. Firstly, the Juathaskambam acts like an antenna and receives the cosmic force from the space and through a subversive

channel it is linked to the main idol in the Garbha-graha. The cosmic force continuously flows through the Jathuskambam to the statue and energies it. Secondly, the celestial power fetched through the field gives the idol effulgence and metaphysical powers. The cosmic-force is additionally maintained by noise waves (Vedic chants – Read about the Significance of Chanting) and the pyramid like tomb. The pyramid like construction helps to intensify and protect the cosmic force. These are the reasons for anybody to feel a positive energy, goodness, serenity or divinity when we approach the interior sanctum.
The copper plate has the propensity to suck part the Ether when that penetrates from the copper and the Herbal resulting in powerful atomic force that penetrates through the skin to heal the human, and that's why the copper plate is put on the temple tower.

The idol is washed with various materials (milk, sandal paste, oil) to preserve the idols. The idol is adorned with flowers and ornaments for mental and visual boost. But the diverse postures of the idol (sitting/standing, number of hands, weapons they hold) do have meaning in emitting the cosmic force.
Thus the temples serve up as the scientific room to receive the shower of cosmic force or God's blessing.
From my understanding Temple Gopurams are an important part of any Hindu temples and there are specific reasons for their existence. They are:
1) Temple Gopurams are built to receive the positive energy from the universe. Cosmic rays will be received by the Gopuram and it will be passed to the statue in the temple.
2) Gopuram will also receive the energy from thunder/lightning and pass it to the ground. So it acted as a layer of protection for the temple and the nearby areas.
3) Temple Gopuram were built largely to depict the culture and art of ancient people
4) It also used to act as a landmark in olden days to find out the cities, way to different places.
5) In olden days , kings built temples in order to give job to the people of the country and along with that future generations will come to know the architectural talents that ancient people had.
6) The small carvings and statues in temple gopuram depict the story of the god and also will show life lessons.

Site and plan of Borobudur

Borobudur covers a total surface area of around 2,500 m2. The monument is a marvel of design, decorated with 2,672 relief panels and originally 504 Buddha statues. The architecture and stonework of this temple have no equal. It was built without using any cement or mortar! The structure is like a set of massive interlocking Lego blocks held together without any glue. Built with about 2,000,000 cubic feet (56,600 cubic metres) of gray volcanic stone, **Borobudur** encloses a small hill and is **shaped** like a stepped pyramid with three major levels—a square base, a middle level of five square terraces, and an upper level of three circular terraces—totaling, in effect, nine lesser sections It was built in three tiers: a pyramidal base with five concentric square terraces, the trunk of a cone with three circular platforms and, at the top, a monumental stupa.

Architecture: From Darkness to Light: The idea of moving from the darkness into the light is the final element of the experience of Borobudur. The temple's pathway takes one from the earthly realm of desire (*kamadhatu*), represented and documented on the hidden narratives of the structure's earthbound base, through the world of forms (*rupadhatu*) as expounded on the narratives carved along the four galleries set at right angles, until one finally emerges into the realm of formlessness (*arupadhatu*) as symbolized and manifested in the open circular terraces crowned with 72 stupas.

However, the symbolization of enlightenment these stupas represent is not intended to be merely aesthetic. Buddhist stupas and mandalas are understood as "spiritual technologies" that harness spiritual "energies" in the creation of sacred space. The repetition of form and the circumabulatory progress of the pilgrim mimic, and thereby access, the cosmological as a microcosm. The clockwise movement around the cosmic center reproduces the macrocosmic path of the sun. Thus, when one emerges from the dark galleries representing the realms of desire and form into the light of the "formless" circular open air upper walkways, the material effect of light on one's physical form merges concomitantly with the spiritual enlightenment generated by the metaphysical journey of the sacred path.

Light, in all its paradoxes, is the ultimate goal. The crowning stupa of this sacred mountain is dedicated to the "Great Sun Buddha" Vairocana. The temple sits in cosmic proximity to the nearby volcano Mt. Merapi. During certain times of the year the path of the rising sun in the East seems to emerge out of the mountain to strike the temple's peak in radiant synergy. Light illuminates the stone in a way that is intended to be more than beautiful. The brilliance of the site can be found in how the Borobudur mandala blends the metaphysical and physical, the symbolic and the material, the cosmological and the earthly within the structure of its physical setting and the framework of spiritual paradox.

Borobudur and the concept of path in Buddhism

Paths have been pervasive in human civilization. We are all familiar with the streets, trails, and lanes along which we routinely travel. Ancient Roman roads are utilized in some places even today. In contemporary computer culture we follow "paths" on webpages as we find our way to the information or experience we are searching for or find unexpectedly. There are simulated paths in complex first-person virtual reality video environments, where role-playing games formulate their content around the path to be conquered. The idea of path is an important concept in Buddhism, and is essential in understanding the meaning and purpose of one of the most remarkable and impressive monuments in the world: Borobudur.

Borobudur, Indonesia (photo: Claire André, CC BY-NC-ND 2.0)

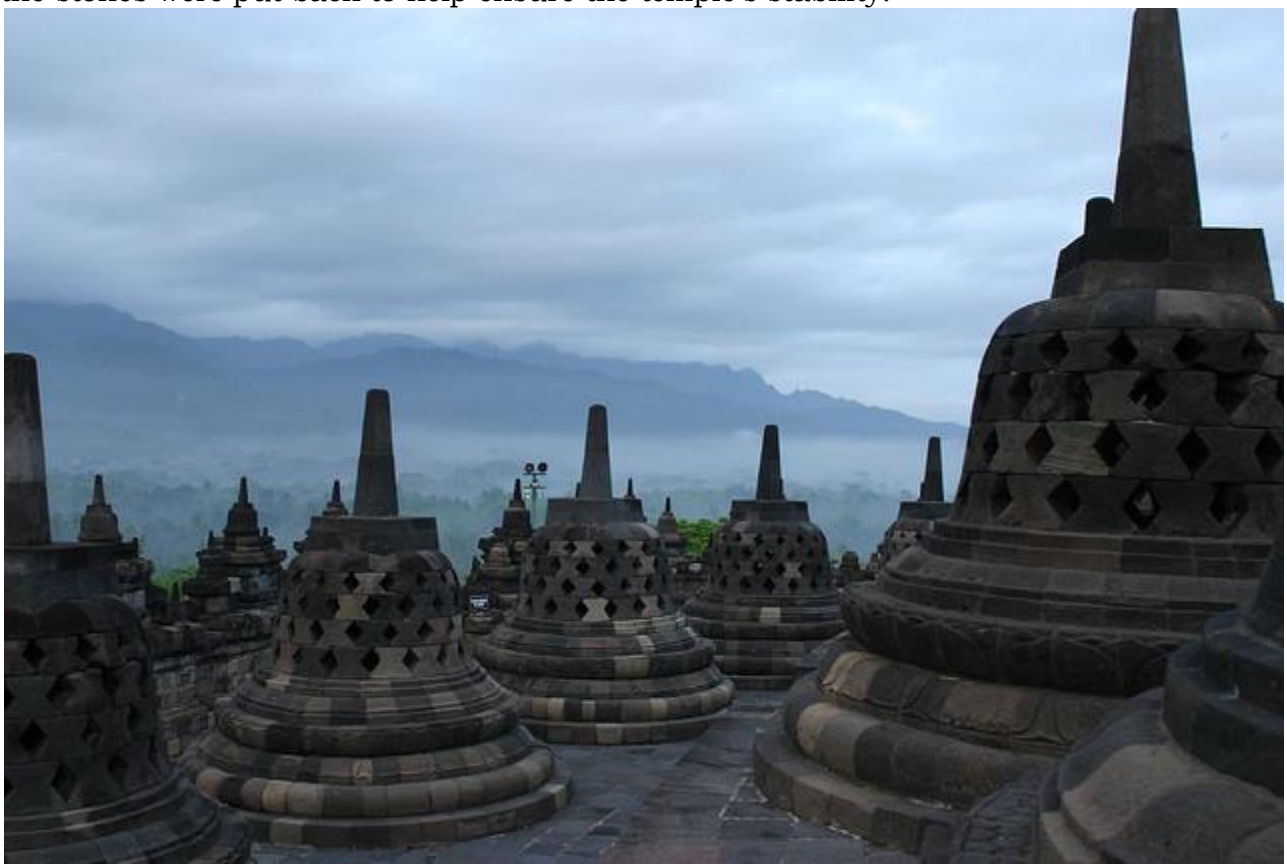
Located on the island of Java in Indonesia, the rulers of the Śailendra Dynasty built the Temple of Borobudur around 800 C.E. as a monument to the Buddha (exact dates vary among scholars). The temple (or candi in Javanese, pronounced "chandi") fell into disuse roughly one hundred years after its completion when, for still unknown reasons, the rulers of Java relocated the governing center to another part of the island. The British Lieutenant Governor on Java, Sir Thomas Stamford Raffles, only rediscovered the site in 1814 upon hearing reports from islanders of an incredible sanctuary deep within the island's interior.

photo: Wilson Loo Kok Wee (CC BY-NC-ND 2.0)

Set high upon a hill vertically enhanced by its builders to achieve a greater elevation, Borobudur consists of a series of open-air passageways that radiate around a central axis mundi (cosmic axis). Devotees circumambulate clockwise along walkways that gradually ascend to its uppermost level. At Borobudur, geometry, geomancy, and theology all instruct adherents toward the ultimate goal of enlightenment. Meticulously carved relief sculptures mediate a physical and spiritual journey that guides pilgrims progressively toward higher states of consciousness.

The entire site contains 504 statues of the Buddha. 1460 stone reliefs on the walls and opposite balustrades decorate the first four galleries, with an additional 1212 decorative reliefs augmenting the path. The relief sculptures narrate the Buddha's teachings (the Dharma), depict various events related to his past lives (Jataka tales), and illustrate didactic stories taken from important Buddhist scriptures (sutras). Interestingly, another 160 relief sculptures adorn the base of the monument, but are concealed behind stone buttresses that were added shortly after the building's

construction in order to further support the structure's weight. The hidden narrative reliefs were photographed when they were discovered in the late 19th century before the stones were put back to help ensure the temple's stability.



Borobudur, photo: Gildardo Sánchez (CC BY-NC-SA 2.0)

Moving past the base and through the four galleries, the devotee emerges onto the three upper terraces, encountering 72 stupas each containing a three-dimensional sculpture of a seated Buddha within a stone latticework. At the temple's apex sits the large central stupa, a symbol of the enlightened mind.

The archaeological excavation into Borobudur during reconstruction suggests that adherents of Hinduism or a pre-Indic faith had already begun to erect a large structure on Borobudur's hill before the site was appropriated by Buddhists. The foundations are unlike any Hindu or Buddhist shrine structures, and therefore, the initial structure is considered more indigenous Javanese than Hindu or Buddhist.

Design

Borobudur ground plan taking the form of a Mandala

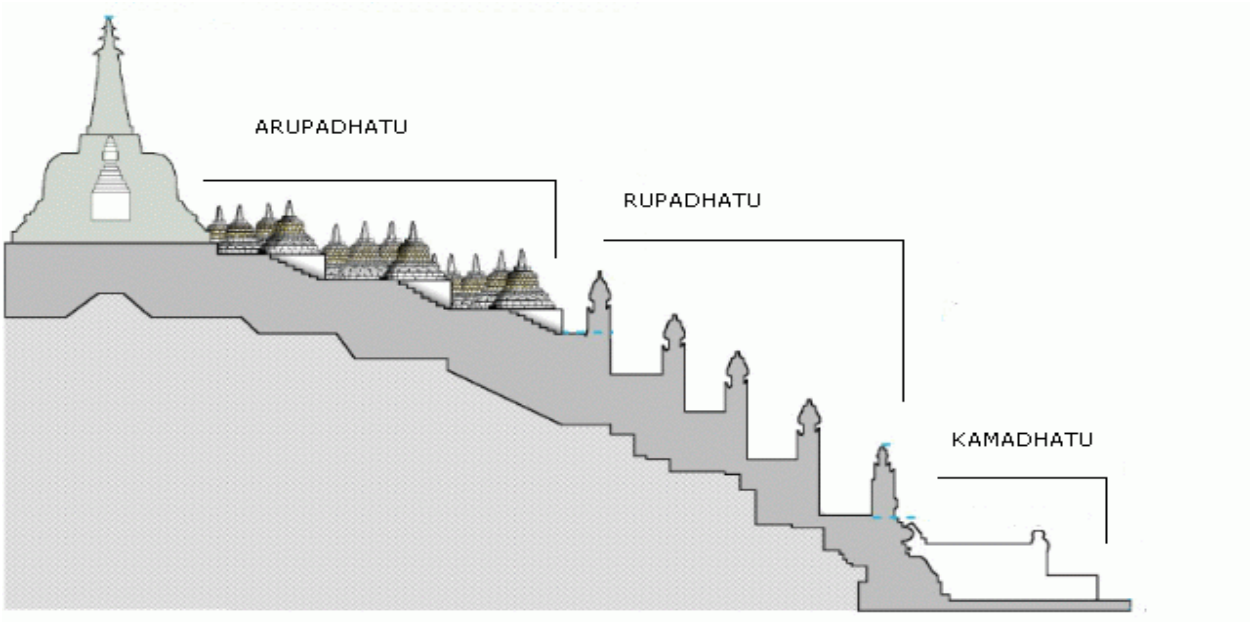
The monument is both a shrine to the **Lord Buddha** and a place for Buddhist pilgrimage.The journey for pilgrims begins at the base of the monument and follows a path around the monument and ascends to the top through three levels symbolic of Buddhist cosmology: ***Kāmadhātu*** (the world of desire), ***Rupadhatu*** (the world of forms) and ***Arupadhatu*** (the world of formlessness).

Zone 1: Kamadhatu *(The phenomenal world, the world inhabited by common people)*
Borobudur's hidden **Kamadhatu** level consists of 160 reliefs depicting scenes of Karmawibhangga Sutra, the law of cause and effect. Illustrating the human behavior of desire, the reliefs depict robbing, killing, rape, torture and defamation. A corner of the covering base has been permanently removed to allow visitors to see the hidden foot, and some of the reliefs.

Zone 2: Rapudhatu *(The transitional sphere, humans are released from worldly matters)*
The four square levels of **Rapadhatu** contain galleries of carved stone reliefs, as well as a chain of niches containing statues of Buddha. In total there are 328 Buddha on these balustrade levels which also have a great deal of purely ornate reliefs. The Sanskrit manuscripts that are depicted on this level over 1300 reliefs are Gandhawyuha, Lalitawistara, Jataka and Awadana. They stretch for 2.5km. In addition there are 1212 decorative panels.

Zone 3: Arupadhatu (*The highest sphere, the abode of the gods)* The three circular terraces leading to a central dome or stupa represent the rising above the world, and these terraces are a great deal less ornate, the purity of form is paramount.

The terraces contain circles of perforated stupas, an inverted bell shape, containing sculptures of Buddha, who face outward from the temple. There are 72 of these stupas in total. The impressive central stupa is currently not as high as the original version, which rose 42m above ground level, the base is 9.9m in diameter. Unlike the stupas surrounding it, the central stupa is empty and conflicting reports suggest that the central void contained relics, and other reports suggest it has always been empty.
The monument guides pilgrims through an extensive system of stairways and corridors with 1,460 narrative relief panels on the walls and the balustrades. Borobudur has the largest and most complete ensemble of Buddhist reliefs in the world.
Borobudur is built as a single large stupa and, when viewed from above, takes the form of a giant tantric Buddhist *mandala*, simultaneously representing the Buddhist cosmology and the nature of mind. The original foundation is a square, approximately 118 metres (387 ft) on each side. It has nine platforms, of which the lower six are square and the upper three are circular. The upper platform features seventy-two small stupas surrounding one large central stupa. Each stupa is bell-shaped and pierced by numerous decorative openings. Statues of the Buddha sit inside the pierced enclosures.



The design of Borobudur took the form of a step pyramid. Previously, the prehistoric Austronesian megalithic culture in Indonesia had constructed several earth mounds and stone step pyramid structures called *punden berundak* as discovered in Pangguyangan site near Cisolokand in Cipari near Kuningan. The construction of stone pyramids is based on native beliefs that mountains and high places are the abode of ancestral spirits or hyangs. The *punden berundak* step pyramid is the basic design in Borobudur, believed to be the continuation of older megalithic tradition incorporated with Mahayana Buddhist ideas and symbolism.
As mentioned earlier the monument's three divisions symbolize the three "realms" of Buddhist cosmology, namely *Kamadhatu* (the world of desires), *Rupadhatu* (the world of forms), and finally *Arupadhatu* (the formless world). Ordinary sentient beings live out their lives on the lowest level, the realm of desire. Those who have burnt out all

desire for continued existence leave the world of desire and live in the world on the level of form alone: they see forms but are not drawn to them. Finally, full Buddhas go beyond even form and experience reality at its purest, most fundamental level, the formless ocean of nirvana. The liberation from the cycle of Saṃsāra where the enlightened soul had no longer attached to worldly form corresponds to the concept of Śūnyatā, the complete voidness or the nonexistence of the self. *Kāmadhātu* is represented by the base, *Rupadhatu* by the five square platforms (the body), and *Arupadhatu* by the three circular platforms and the large topmost stupa. The architectural features between the three stages have metaphorical differences. For instance, square and detailed decorations in the *Rupadhatu* disappear into plain circular platforms in the *Arupadhatu* to represent how the world of forms—where men are still attached with forms and names—changes into the world of the formless.

Congregational worship in Borobudur is performed in a walking pilgrimage. Pilgrims are guided by the system of staircases and corridors ascending to the top platform. Each platform represents one stage of enlightenment. The path that guides pilgrims was designed to symbolize Buddhist cosmology.

In 1885, a hidden structure under the base was accidentally discovered. The "hidden footing" contains reliefs, 160 of which are narratives describing the real *Kāmadhātu*. The remaining reliefs are panels with short inscriptions that apparently provide instructions for the sculptors, illustrating the scenes to be carved. The real base is hidden by an encasement base, the purpose of which remains a mystery. It was first thought that the real base had to be covered to prevent a disastrous subsidence of the monument into the hill. There is another theory that the encasement base was added because the original hidden footing was incorrectly designed, according to *Vastu Shastra*, the Indian ancient book about architecture and town planning. Regardless of why it was commissioned, the encasement base was built with detailed and meticulous design and with aesthetic and religious consideration.

Building structure

Approximately 55,000 cubic metres (72,000 cu yd) of andesite stones were taken from neighbouring stone quarries to build the monument. The stone was cut to size, transported to the site and laid without mortar. Knobs, indentations and dovetails were used to form joints between stones. The roof of stupas, niches and arched gateways were constructed in corbelling method. Reliefs were created *in situ* after the building had been completed.

The monument is equipped with a good drainage system to cater to the area's high stormwater run-off. To prevent flooding, 100 spouts are installed at each corner, each with a unique carved gargoyle in the shape of a giant or makara.

Hilly Construction: Borobudur differs markedly from the general design of other structures built for this purpose. Instead of being built on a flat surface, Borobudur is built on a natural hill. However, construction technique is similar to other temples in Java. Without the inner spaces seen in other temples, and with a general design similar to the shape of pyramid, Borobudur was first thought more likely to have served as a *stupa*, instead of a temple. A *stupa* is intended as a shrine for the Buddha. Sometimes stupas were built only as devotional symbols of Buddhism. A temple, on the other hand, is used as a house of worship. The meticulous complexity of the monument's design suggests that Borobudur is in fact a temple.

The basic unit of measurement used during construction was the *tala*, defined as the length of a human face from the forehead's hairline to the tip of the chin or the

distance from the tip of the thumb to the tip of the middle finger when both fingers are stretched at their maximum distance. The unit is thus relative from one individual to the next, but the monument has exact measurements. A survey conducted in 1977 revealed frequent findings of a ratio of 4:6:9 around the monument. The architect had used the formula to lay out the precise dimensions of the fractal and self-similar geometry in Borobudur's design. This ratio is also found in the designs of Pawon and Mendut, nearby Buddhist temples. Archeologists have conjectured that the 4:6:9 ratio and the *tala* have calendrical, astronomical and cosmological significance, as is the case with the temple of Angkor Wat in Cambodia.The main structure can be divided into three components: base, body, and top. The base is 123 m × 123 m (404 ft × 404 ft) in size with 4 metres (13 ft) walls.[] The body is composed of five square platforms, each of diminishing height. The first terrace is set back 7 metres (23 ft) from the edge of the base. Each subsequent terrace is set back 2 metres (6.6 ft), leaving a narrow corridor at each stage. The top consists of three circular platforms, with each stage supporting a row of perforated *stupas*, arranged in concentric circles. There is one main dome at the center, the top of which is the highest point of the monument, 35 metres (115 ft) above ground level. Stairways at the center of each of the four sides give access to the top, with a number of arched gates overlooked by 32 lion statues. The gates are adorned with Kala's head carved on top of each and Makaras projecting from each side. This Kala-Makara motif is commonly found on the gates of Javanese temples. The main entrance is on the eastern side, the location of the first narrative reliefs. Stairways on the slopes of the hill also link the monument to the low-lying plain.

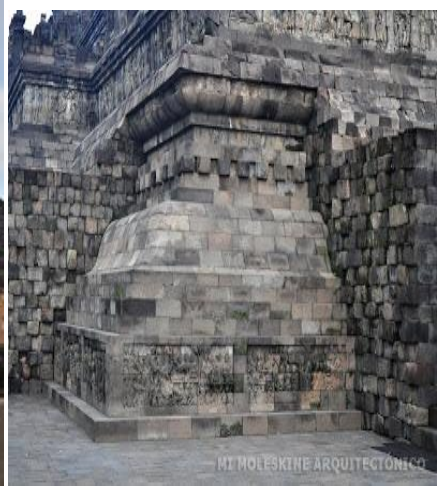
Features-Outer enclosure

uring the visit, which began at 4 am, I was able to witness the spectacle of the sunrise from the temple, where the bluish light of dawn slowly unveils the mountains surrounding the temple, while a thick fog that emanates from the Javanese jungle makes you feel like being in a not earthly place, closer to heaven.

BOROBUDUR, THE ARCHITECTURAL MANDALA.


In Buddhism, the mandala represents a landscape of the universe with Buddha in its center, and shows the different steps in the process of finding the truth.Borobudur was built on a hill, following the layout of a giant mandala, representing the Buddhist cosmology. It consists of nine platforms divided into three sections:
- The upper three are circular platforms, called ***Arupadhatu***, and have a slightly curved oval shape consisting of two minor axes aligned with the cardinal points and two major axes aligned with the intermediate directions.
- The six lower platforms are square, called ***Rupadhatu***,
- Moreover, in 1885 a structure in the base was discovered and it was called ***Kamadhatu***.

The lower platform probably also had a structural function to prevent the collapse of the structure. It was added after the temple was finished, as it can be seen in one of the corners, where the older reliefs have been exposed.



The architectural layout leads the visitor throughout a system of stairs in order to ascend to the platforms and reach the top of the structure, a clear representation of

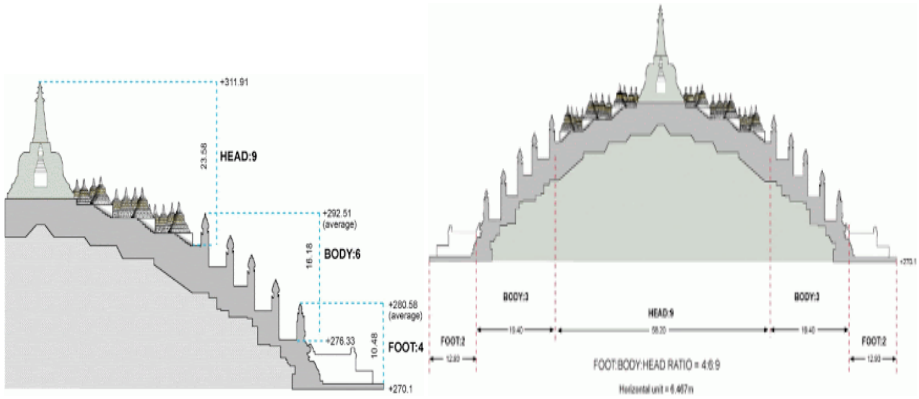
the journey towards a spiritual "enlightenment". The pilgrims walked each platform twice, in order to learn from the reliefs on each side.
Between the latest square platform and the first circular one there is an arch topped by an intimidating figure of a guardian. It is a reference to a transition to a more pure place, where evil spirits had no access.The bell-shaped stupas contain the figure of a Buddha. This is quite unusual, I have not seen it in other Asian countries, perhaps due to a syncretism between Buddhism and ancient Javanese traditions, where ancient ascetics used go to meditate in caves.


An interesting detail is that the openings of the stupas of the first two levels are in diamond shape, while those of the stupas of the upper platform are in square shape. (Note the different form of the pieces of stone). Perhaps this symbolized the path perfection, to the enlightenment that every pilgrim aspired by climbing and meditating through the different platforms.

The last great stupa, crowned by an octagonal pinnacle, has no opening and some people say that inside there used to be a golden Buddha, stolen by a Dutchman explorer, but this theory has not been proved. The simplicity of its form contrasts with the baroque richness of the reliefs that are located in the platforms below, and I imagine that has to do precisely with the austerity and simplicity that Buddha preached.

ASTROLOGICAL-COSMOLOGICAL-MATHEMATICAL RELATIONS IN BOROBUDUR

The structure can be divided into three main elements: the base, the central part and the top, which in analogy to the feet, body and head represent the three states of mental preparation: the Kamadhatu or world of desires,the Rupadhatu or world of forms and the Arupadhatu or formless world. A 1977 study by the professor found a ratio of 4:6:9 for the composition of both the three parts of the temple as well as each of the temple main parts. This ratio is equal to that found in the temples of Pawon and Mendut as well as the impressive complex of Angkor Wat in Cambodia.



Section of the temple according to Professor Atmadi.Image courtesy of Borobudur.t**v**

The researcher Mark Long, who has been studying the calendrical, astronomical and cosmological relations in Borobudur for several years, based on its own survey of the complex, proposed that the same ratio of 4:6:9 can be applied to the width of the whole monument.
North South Section, where according to Mark Long the same 4:6:9 ratio was used, such as in the height of the temple.
It is thought that the architect of Borobudur, named Gunadharma, believed that the plans of temples played a direct role in determining the fate of each occupant of the structure, so the architect's role should be to harmonize the forces of the microcosm that govern human life with the macrocosm that governs the life of the gods. Gunadharma took the *tala* as a measurement unit, which is the distance between the

thumb and little finger when they are stretched to their maximum separation, a system widely used in India. Because this measure varies little from person to person it is possible that the *tala* form an important person may have been employed as a method of standardization. Mark Long has found that the extent of the *tala* used in the monument was 22.9 cm.

Based on his own measurements, Long stated that the overall dimensions are based on a number of *talas* that symbolize important events in the Hindu calendar, specifically a calendar called Vatsu Purusha Mandala. In the faces and square corners of this diagram the solstices and equinoxes are represented. The arrangement of the stupas follows a well-studied geometric pattern, avoiding, for example, being placed in the main diagonals of the monument, where it was believed the important divine energies flow.

DECORATION:Borobudur aside of the symbolism in their mandalic architectural layout displays also many references to the life of Buddha, both in reliefs and statues.The reliefs have an educational role. The scenes represent the history of Buddha, his various incarnations and the path that the faithful should follow to reach Nirvana.

The Buddha statues, many of whom are maimed and some missing, are distributed differently in the square platforms than in the circular ones.
In the five square platforms, called Rupadhatu, the Buddhas, numbering 432, are located in niches, placed in rows in art outer part of the balustrades. The number of Buddhas diminishes as platforms get higher. Thus, the first platform contains 104 niches, the second 104, the third 88, the fourth 72 and the fifth 64.

Details of Borobudur/ Extreme left pic Model top temple-Photo courtesy of Davey Sarge

The upper platforms or *Arupadhatu*, contain 72 small latticed stupas (which are mound-shaped structures, typical of early Buddhism) that surround a larger stupa more. Thus, in the first level there are 32 stupas, 24 in the second and 16 in the third level.

While at first glance the Buddhas seem to be the same. sitting lotus position, which is sitting on crossed legs. However, the different hand position represents various statesof meditation.
http://architecturalmoleskine.blogspot.com/2010/02/borobudur-

MANDALA IS IT ?

Creation of a Mandala
Artists and monks can create mandalas in sculptural and architectural forms. They may also paint mandalas on a wall, cloth, or paper. For example, for ceremonies, monks often create mandalas in less permanent media, with colored powders or sands. They put a lot of effort into producing mandalas. Performing a series of rituals, they prepare the space and objects used to create a mandala. These rituals may take up to three days to complete. Then the makers create a mandala in their minds before they begin the physical creation of the mandala.

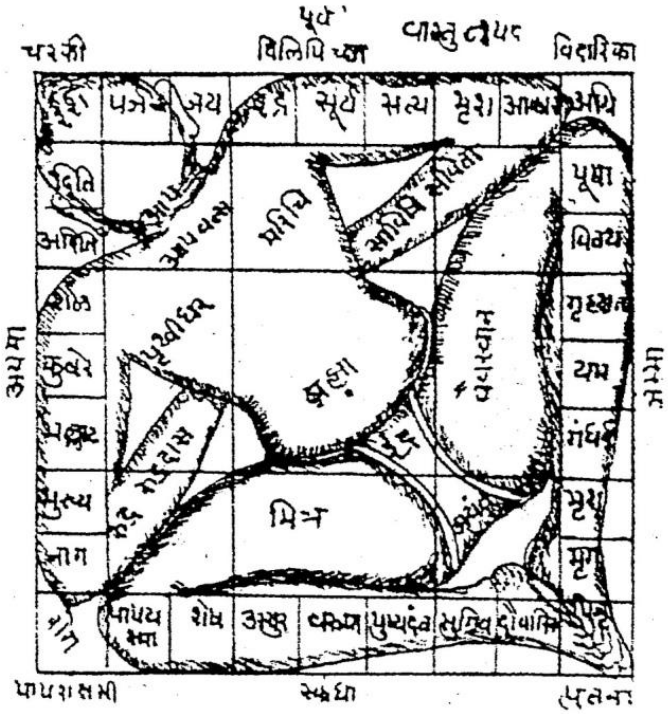
Construction of a Mandala
The construction of a mandala is a part of the ritual. It includes chanting *mantras* or words of power. The ritual serves for the empowerment of the mandala seen as an object of cosmic energy. When practitioners meditate with a mandala, they access the energy that the mandala embodies.
The actual construction of the mandala is the last phase of ritual preparation. First, monks snap the dry cord or wisdom thread. Next the deities and their consorts are invoked and dissolved into the string. The monks twist out the cord of five different colored threads that symbolize the wisdom-knowledge of each of the five Buddhas.

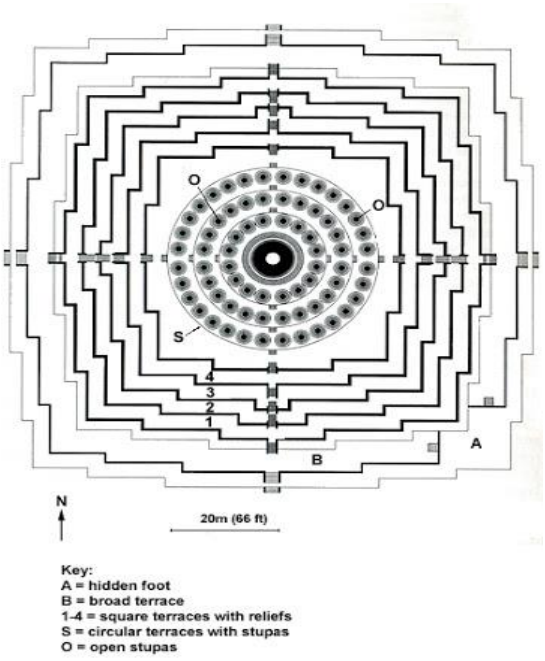
The Art of Mandala – Rituals
Today Buddhist lamas or priests draw Mandalas which are beautiful works of art. They also aid in the exploration of deep and divine concepts. Initiation rituals help to

define the sacred space of a mandala. They come with a beautiful set of highly symbolic accessories. Before the mandala ritual takes place, practitioners use the tantric hand dagger to eliminate negative forces that may inhabit the space.

The *mandala* is a central entity in Hinduism and Buddhism and is the generic name for any plan or chart, which represents the cosmos (MICHEL, 1977). In Sanskrit *mandala* means 'circle and center' or 'Holy Circle' and points to its cyclic character. This circle is often embedded in a square, being a symbolic rendering of the surface of the earth (*Prithvi*). The earth is *'Caturbhsti'* or 'four cornered'.

The *Vaasta Purusha* mandala is a specific type of mandala used in Vaastu Shastra, representing a metaphysical plan of a building or temple in relation to the course of the heavenly bodies and supernatural forces. Purusha refers to the energy and power, which is generated by the understanding of this cosmic presence. The form is a square, subdivided in smaller squares. The number of subdivisions can vary and each type has a distinct name and is used in a specific context. The central area is called the *Brahma-sthana*, because Brahma or some other prominent deity concerned with the creation usually occupies it. The building (of a temple) takes place from a chosen grid, dedicated to a particular deity. Planetary divinities are arranged around the Bramasthana. The central place, being the most important part of the building, remains unbuilt.



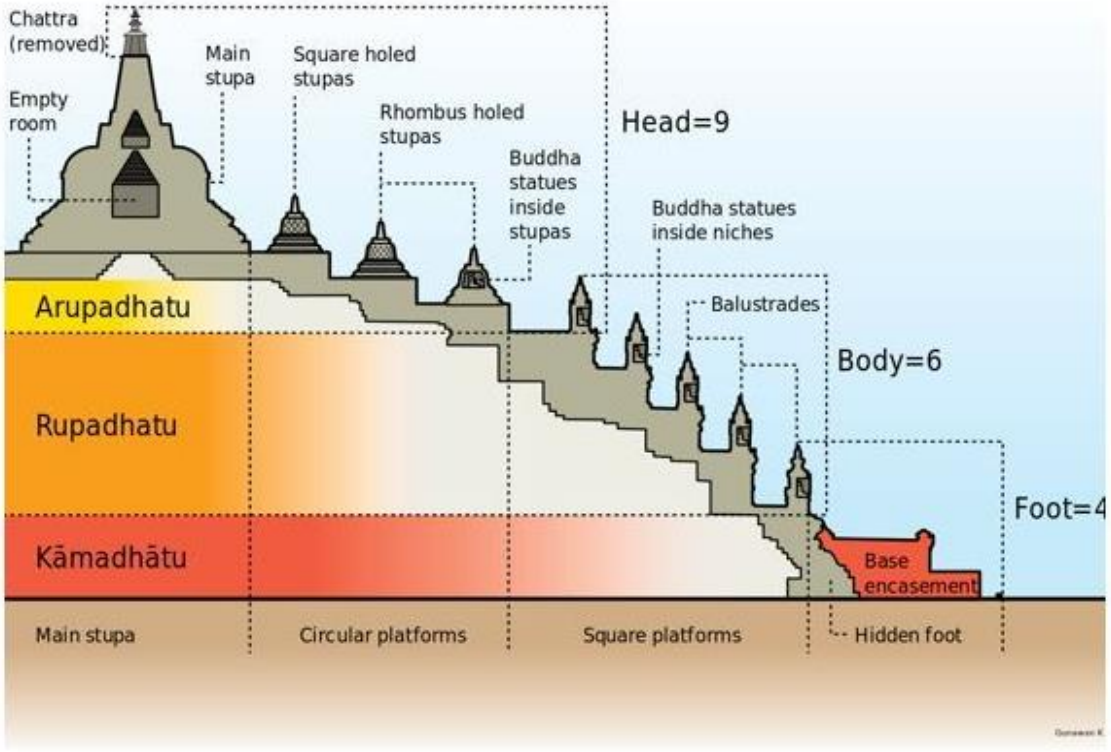


The cosmic man or *mahapurusha*, drawn on a temple *mandala* indicates the relation between parts of the body and the meaning of its position within the architectonic setting. The outlay of a temple is subject to the principle of *vimana*, meaning 'well-measured' or 'well-proportioned'. This picture is derived from an ancient manual of architecture. The main axis runs here from south-east to north west (head), but an orientation from south-west to north-east is also known.

The square and rectangular outlay: The '*Encyclopaedia of Indian Temple Architecture*' by Michael MEISTER (1988/1991) says that the Indian temple architecture, both in its northern and southern variety, are deeply inspired by a tetradic consciousness.

The square and rectangular outlay, if possible orientated along an east-west axis, with the entrance to the east, is the main characteristic. In front of the doorway is often a pillared hall, or *mandapa*. The attention to the four directions, either in the form of entrances or stairs, is prominent.

The layout of Borobudur is in fact a cosmological map of the Buddhist universe. Seen from above the shape of the pyramid is that of a traditional mandala whereby a square with four cardinal entry points gives way to a circular centre point. Moving from outside to inside one crosses three regions of Buddhist cosmology; *Kamadhatu* is the realm of desires, that of ordinary people; *Rupadhatu* is the realm of forms, where beings have controlled their earthly desires but are still bounded by physical form; *Arupadhatu* is the formless realm, of beings who have achieved sufficient merit to escape not just desires but even form and location.



Borobudur represents the Buddhist cosmos

As one climbs the temple of Borobudur one enters each of these realms. These first four levels around the temple represent the *Rupadhatu* realm, of beings who have controlled desire. Starting at the east facing entrance the carved stone reliefs depict mainly Jataka scenes, that is scenes from the Buddha's life, organised to instruct devotees as they proceed clockwise around each of the first four levels in turn.

East facing Buddha statues in the *Calling the Earth to Witness* posture
One of the lower Rupadhatu galleries of Borobudur
On the four *Rupadhatu* levels there are also 432 Buddha statues located in niches along each side of the temple . On the east facing terraces these statues are all in the *Calling the Earth to Witness* posture. Moving round to the south the statues are in the *Alms Giving* posture and then to the west they are in the *Concentration & Meditation* posture. On the north facing levels they are in the posture of *Courage, fearlessness*. Around the fifth uppermost balustrade of the *Rupadhatu* levels the Buddha images facing in all directions are in the *Reasoning & Virtue* posture.

On reaching the fifth level one moves into the *Arupadhatu* formless realm of nirvana, represented by the shift to a circular layout. This realm is perhaps the most famous aspect of Borobudur due to its iconic perforated stupas. A total of 72 of these stupas are arranged on three circular terraces around the main central stupa. On the first two *Arupadhatu* levels the stupas have rhombic perforations whereas on the third and highest level the openings are square. In each of the 72 stupas there is a Buddha statue in the posture of *Turning the Wheel of Dharma*.

The upper *Arupadhatu* levels of Borobudur representing nirvana

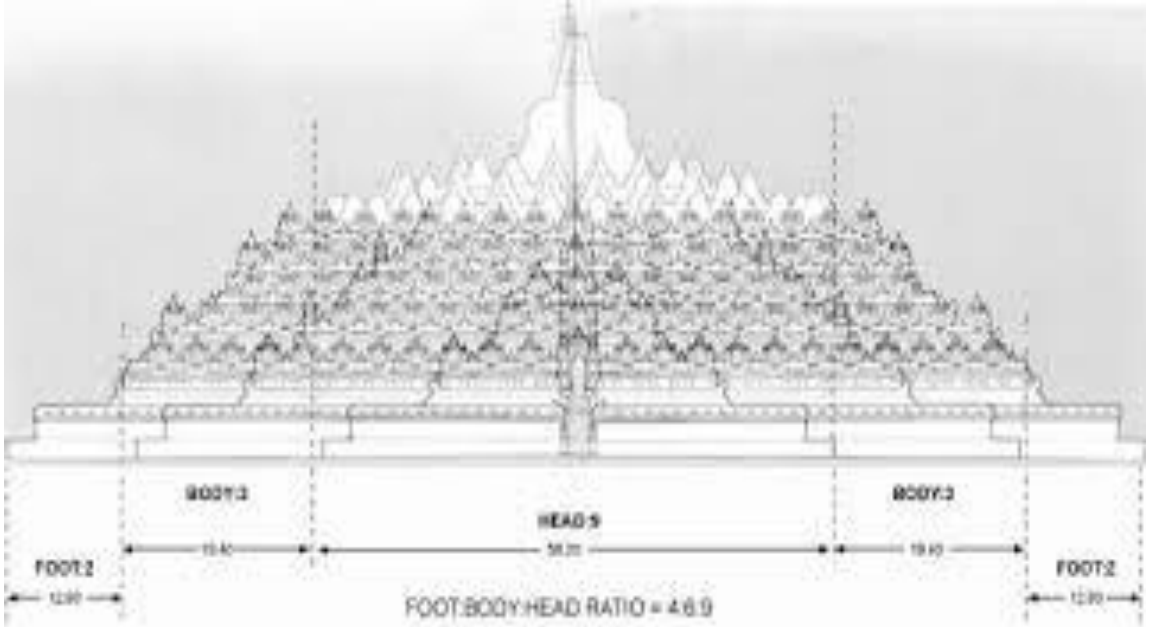
The central stupa represents the centre of the Buddhist universe. It looks rather truncated because it is missing its original *chattra*, a three-tiered stone parasol that would have topped the stupa. There is known to be an empty room at the centre of the stupa which would be expected to contain the most highly revered images and relics. It is not known when or how these were lost.

Archaeologists have discovered traces of coloured pigments and gold leaf on the reliefs and believe that rather than the drab volcanic stone we see today Borobudur was once covered in white plaster, painted in vivid colours and covered in gold. It would have been a truly awe inspiring sight 1000 years ago.

The Hidden Foot

One of the mysteries of Borobudur concerns the lowest level of the temple representing the *Kamadhatu* realm of desires. On an initial climb of the temple the first level appears to start in the second level realm of *Rupadhatu* with tales of the Buddha's life. In fact the lowest *Kamadhatu* realm is represented by a gallery of carved reliefs which are hidden under an encasement and are hence known as the "hidden foot". This Hidden Foot was only re-discovered during European led restoration activities in 1885. It is not known exactly why this lower level has been covered up. Some postulate that the encasement had to be add

Aerial view of the concentric circulatory



Paharpur stupa on Left as a Mandala and Borobudur on right also in cross section

R E F E R E N C E S

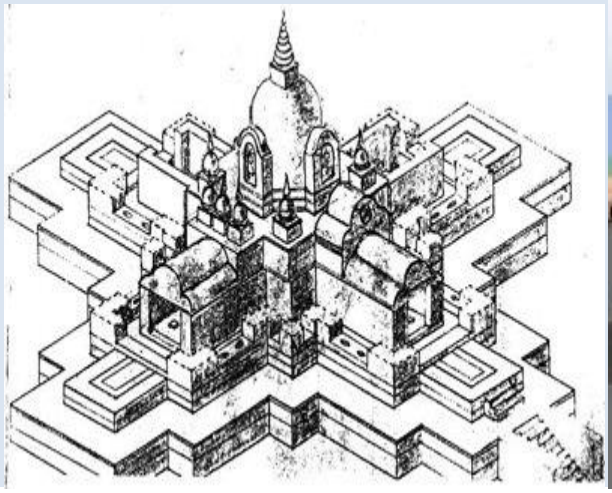
Connections, ed. Dorothy C. Wong and Gustav Heldt (Amherst: Cambria Press, 2014)

Borobudur's Pāla forebear? A field note from Kesariya, Bihar, India, *swati chemburkar*

Across Space and Time: Architecture and the Politics of Modernity,By Patrick Haughey,google books

Though the assumption of the Borobudur as a *maṇḍala* seems possible, this view remains yet impossibleto prove. In spite of the previously mentioned similarities with the *maṇḍala*s, there are, however, alsomany differences. Beside the five transcendental Buddhas many other deities – both male and female – are often seen depicted in *maṇḍas* . However, neither of these deities can be found on the Borobudur.Instead we do find many other depicted Buddhas on the Borobudur, but these do not display any of thefeatures similar to other male or female deities. Thus, the other Buddhas do not function as a mere substitution for the various deities. Therefore, we may assume, that, as already had been suggested, the Borobudur displays a variant of Buddhism in the way it manifested in Java at the time of the reign of Shailendra Dynesty but based on Indian influences and Mahāyāna Buddhism, which came to Java from China during the heydays of the Tang dynasty (618-906).The unique combination of these aspects would eventually become the Buddhism of Java.

Then there also was the Hindu dynasty of Sanjaya that ruled on Java during the same period of the Sailendra dynasty. Thefact that the Sanjaya shared their power with the Sailendra dynasty – for example, through donations for the construction of the Kalasan temple – illustrates, that, apart from its religious function, the Borobudur also formed an important expression of power.



The origin of the mandala is not quite clear. However, the earliest concepts may have come from India and were initially mentioned in early Sanskrit texts. They described how the gods may have existed in their worlds. For example, Manjushri, the bodhisattva of wisdom, appears in this sculpture in his esoteric form, with three heads and six arms. The way he crosses his hands at the chest signifies supreme wisdom. Manjushri holds a bow and arrow, a sword, a lotus, and vajras or ritual weapons. Most prominent among the weapons is the sword, which cuts away ignorance.

Five stupas appear above the elaborate architectural setting. Within these stupas sit emanations of Manjushri. This sculpture represents a mandala because it conceptualizes the architectural plan of one of the great Buddhist monastic complexes or *mahavihara* of Bengal, probably in present-day Bangladesh.

Somapura Mahavihara

Somapura Mahavihara was one of the important centers of Buddhism. The complex is located in Paharpur, in northern Bangladesh. It was built by king Dharmapala (ca. 781–821) of the Pala dynasty (8th –12th centuries). The original tower in the center of the complex was believed to be about 32 meters (about 105 feet) high. Four large holes were placed around the tower towards the cardinal points. Consequently, the cross-shaped plan of this *mahavihara* could represent a part of the mandala.

Philosophy Behind the Mandala

Five Tathagatas or Dhyani Buddhas

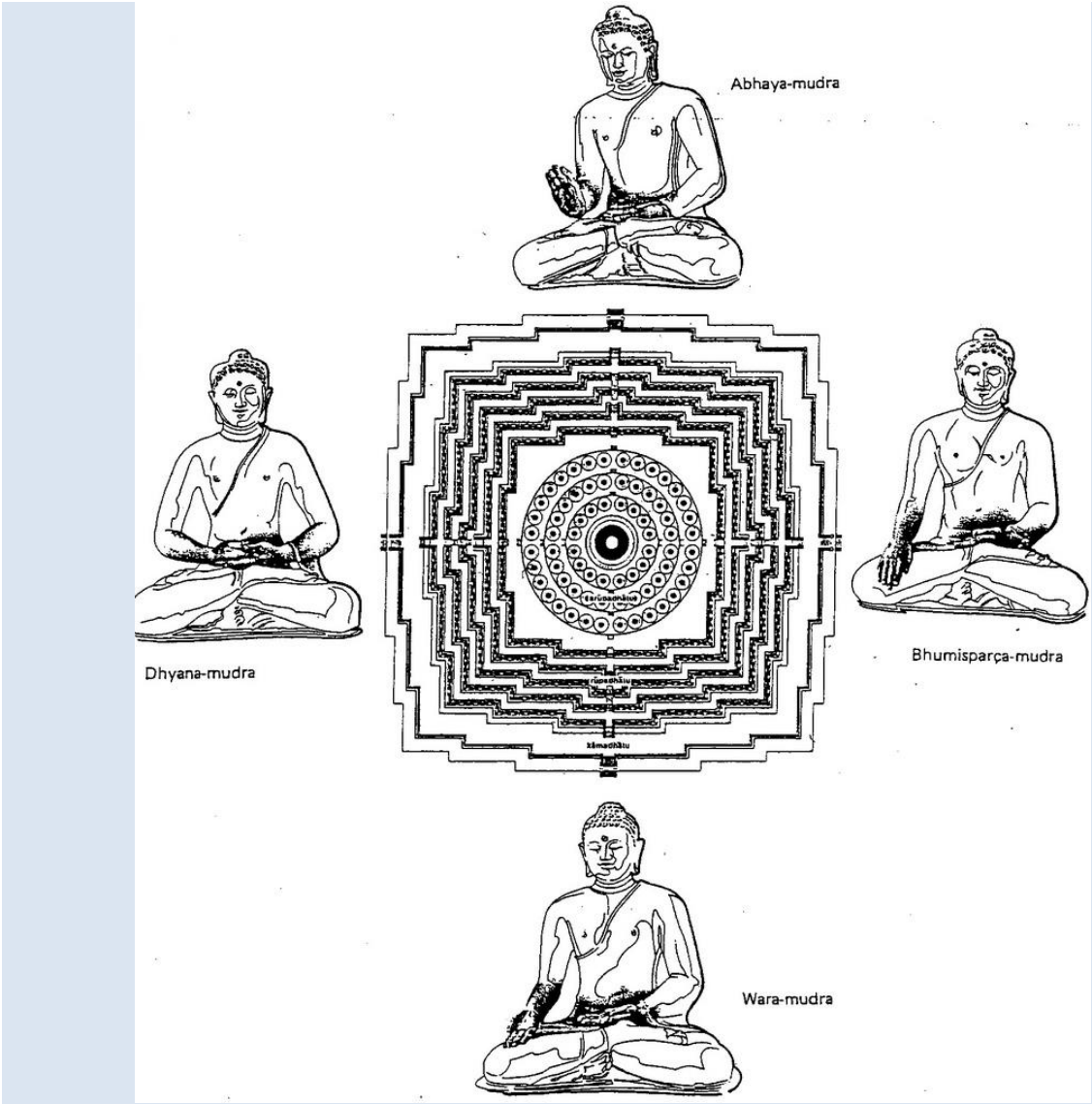
In places like Paharpur thinkers probably helped to develop the concept of the Five Tathagatas or Dhyani Buddhas. These deities are "self-born" celestial buddhas who have existed since the beginning of time. In contrast with historical figures like Gautama Buddha, they represent intangible forces and divine principles. These Buddhas usually include Vairocana, Akshobhya, Ratnasambhava, Amitabha, and Amoghasiddhi. Each of them has their own colors, symbols, and *mudras*. They also face different cardinal directions. As a result, monks found a new way to meditate on self-restraint.

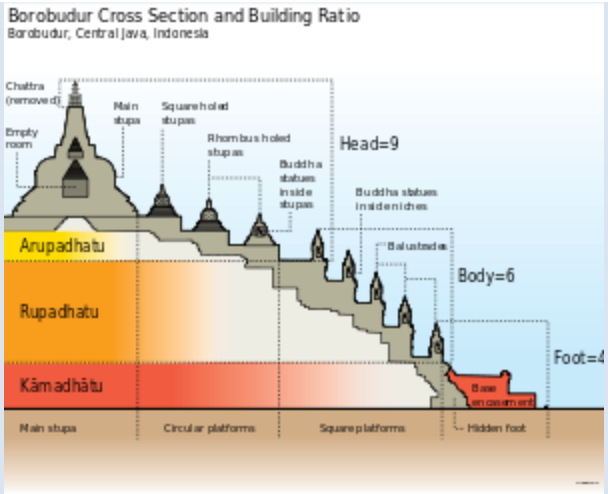
5 Dhyani-Buddha, in Mahayana Buddhism, and particularly in Vajrayana (Tantric) Buddhism, any of a group of five "self-born" celestial **buddhas** who have always existed from the beginning of time. The five are usually identified as Vairochana, Akshobhya, Ratnasambhava, Amitabha, and Amoghasiddhi.

As Takeo Kamiye puts it in *SOMAPURA MAHAVIHARA at PAHARPUR (BANGLADESH)*http://www.kamit.jp/17_world/28_paharpur/pah_eng.htm

Here they were unified in the form of a great stupa surrounded by monk cells in a vast square shape. As a result, the temple form with a large geometric Mandala-type plan spreading to the four quarters, was established here and was then transmitted to Southeast Asia. It was furthermore scaled up from at the temples in Pagan, Myanmar, until the Borobudur, Indonesia, through the Angkor-Wat, Cambodia, under the influence of Paharpur. I have already written that this form was originated in Jaina temples, in Chapter 6 of "Jaina Architecture in India" on this website, "The Adinatha Temple at Ranakpur".

- Dharmachakra mudra. Dharmachakra in Sanskrit means the 'Wheel of Dharma'. ...
- Bhumisparsha mudra. Literally Bhumisparsha translates into 'touching the earth'. ...
- Varada mudra. This mudra symbolizes charity, compassion and boon-granting. ...
- Dhyana mudra. ...
- Abhaya Mudra.


Abhaya-mudra
Dhyana-mudra
Bhumisparça-mudra
Wara-mudra


Borobudur Cross Section and Building Ratio
Borobudur, Central Java, Indonesia
Chattra (removed)
Empty room
Main stupa
Square holed stupas
Rhombus holed stupas
Buddha statues inside stupas
Head=9
Buddha statues in side niches
Balustrade
Body=6
Arupadhatu
Rupadhatu
Kāmadhātu
Foot=4
Base enclosement
Main stupa
Circular platforms
Square platforms
Hidden foot


architectureofbuddhism.com
Borobudur, Indonesia from "The Golden Lands." ISBN 978-0-7892-1194-1
Architectural diagram copyright Vikram Lall


Sawitan
Jambran
Kalibobo
Progo River
Gendingan
Elo River
Mendut
Borobudur Village
Pawon
Srowol
Borobudur
Barepan
Pragawati
Gopalan
Wanurejan
Aran
Progo River
Cikatan