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Department of Higher Education
Yangon University of Distance Education**

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Research Journal**

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A Study on the Four Types of Pagodas Found in Bagan

Thandar Win

Abstract

The bulbous stupas worshipped by the Buddhist pilgrims are now called 'Cetiya'. It cannot be said that the dolmens were the beginning of stupas. Later the stupas were built not only in the commemorable places called *saṃvejaniya* but also in the prosperous Buddhist regions as the places of worship for lay people. In Myanmar, the stupa, known as the *cetiya* (in *pāli*), went through a number of changes. The parasol on top of the dome was elongated and resembled a cone, and the number of disks increased and their size decreased, the higher they are on the dome. The square base was also modified following a complex geometry, including different levels with terraces, and resembled the shape of a pyramid. A lot of evidence still remains in Bagan for those who want to study the stupas and temples in Bagan. This includes the pagodas in good conditions, the remains of ruins the pagodas, the stone inscriptions denoting the good deeds, some mural paintings remaining in the pagodas and stuccos embellished the beauty of the pagodas.

Keywords: Stupa, Cetiya, Bagan, Pagodas

Introduction

'Cetiya' means the object of worship or veneration. There are four persons who are worthy of veneration: Buddha, Paccekabuddha (Silent Buddha), Saṅgha (the Order of Monks) and Cakkavatti (Universal Monarch). As a symbol of the Buddha, any of these four can be regarded as the relic object of veneration: *Sāririka-cetiya* (bodily remains of the Buddha), *Paribhoga-cetiya* (things utensil of the Buddha as well as the Bodhi Tree, Robe, Bowl or Walking staff), *Uddissa-cetiya* (images representative of the Buddha) and *Dhamma-cetiya* (teachings of the Buddha written on palm-leaves or in book form).¹ In the *Kaliṅgabodhi Jātaka* of *Terasanipāta*, at the bequest of the Venerable Ānanda, the Buddha granted permission for his followers to venerate the first three *cetiyas*. On the Buddha's Demise, his bodily remains were shared among the kings of *Rājagaha Vesālī*, *Kapilavatthu*, *Allakappa*, *Rāmagāma*, *Vethadhīpa*, *Pāveyyaka* and *Kusināra*, and were taken to those regions for enshrinement of veneration. Later, the Venerable Kassapa permitted King *Ajātasattu* to bury all the remains in *Rājagaha*. The stupas and temples in *Śrīkshetra* are then followed by those in Bagan region. A lot of evidence still remains in Bagan for those who want to study the stupas and temples in Baga.²

The stupas and temples in Bagan

Bagan, situated in the southwest of Nyaung-Oo, has a lot of Buddhist edifices since it has been the cradle of Buddhist civilization in Myanmar. By referring one Myanmar saying goes: it came to know that there were 4446 pagodas existed in Bagan.³ Their chimes sounding like the bells of the bullock-carts. But according to Survey in 1968 by the Archaeological

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¹ . Aung Thaw, U, 128.

² . Aung Kyaing, 76.

³ . Than Swe, U, 48.

Department record 2217 stupas and temples were left because of civil wars and natural disasters.¹

The stupas and temples in Bagan are mainly of four types. They are as follow:

- (1) The Tall and Cylindrical type with the Immense Sanctum
- (2) The Type with a Square or Squarish Harmika on the Sanctum
- (3) The Modified Terraced Type
- (4) Stupas built on the Temples

(1) The Tall and Cylindrical Type with the Immense Sanctum

This type was obviously influenced by Pyu Buddhist architecture suggesting that Myanmar architects of Bagan Period most likely learned art and architecture from Pyu masters who had moved to Bagan after the destruction of Pyu City of Śrikshetra.² It is known that Bupaya and Ngakywenataung thus maintain the Pyu simple style of stupas.



Bupaya

The Bupaya, commonly attributed to King Pyusawhtee, is perched high on the bank of the Ayeyarwady river. A flight of stairs on the eastern part of the pagoda leads to the octagonal terrace which serves as the base of the cylindrical stupa. The bulbous sanctum has an embossed part equivalent to the harmika topped by an embossed ring. Later, the htee or umbrella of the pagoda was hoisted only to pagoda. The Bupaya looks almost identical to the Bawbawgyi of Śrikshetra. The present Bupaya is a reconstructed one as the original stupa was collapsed into the river during the 1975 earthquake.

The Ngakywenataung is situated within the walls of Old Bagan City. It is built on the high terrace with the sanctum a bit bigger at the top. Originally, the stupa may have had the phaung-yit (an embossed ring) and htee-taw (umbrella) on top of it. Some damage can be seen at the upper and lower parts of the stupa. The work is commonly attributed to King Taungthugyi while some argued that it was bound to happen after the period of King Kyansittha.³ The shape of the Ngakywenataung, though bigger in shape at the upper part, is similar to that of Bupaya in its simplicity and structure. Its cracks appeared after the 1975 earthquake.

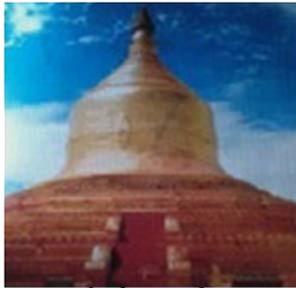


Ngakywenataung

¹ . Adrian Snodgrass, 221.

² . Luce, G.H.55.

³ . Lwin Aung, 54.



Lokananda

The Lokananda Stupa is similarly shaped like Ngakywenataung and Bupaya. It is on the Ayeyarwady river bank. The tall, cylindrical style of the stupa is similar to that of Bawbawgyi, one of the early stupas of Śrikshetra. Traditionally, it is believed that the stupa enshrined a molar tooth replica of the Buddha under the aegis of King Anawrahta in 1059. The stupa served as a signal stupa for boatmen from Ceylon and Rāmañyadesa (Lower Myanmar).¹ The sanctum of Lokananda is built on the five octagonal terraces and the first two of which can be accessed to by

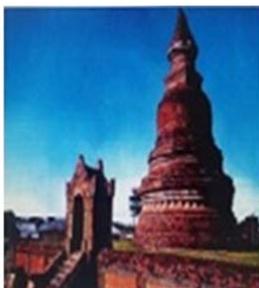
using a built-in staircase. The terraces have diamond-shaped patterns all over them. The sanctum is in the form of an elongated bell topped by embossed rings, downturned lotuses, bosses, upturned lotuses and a little pagoda. The whole top structure up from the embossed rings of the pagoda through the banana bud and the diamond bud collapsed onto the ground due to the 1975 earthquake, leaving the reliefs on the bell and floral motifs damaged in a network of cracks.²

The elongated-bell-shaped sanctum of the stupa is distinguished from those of Ngakywenataung and Bupaya, which are plainly tall and cylindrical. Unlike Ngakywenataung, Lokananda has a tapering shape in an upward direction and is more beautifully structured. Similar to Lokananda in shape are Myingaba Stupa and Inn Paya.

Myingaba is in the shape of a kalasā pot built on the octagonal terrace. The stupa has a tall-bell-shaped sanctum and tapering embossed rings. The sanctum indicates the high architecture of Bagan Period.

Inn Paya, commonly attributed to King Kyansittha, was simply built in the shape of a straight bell on five octagonal terraces. About five small and big embossed rings come alternately above the bell-shaped stupa. Diamond patterns can be seen on the bell-shaped stupa and its embossed rings. The stupa is a modification from a plain cylindrical type.³

(2) The Type with a Square or Squarish Harmika on the Sanctum



Sapada

The early form of stupa of India has the sanctum in the form of a hemisphere built on the circular terraces. At the top of the stupa are the cubic enshrinement and chatravali. Starting from the tenth century, its style was followed with some minor modifications by such stupas in Bagan as East and West Phetleik, Seinnyet Sisters Paya, Paypinkyaung Paya and Sapada Stupas.⁴

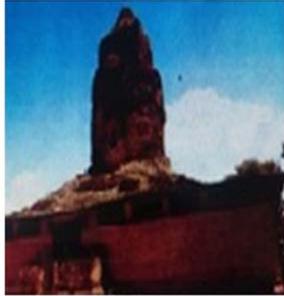
¹ . Than Tun, 49.

² . Longhurst, A.H., 40.

³ . Charlotte Kendrick Galloway, 125-163.

⁴ . G.H. Luce, 124.

The East and West Phetleik Stupas, situated south of Thiripyitsaya Village are attributed to King Anawrahta. The terra cotta plaques with scenes of Jātaka stories in Old Mon script made some scholars to think that the stupas may be older than King Anawrahta's period, but some votive tables bearing the king's seals were found during the excavations.



East Phetleik

The architectural styles of the two Phetleik stupas are very similar and these pagodas were built on the central square pillar surrounded by corridors with arched vestibules in the four cardinal directions. Compared to the East Phetleik, a greater part of the West Phetleik can be seen until now. Around the central pillar of each stupa and on the opposite walls are decorated with the Jataka scenes on tiles. The Aṇḍa (Body of the



West Phetleik

Stupa) is built as the roof over the corridor with the zigzagging cornered Harmika (Relic Chamber) on top of it. The embossed rings and the umbrella are added on to the Harmika, and circular belts around the Aṇḍa on which four Buddha are placed in niches at cardinal points.¹

Another example of the second type of Bagan Stupas is the Seinnyet Nyima Stupa, situated on the eastern side of the road between Myinkaba and Thiripyitsaya. The stupas was built on the three terraces. Each corner of the lowest terrace has a little satellite stupa and an ogre image. Each corner of the second terrace has a kalasā pot on a brick stand and a lion statue.



Seinnyet Nyima

The third terrace has corner stupas on brick stands next to Kinnara figures. The three terraces are topped by a 16-layered plinth, two lotuses and a bell-shaped stupa extending upwards. The ketimukha (motifs of ogres biting flowers) and ball-shaped bosses indicating good examples of stucco in the Period are decorated on the bell-shaped stupa.

The beautiful relic chamber on top of the stupa has seven zigzags at each corner, and is finished by a round umbrella with 12 embossed rings. Among the many having zigzag-cornered relic chambers in Bagan. The Seinnyet Nyima Stupa are suggesting the architectural style that gained popularity in the old kingdom. Since the squarish relic chambers were first modified with zigzag corners in India in the Tenth Century, temples in Bagan must have derived this style from Pala stupas of India.²

(3) The Modified Terraced Type

This style of stupas built on terraces is a unique modification of Myanmar by adding terraces of different shapes to the ancient styles. Originally, the plain circular terraces were changed to squares and were added layers upon layers together with such beautiful decorations as satellite stupas, kalasā pots, floral motifs and figures of lions, ogres and kinnaras. Built-in stairways and niches were also added on the four directions only in the later periods for the purpose of going up the terraces.

¹ . Ba Shin, 70.

² .Luce, G.H, 112.



Somingyi Stupa

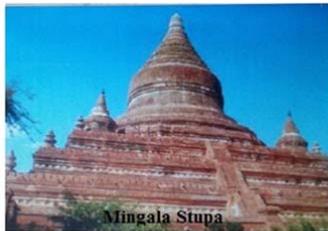
The Somingyi Stupa is the representative of a stupa-like structure without stairways. It was influenced by the stupas of Taxila (Gandhara) in Northern India. The bell-shaped stupa of the Somingyi is built on the high terraced levels which resemble a kalasā pot. Embellishments like strings of pearls and floral motifs around the stupa are beautiful stucco works. The three terraced levels, though simple and straight in distant appearance, have zigzagged corners. The bell-shaped stupa and embossed rings are built on the round plinth of brick above these levels. There is no stairway to climb the terraced levels.¹

The Shwesandaw Stupa has five terraced levels with stairways on four sides. The steep terraces are fenced with seinhtaungs (diamond-shaped upturns) and the lowest level having lion figures at the corners. Above the terraces is an octagonal plinth topped by the rising, bell-shaped Aṇḍa with embossed rings, turned lotuses and a finial.



Shwesandaw

The Shwezigon, another stupa with five terraces, was also built by King Anawrahta who, however, passed away before the completion of the work which was later revived by King Kyansittha. Out of the five terraces, the lowest three are squarish, the fourth octagonal



Mingala stupa

and the fifth circular. The glazed plaques with Jātaka scenes can be seen around the square terraces, which have kalasā pots at the corners. One can approach the square terraces by using one of the four stairways. A bell-shaped stupa with beautiful bands and a finial can be seen above the terraces. This stupa has served as the prototype of all Myanmar stupas and among them the Mingala stupa of King Narathihapate in later Bagan Period is a famous one.

The Dhammarājika Stupa, having also has five terraces like Shwezigon. It was built in the time of King Narapatisithu. It is a pentagonal shape with three terraces topped by an octagonal terrace and a circular terrace. The relic chamber, harmika in square shape, at the top of the stupa is followed by bossed rings as the plain umbrella. These stupas serve as the evidence of Buddhist relation between Myanmar and Ceylon.²

(4) Stupas built on the Temples



Nandamañyā stupa

The stupas built on the temples include Nandamañyā, Alotawpyei of Wetgyi-In, the Ceylonese type of Minnanthu Village, and so on.³ Buddhist temples are sometimes called 'shrine-based pagodas' or 'brick-house pagodas' since this type of pagoda is built on the rectangular or square-shaped brick shrine. The temples have a single archway or four archways leading into the buildings in Bagan.

¹ . A.S.I, 17.

² . Adrian Snodgrass, 189-246.

³ . Ba Shin, 52.

Conclusion

Together with Buddhism, the Buddhist art and architecture spread out to Ceylon and Myanmar. The earliest form of Buddhist stupa in Myanmar had a lot of resemblance to Dhammarajika Ceti, which was built in Sarnath in remembrance of the Buddha's first sermon. Later, the modifications were seen on the stupas in representation of the 31 planes of existence and Mount Meru. Indeed, the Myanmar type of stupa derived from the 'Aṅḍa' and 'chattavali' of the Indian stupas, but of Myanmar origins were such parts as 'satellite stupas', 'kalasa pots', 'staircases and arched doorways', 'leogryphs' and 'man-like lions (manussiha)'.

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References

1. Adrian Snodgrass. (1992). *The Symbolism of the Stupa*. Delhi: Motilal Banarsidass Publishery Private Limited.
2. Aung Kyaing, Minbu. (1997). *Architecture of Bagan ancient monuments*. Sarpay Beikman, Yangon.
3. Aung Thaw, U. (1972). *Historical Sites in Burma*. Yangon: Ministry of Union Culture.
4. Annual Report of the Superintendent. (1902-26; 1936-42; 1947-1965). Yangon: Archaeological Survey of Burma, Yangon Government Press.
5. Annual Report of the Superintendent. (1902-37). Dehli: Archaeological Survey of India.
6. Ba Shin, Bo Mhu. (1969). *The process of developments and changes in art and architecture of Pagan*. In *Journal of Union of Burma life science*.
7. Charlotte Kendrick Galloway. (2006). *Burmese Buddhist Imagery of the Early Bagan Period (1044–1113)*, II Volumes, A thesis submitted for the degree of Doctor of Philosophy of The Australian National University.
8. Field report conducted by the Research team of Department of University's Historical Research. (2002). Yangon.
9. Luce, G.H. (1969). *Old Burma early Pagan*. Vol.I, N.Y.
10. Luce, G.H. (1985). *Phases of Pre –Pagan Burma Languages and History*, Vol. II. London: Oxford University Press.
11. Lwin Aung, Dr. (1974). *Space and mass composition of Pagan monuments*. University magazine (science), Vol.9.
12. Than Swe, U. (1975). *Ancient Monuments in Bagan*. Yangon: Sarpay Beikman.
13. Than Tun, Dr. (1978). *History of Buddhism in Burma A.D 1000-1300*, Ph.D Thesis. University of London.