Evidences in resemblance of archaeological structures of Kesariya and Borobudur Stupa

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Abstract. India’s cultural interface with southeast Asia started around the beginning of Christian era with the discovery of monsoon which traverses a fixed path or direction with remarkably predictable timing or annual cycle thereby generating confidence of safe and convenient maritime trade from the west as well as east Indian coast. This article is aimed to seek the connections and relation between India and Indonesia through deep observations and comparison to the Kesariya (India) and Borobudur (Indonesia). Using Ethnology approaches some evidences has been found

Keywords: Ethnology, India- Indonesia, Kesariya-Borobudur

1. Background

About 20 years ago when it was decided to excavate the stupa mound at Kesariya in Purbi (East) Champaran district of Bihar state, the proposers would never have imagined that the revelations would be so startling. They would have expected to just expose another stupa which would numerically add to the repertoire of stupas in India, may be with few variations in dimension or features. But what emerged from excavations turned out to be revolutionary for buddhist stupa architecture and simultaneously it opened up a new chapter for international debate owing to its somewhat close resemblance to Borobudur stupa in Java island of Indonesia built in 8-9th century CE by Sailendra dynasty that ruled Java for about five centuries ending 10th century CE. Borobudur Stupa is the largest Buddhist monument in the world and has been inscribed as a World Heritage Monument by UNESCO in 1991.

India’s cultural interface with southeast Asia started around the beginning of Christian era with the discovery of monsoon which traverses a fixed path or direction with remarkably predictable timing or annual cycle thereby generating confidence of safe and convenient maritime trade from the west as well as east Indian coast. (Sinha, Ishani, 2019, p.83) One of its far-reaching consequences was brisk contact of India with southeast Asia for trade or otherwise that lasted for over thousands of years and culturally impacted southeast Asian countries, including Java, in a significant and long-lasting way. The southeast Asia was almost swayed away by the Indian cultural stream to the extent that it was sometimes referred to as “Greater India”. Sir John Marshal once rightly said in this context that “to know Indian art in India alone is to know half its history”. Bernard Groslier observes about Indian cultural expansion in southeast Asia that “it was one of the most important civilizing movements of ancient times, worthy to compare with the Hellenization of the mediterranean world. And India can be justly proud to have spread the light of her understanding over such distant lands which, without her, might have remained in darkness”(Khanna, A.N., 2008, p. xviii).
A 1st century CE Greek text “Periplus of the Erythraean Sea” and a contemporary Roman geographer Pliny claim that a Greek navigator Hippalus discovered the monsoon winds and the route to India across the Arabian Sea around 45 CE. Accordingly, in his book “Glimpses of World History”, Jawahar Lal Nehru writes that Indian excursions to east started in the first century after Christ and they continued for hundreds of years. All over Malay, Java, Sumatra, Cambodia and Borneo they went, and established themselves and took Indian culture and art with them. Hindu states and empires were established in these eastern islands, and then Buddhist rulers came”(Nehru, J.L., 1948, p. 101-2). But Sila Tripathi from National Institute of Oceanography, on the basis of her recent research, suggests that Indian mariners were sailing to southeast Asia riding monsoon winds as far back as the 2nd century BCE(Tripathi, Sila, 2017, p.7).

2. Buddhism, Hinduism and The Development in Java Southeast Asia
Irrespective of the period of first interaction (2nd century BCE or 1st century CE), there is no doubt that Hinduism travelled to Java first, like other southeast Asia, and Buddhism went there much later. By all indications, Buddhism was not popular in Java probably upto 5th century CE. On Fa Xian’s way back to China, after a two year stay in Ceylon, a violent storm drove his ship onto the Java island about which he writes that “they arrived at a country called Java-dvipa, where various forms of brahmanism are flourishing, while buddhism in it is not worth speaking of”(Legge, James, 1886, p.129). As Fa Xian’s visit to Java has been calculated to be around 414 CE, it emerges that Buddhism was not a major socio-religious phenomenon in Java by that time, that is, early fifth century CE. Buddhist cultural manifestation in the form of monuments appears only afterwards. The beauty of this bilateral interaction is that there is no political expansion of India to this region in any segment of ancient period. It is simply an example of cultural transfusion which easily got local acceptance due to contemporary socio-religious dynamics encompassing customs and beliefs. With amalgamation of local tradition, the subsequent period produced some outstanding monuments in southeast Asia. Borobudur stupa is central Java is one of them which stands as an exemplary Buddhist architecture in the entire world (Sinha, Ishani, 2019, p.85).

There are three recognized phases of architectural development in Indonesia: -
(i) 600 - 900 CE
(ii) 900 - 1250 CE
(iii) 1250 – 1450 CE

On the other hand, the Java art is divided into two periods: -
(i) The Central Java period (700 – 900 CE)
(ii) The East Java period (900 – 1500 CE)
(iii) In either case (Java or Indonesia) from 1500 CE onwards, the Islamic phase enters into the scene.

3. Method
The approach in this research is to use a qualitative approach. Qualitative methods as certain traditions in social science that fundamentally depend on observing humans in their own sphere and dealing with these people in their language and terminology (Miles and Huberman 1994; Moleong 2006). This research however based on the Ethnology perspectives that comparing between different way of lifes of the people that embodied on this research as comparison between Kesariya and Borobudur Stupa (Boas 1920; Welz 2015).

4. Finding and Discussion
4.1. The Observation on Borobudur Stupa
The Borobudur stupa of 8-9th century CE belongs to the first of the three architectural phases or two art phases. It is indeed admirable that in the first phase itself such a classic stupendous monument
emerges in Java. If we look around in the region, there is no precursor to such a grand edifice. The earliest buddhist architecture is a temple of Tara known as CandiKalasan which is an 8th century CE monument erected by Sailendra dynasty as indicated by an inscription dated 778 CE. There is also a monastery built for buddhist monks. The temple plan is cross shaped and designed as a twelve cornered polygon. The temple is richly decorated with buddhist figures like bodhisattvas and ganas. The next major buddhist monument is Borobudur which is almost in the same line of time frame. It is supposed to be created between 778 CE and 824 CE by architect Gunadharma under the dynastic rule of Sailendra which means “Lords of the mountain”. The work commenced during the reign of Vishnu while it was completed during the time of Samartunga. Candi Kalasan was in its second phase of construction when Borobudur construction started. Thus the two – Candi Kalasan and Borobudur - have an overlapping period of construction.

It is surprising that such a magnificent and complex stupa, in fact the largest buddhist monument in the world, makes its sudden appearance directly in the region without experimenting with other preliminary and simpler forms of stupa like hemispherical, domical, cylindrical or even terraced as can be expected in any evolutionary process if it is an indigenous development. Absence of any predecessor of Borobudur stupa or even earlier forms of stupa is also testified by the fact that the earliest phase of buddhist architecture in Java is dated to 8th century CE (CandiKalasan) and it emerges in the central Java where Borobudur is located. In fact, as discussed above in the preceding paragraphs, Borobudur is the earliest buddhist stupa in Java indicating that the stupa architecture in Java appeared in Java for the first time in 8th century CE. It means that there is no indigenous evolution of Buddhist stupas in Java. The most advance form, the high rise terraced stupa and that also a much complex and elaborate one, is the earliest buddhist architecture in Java. With no apparent forerunner of Borobudur in the region, it can reasonably be inferred that the idea of this architecture was not native to the land, it was definitely rooted in some external source which was customized in the local tradition. From this view point, it would be very natural to think about India,

i. which is the land of origin for buddhism including Mahayana Buddhism, the basic theme at Borobudur
ii. with which religiocultural interface of Java is well established since long
iii. which is home to all forms of stupa making an evolutionary sequence.
iv. which now has a multi-terraced stupa at Kesariya closely matching the height of Borobudur stupa resembling it in concentric ascending corridors and having Buddha images on terraces

4.2. The Observation on Kesariya Stupa
Kesariya stupa is a terraced circular structure of bricks in mud mortar and is capped by a cylindrical stupa of solid brick work. It is 31.5 metres high with a diameter of 123 metres. There are six terraces, the lower five of which have cells containing stucco images of Buddha. The cells are distributed in groups of three. The lower three terraces contain groups of three cells at a regular interval with polygonal designs filling up the gap. There are eight such groups – four on cardinal directions and four at their intersections. On the fourth terrace the flanking two cells in the group of three are smaller in size compared to the central cell while on the fifth terrace there are no flanking cells, a single cell replaces the group of three (Indian Archaeology 1999-2000 A Review, p.11). This was perhaps necessitated in view of space constraints due to reduced perimeter on higher terraces. Another adaptation to address space issue is that the placement of cells on the fourth and fifth terrace is restricted to the four cardinal directions only dropping the four corner groups to avoid congestion and maintain the aesthetic beauty of the structure. Over the sixth terrace only the cylindrical stupa is placed having extant height of about 10 metres and a diameter of about 22 metres. All the terraces have space for circumambulation with a rammed floor of brick jelly in lime mortar. Moulded and decorative bricks have been used to create attractive patterns on exterior elevation of the cells. Each terrace is connected with its immediate higher or lower terrace by staircases. However, the staircases are distributed in small
units at different locations on stupa. Moreover, visually they are quite inconspicuous being concealed within polygonal designs or circumference wall and only two terraces are connected at one location.

![Figure 1. General view of kesariya Stupa (Source: Archaeological Survey of India)](image1)

![Figure 2. Elevation of Kesariya Stupa (Source: Archaeological Survey of India)](image2)
As far as terraces and polygonal designs are concerned, Bihar and adjoining areas do have a history of these features incorporated in Buddhist stupa architecture. LauriyaNandangarh stupa in West Champaran district of Bihar is credited with introduction of such components in stupa construction as early as in 2nd century CE. It is polygonal or star shaped on plan and has as many as seven terraces. Kesariya stupa is located only about 110 kms. away and is later in date than Nandangarh. So apparently Nandangarh stupa might have been the inspiration for Kesariya stupa for multi terracing and polygonal designs. A similar example contemporary to Kesariya (Gupta period) is the Choukhandi stupa at Sarnath near Varanasi in eastern Uttar Pradesh which also is a multi terraced stupa with polygonal designs on terraces. This region, therefore, can very reasonably be taken as the cradle land for terraced Buddhist stupa architecture with polygonal patterns. Borobudur, which does not have any predecessor in its surrounding region, may have borrowed these features from India, particularly Kesariya with which it has a relatively closer resemblance. The cultural interaction of India and Indonesia was already well established in the period under consideration. Hence the basic architecture of Borobudur is possibly an inspiration from Kesariya. The cells on terraces of kesariya stupa have an average size of 2.20 x 1.80 metres with an entrance of 70 to 90 cms (Indian Archaeology 1998-99 A Review, p.3) though these openings are sometimes secondarily reduced to about 60 cms. accompanied by raising of floor inside the cell as well as on the terrace outside meant for circumambulation. Roofs of all the cells are missing as they collapsed with time due to exposure to weathering agents.
Possibly all the cells once contained stucco images of Buddha but evidences are now available only in few cells owing to their fragile material composition, continuous exposure to weathering agents and collapse over them of the roof as well as walls of the cell. Based on the remaining evidences it is observed that the Buddha image is placed over a low platform attached to the back wall across the width of cell. The platform measures 1.80 x 1.0 x 0.25 metres and contains lime plaster over it. Sometimes there are niches on the rise of platform occasionally containing lion images in it. In some cells there are additional stucco images, seated or standing, attached to the side walls. The images are made up of a core matrix containing clay, lime, brick jelly, sand and husks. To this core was imparted a smooth layer of lime plaster over which there is a lime wash, red or white. Sometimes there is also an evidence of a re-coat of lime plaster over the image suggesting a phase of repair (Indian Archaeology 1998-99 A Review, p.3). The main image in front of cell entrance is always in seated posture, probably a compulsion of low cell height.

4.3. The Similarity Between Kesariya and Borobudur Stupa

If we examine the architecture of Kesariya in the light of three divisions of Mahayanic buddhist universe represented by the three structural divisions at Borobudur, we tend to believe that the entire structure at Kesariya corresponds to only one division, arupadhatu which at Borobudur is represented by the upper three circular terraces supporting the stupa above. Indeed, the circular nature of terrace is common for Kesariya and Borobudur which is six and three (upper) respectively at these two places. But what is more important beyond this physical similarity is that we find Buddha images on all the terraces at Kesariya but only on the upper three terraces at Borobudur. The lower terraces and base of Borobudur stupa, on the other hand, are square and have a variety of sculptures representing manushi buddhas, dhyani buddhas, bodhisattvas, etc. The base has the carvings of human as well as animal figures alongwith forest scenes. Obviously, there is no qualitative differentiation among the different terraces at Kesariya in terms of art and architecture unlike at Borobudur where not only we have physical differentiation between the three segments of elevation but we also have differences in the nature and class of sculptures depicted thereupon which is essential for describing transcendence of a devotee from worldly existence to the ultimate spiritual goal.

The excavation of Kesariya stupa has brought to light an entirely distinct category of stupa morphology in the form of a high rise multi-terraced structure. So far there were examples of single or double terraced structures with Buddha shrine centrally placed on the upper terrace. Nalanda stupa site 12, 13 & 14 have one terrace while Vikramshila Mahavihara (Antichak, district Bhagalpur in Bihar state) and Somapura Mahavihara (Paharpur inNaogaon district of Bangla Desh) have double terraces although they belong to a much later date, the Pala period (8th – 12th century CE) and therefore not relevant for present discussion to trace inspiration of the 8th-9th century stupa at Borobudur. In case there were multi terraces, there was no Buddha shrine on it, examples of this category being Lauriya Nandangarh stupa (West Champaran district of Bihar) or Choukhandi stupa at Sarnath (Varanasi district of Uttar Pradesh). The multi terraced Kesariya stupa with cell shrines and Buddha images on terraces is therefore qualitatively different from these examples and constitute a separate class of stupa typology. While there is no close comparison of Kesariya in India, it has a resemblance to the Borobudur stupa in Java Island which has concentric ascending corridors, has Buddhist images on terraces and is also comparable in height. Moreover, both these examples have a cylindrical stupa on the top.

In this context it is further remarkable to note that there is a clear influence of India’s Gupta art on the Borobudur sculptures. Further, the upper covering layers of Kesariya, and also the sculptures on it, belong to the Gupta period. It is also significant that Borobudur (8-9th century CE) is much later in date than Kesariya stupa (5-6th century CE) establishing a very high probability of Kesariya stupa as precursor to Borobudur. Coming to the architecture of Borobudur stupa, it has three basic structural divisions which are, in ascending order –

(i) The base
(ii) five square terraces
(iii) three circular platforms supporting a stupa atop.

![Figure 5. Section of Borobudur Stupa](source: wikipedia)

![Figure 6. Plan of Borobudur Stupa](source: Wikipedia)

These three segments of structures are believed to represent the three divisions of Mahayanic buddhist universe

(i) The base represents *kamadhatu.*
   It is the lower sphere of everyday world where we remain bound to the worldly desires and baser passions like *Kama, Vedana, dukkha,* etc., elimination of which is essential for liberation from the cycle of birth and rebirth.

(ii) The square terraces represent *rupadhatu.*
   It is the middle sphere of form, spiritually superior to the world of flesh. Here we abandon our desires but still remain bound to name and form.

(iii) The circular platforms represent *arupadhatu.*
   It is the higher sphere of formlessness or the total detachment from the world where there is pure knowledge and perfection. There is no longer either name or form. It is the world beyond form.

The stupa on top symbolizes the final salvation or the ultimate liberation from existence. Thus ascending the Borobudur stupa gives a feeling of spiritual journey from the world of lust into the realm of *shunyata* or absolute silence which is the ultimate goal of any *sadhaka* in spiritual quest.

A staircase with decorated archways leads to the top of the monument from the middle of each side of the square. There are continuous rows of sculptured panels in it placed on the main walls and balustrades all along the four passages. These sculptures include carved human & animal figures alongwith forest scenes and illustrations of buddhist lore and doctrine. The four square galleries have a chain of large niches containing images of Buddha culminating in miniature stupas. On each side there are statues of *manushi* buddhas, *dhyani* buddhas and bodhisattvas. Walls of the terraces are adorned with relief portraying life scenes and jataka stories. On the circular terraces, there are a number of stupas belonging to a type found only at Borobudur. These are latticed stupas and stupas constructed with half open walls.
Borobudur represents a development from stupa architecture to mandala form. A mandala is a spiritual symbol representing the cosmos or universe used as an aid to meditation helping the meditator to envision how to achieve the perfect self. In other words it helps in transforming ordinary minds into enlightened ones. In this light it becomes interesting to analyze the architecture of Kesariya and Borobudur. Swati Chemburkar from Jnanpravaha, Mumbai opines that Kesariya also conforms to the mandala form on the basis of its resemblance to buddhist mandala which can be seen on many buddhist thangkas although she admits that the specific mandala cannot be determined. In this light, let us now examine the architecture of Kesariya stupa for appropriate comparison with Borobudur stupa.

Further, there is a very significant difference in the nature or purpose of sculptures at the two places. While the sculptures at Borobudur are decorative in nature, those at Kesariya are basically meant for worship as they are enshrined within cells and therefore it is more opt to call them cell shrines. Each cell shrine has a small entrance with the consequence that the Buddha image inside the cell is not visible from outside. Further, the rammed lime floor of the terrace extends inside the cell implying that the circumambulating devotee used to enter the cell and worship or meditate inside the cell, perhaps individually, as there is very small space inside the cell, enough for one individual to comfortably meditate but not enough to accommodate many devotees at the same time. Swati Chemburkar refers to the cells as niches when she describes “Kesariya terraces with large external Buddhas in niches”. This perhaps is not acceptable as the image is not visible from anywhere outside the cells and there is a well- defined entrance to go inside for viewing the image, unlike a niche which should be visible externally and is primarily meant for decoration like at Nalanda stupa site 3 or Maniar math at Rajgir.

We also disagree with Swati Chamburkar when she differentiates between the geometry of different terraces at Kesariya. She describes that “the four lower terraces of Kesariya are more circular than those on Borobudur, but close examination reveals the upper two terraces to be square – something like an inverted combination of the square and circular terraces found on Borobudur”. At the very outset it is to be noted that all the terraces at Kesariya are absolutely identical in its circular shape with the only difference in perimeter. It’s true that the fourth and fifth terraces have cells or group of cells only on the four cardinal directions but the fact remains that even those terraces are circular only. Further, on the sixth terrace at Kesariya there is a cylindrical stupa with a circular terrace around it for circumambulation, there being no cell shrine on that terrace. In that case the square pattern of fourth and fifth terrace, as suggested by Chemburkar, gets sandwiched between circular terraces above and below it and therefore a uniform sequence of identical or inverted pattern cannot be applied in the concept.

The above differences notwithstanding, credit goes to Chemburkar for thinking about Kesariya on the concept of mandala form of architecture. Comparing the two stupas from this view point it is observed that although there are large number of sculptures on the terraces at Kesariya (projected to be more than one hundred if images on side walls are also accounted), all the images are exclusively of Buddha meant for the purpose of worship within cell shrine. This gives a feeling of eternity, serenity and tranquility with no iota of mortal world depicted in any form on any of the terraces. Even the external faces of the cell shrine contain mouldings or geometric pattern only, they are absolutely devoid of any figure or narration suggestive of mundane activity. Obviously, this stage corresponds to the highest of the three spheres at Borobudur representing pure knowledge and perfection. Higher up is only the stupa which symbolizes final salvation or liberation from the cycle of births and rebirths. Conversely, there is no qualitative differentiation below the stupa placed on sixth terrace. Remaining all five terraces are uniform perhaps denoting arupadhatu. On the basis of components embodied in it, the Kesariya structure in its totality can be said to represent arupadhatu only. On the other hand, Borobudur definitely takes the form of a mandala in accordance with the Mahayanic scriptures. It contains more than a thousand exquisitely carved relief panels extending along its many terraces and these are arranged so as to take the visitor on a spiritual journey to enlightenment. This may be because mandala form of architecture was being experimented at Kesariya in
contemporary India with no royal patronage to it unlike Borobudur which was constructed by the Sailendra rulers is a period when mandala architecture got well defined. As an additional advantage, Borobudur stupa was constructed in stone which provides good scope of carving sculptures. Stupa of brick construction as at Kesariya has limitations in this regards.

As pointed out by Amar Nath Khanna, the Borobudur stupa is also regarded a meru (mountain) inhabited by the gods. The theory that Borobudur represents a mountain is given further credence by an inscription from the Ratu Boko Plateau, south of Prambanan, dated 792 CE, written in the form of prayer to the “sumeru” of the perfect Buddhas”, a clear indication that Javanese Buddhists equated mountains with powerful spiritual forces. As a lofty structure interspersed with such a high number of Buddha images enshrined on it, the Kesariya stupa can be equated with Borobudur as a mountain with spiritual forces. Though in a non-comparable sense a local legend ascribed Kesariya mound to be abode of the spirit of Raja Bena, a mythical Purana king, who entombed himself alongwith his family in grief of the tragic death of his wife accidently drowned while bathing in the tank nearby (Kuraishi, M.M.H., 1931, p.3-4).

5. Conclusions

| No. | Aspects              | Kesariya stupa               | Borobudur stupa               |
|-----|----------------------|------------------------------|-------------------------------|
| 1   | Typology stupa       | Multi terraced stupa         | Multi terraced stupa          |
| 2   | Material             | Brick                        | Stone                         |
| 3   | Height               | 31.5 metres (extant height)  | 35 metres                     |
| 4   | Two                  |                               | One                           |
| 5   | Period               | Earliest phase- 2nd- 1st     | 8th - 9th Century CE          |
|     |                     | Century BCE                  |                               |
|     |                     | Last phase- 5th- 6th Century CE |                                 |
| 6   | Plan                 | Circular                     | Square for lower four terraces|
|     |                      |                              | Circular for upper three terraces |
| 7   | Terraces             | Six                          | Seven                         |
| 8   | Elevation            | Uniform                      | Differentiated                |
| 9   | Number of stupas     | One in the centre of top terrace | Many stupas on upper three terraces and one in the centre of top terrace |
| 10  | Shape of stupa       | Cylindrical                  | Domical, latticed and stupas constructed with half open walls |
|     | (excluding base)     |                              |                              |
| 11  | Cell shrines on terraces | Present                   | Absent                        |
| 12  | Sculptures           | Buddha                       | Circular terraces             |
|     |                      |                              | Buddha, bodhisattvas, Dhyani Buddhas, Manushi Buddhas. |
| 13  | Material of sculptures | Stucco                      | Stone                         |
| 14  | Purpose of sculptures | Worship                     | Decorative                    |
Amar Nath Khanna writes that “mandalas in the form of buildings are rare in east Asia although they are found in Nepal and Tibet. The oldest surviving architectural mandala outside Indonesia was built in India two hundred years after Borobudur at Tabo in the Spiti valley of Himachal Pradesh”. The date of Borobudur stupa (8-9th century CE) and Tabo monastery (10-11th century CE) lead to the hypothesis that mandala form of architecture came to India from Java. This theory got support from the proven cultural flow from Java to India in 9th century CE as evidenced through a copper plate inscription (now in Indian Museum, Kolkata) found in 1921 from monastery site 1 at Nalanda. It records that upon request from King Balaputradeva of Suvarnadvipa (Sumatra in Indonesia) through a message, King Devapala (of Pala dynasty, 810-850 CE) granted five villages for the maintenance of monks and for copying of manuscripts in the monastery built by a foreign king from Sumatra. However, these presumptions came at a time when Kesariya stupa was not discovered. The excavation of Kesariya stupa datable to 5-6th century CE with features suggesting beginning of mandala architecture, as discussed in preceding paragraphs, reverses the direction of flow regarding the concept of mandala form. It can now safely and reasonably be said that mandala architecture went from India (Kesariya of 5-6th century CE) to Java (Borobudur of 8-9th century CE). A holistic assessment of the two stupas on the basis of literary and archaeological evidences as discussed above definitely indicates that Kesariya stupa was the forerunner of Borobudur stupa leading to common features like high rise terraced architecture, iconic form of depiction on terraces and mandala form.

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