

MAYADEVI TEMPLE
Recent discoveries and its Implications on history of Building at
Lumbini

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Introduction

The garden of Lumbini and its beauty attracted Queen Mayadevi for a rest 2500 years ago as she was on her way to maternal home from Kapilbastu. The beauty and spiritual destiny of Lumbini garden formed the backdrop to the birth of Lord Buddha and Buddhism. Since then it has remained a place of pilgrimage for Buddhists as well as others who seek peace and universal understanding.

Since the acceptance of the Master Plan for the Development of Lumbini prepared by Prof. Kenzo Tange in 1978, Lumbini, the birthday of Lord Buddha, has been the scene of activities designed and executed to develop it as an international pilgrimage and tourist centre. Most of these activities, however, were located outside the central circular levee designated as the Sacred Garden in the Master Plan. This sacred garden and its conservation and reconstruction form the crux of the philosophical continuance of Lumbini as a pilgrimage site. Any misconceived approach will bring forth the wrath of world criticism at the same time leading to the destruction of a prime heritage of the world and of Nepal in particular. The current archeological excavations and its natural followup - the conservation activities on Mayadevi Temple - can be one such action, which depending upon how it is done, can be a matter of great irrevocable regret or a one to set the trend for all activities to come in future in this area.

The Master Plan report (Tange, 1978) recognized then that..." one important decision which awaits the outcome of archaeological research is whether to keep the 'Nativity Sculpture' in its original location or to remove it to the museum. If it is found that the village, which will be undergoing excavation until 1980, is really the exact location of the nativity, efforts must be made to display the nativity sculpture there and not in the museum". Here Prof. Tange already appears to have assumed that the Mayadevi temple is not where the image belongs. About

the physical structure of the temple itself, the Master Plan goes on to recommend that “ structure on the grade shall be removed and ancient foundation work and basements are to be restored”. At that time the decision had not been made as to upto ‘ which period to be finally preserved for display among multiple layers of remains extending various historical periods’ and about ‘preservation techniques such as chemical treatment to improve durability of ancient bricks, or use of new bricks as substitute for the old to restore original structure’.

The latest structure of Mayadevi temple above grade belongs to late-Rana period¹ and when and by whom was the anthropomorphic form and temple of Rumminidei, the earlier name of the Nativity sculpture, built are historically unanswered questions. Stylistic considerations could date the image to about 4th century AD. The remains of the decorative brick socle, though reconstructed, does suggest a temple structure close to the period of Kodan temples of the seventh century AD.

Archaeological excavations done under the aegies of Japan Buddhist Federation (JBF) and Lumbini Development Trust (LDT) have made momentous discovery of a series of structures under the latest temple attesting the fact that the site has been of great importance throughout the history possibly starting with trace construction very soon after the life time of the Lord. The Mayadevi image and the temple, thus, are in their rightful place and earlier speculation that it might have belonged to the Lumbini village or some nearby site are proved wrong. Although full report is yet to be made public, observations at the site indicate that the spot of ground practically below the pedestal of Nativity sculpture has been the focus of worship and central to the various stages of construction in the past. At the earliest stage exposed so far, however, the element of veneration was a square brick platform (1.22^m square) of seven courses height including the non-natural looking 'stone' tablet of longish shape on top, is not centric to the immediate next stage of building - the rectangular shrine. The archeologists have, based on focal location of the stone in relation to all the different structural layers spanning over 2000 years of construction and reconstruction history and the Ashokan Pillar inscriptional wording " *silā vibada vichā* " ² (which could mean "

¹ The structure was put up by General Keshar Sumsher JB Rana in 1939.

² The full reading is

De va na pi ya na pi ya da si na la ji na vi sa ti va sa bhi si te na
a ta na a ga cha ma hi yi te **hi da bu dhe ja te sa kya mu ni ti**
si la vi ga da bhi cha ka la pi ta si la tha bhe cha u sa pa pi te
hi da bha ga vm ja te ti lu mi ni ga me u ba li ke ka te

at the centre of the marking stone slab")³ concluded that the exact spot of the birth of Lord Buddha is directly below the center of the Mayadevi image. As Ashokan records say that his preceptor Upagupta had shown to Ashok the spot where the lord was born and also as the geological nature of the marker is clearly non-Ashokan, It can also be concluded that at the very least the stone marker and the brickwork platform below it, was existing at the time of the visit of Ashok.

On siting and locational grounds, it will be seen as later discussions unfold, the lowest and the earliest structure, needs to predate Ashok. Such a conclusion brings to the fore the fact that some built elements existed at Lumbini prior to 245 BC, the date of visit of emperor Ashok to Lumbini. This paper discusses such possibilities based on the observation of recently exposed elements at Lumbini.

The Construction Sequence

The following sequence of construction around the spot of the birth of the Lord can be inferred from the observation of unearthed elements:

i) **The First Stage:** *The small brick platform with 'stone' on top:* The lowest element exposed so far is a cubic brick box 1.22^m square with height of 70 cm, with 6 layers of systematically laid brickwork topped by the seventh course with a 'natural stone' (70 cm NS* 40 cm EW* 10 cm thick) on top. The size of bricks used is 38 cm x 25.5 cm x 8 cm. This box is situated on the western side of the later constructions and its top level is 100.15 m. There is a wider paved area around it. The bottom level is 99.4 m, 27 cm higher than the ground level calculated for the second stage of construction. This should suggest a raised mud ground around the structure. Further investigation inside the box has shown that it is solid and does not contain relics.

It is thus concluded that the structure is a rudimentary stupa built in a raised ground. This structure formed the 'hermical' like part of the rudimentary stupa, the earth, which was constructed between the birth of Buddha and 245 BC, the year of Ashoka's visit to the sacred place, tentatively put prior to Ashokan pillar,

a tha bha gi ya cha.

³The interpretation of meaning varies. For example, D.C. Sircar ('Inscriptions of Asoka', Publication Division, Govt. of India, 1967; pp. 69) translates as "...., because the Buddha, the sage of the Sakyas, was born here. He caused to be built a stone wall around the place and also erected this stone pillar to commemorate his visit." The nature of marking stone found and no find of stone wall refutes this translation fully.

which can be conjectured as being contemporaneous with the fourth stage or slightly later to it. As the use of brick is seen prior to Ashok⁴,

The possible symbolic relation with the seven steps taken by Lord Buddha is hinted by the structure. The stone is clearly not an Ashokan sandstone⁵.

ii) **The Second Stage:** *The large platform with paving:* The construction of the platform, measuring 15.70 m x 20.40 m, with paved brickwork appears to have been built next with the object of veneration of the first stage sited in western end of the configuration on the east west axis of the new construction. The principal axis of the rectangle extends east-west and has a 5° departure from the true cardinal direction. The raised plinth is about 130 cm higher than the circumambulatory passage all around at level 99.55m, with the ground level computed at 99.33 m (deducted as top of the 12th course). This stage is proposed prior to the shrine construction as the bonding pattern is primitive in comparison to the foundation pit walls.

iii) **The Third Stage:** The rectangular building

A rectangular building, a shrine, on a stage two platform, appears to have been built next with the object of veneration of the first stage sited in western middle foundation pit of the fifteen pit foundation configuration. The spot still lies on the east west axis. The principal axis of the rectangle extends east-west and has a 5° departure from the true cardinal direction as a result of aligning to the platform. The raised plinth is about 130 cm higher than the circumambulatory passage all around at level 99.55m, which compares very closely with the Ashokan ground level computed at 99.45 from the study of 'vedica' around the pillar. This close call would suggest a period very close to Ashokan expedition to Lumbini. The lower path apparently was 3m wide. The possible geometric relationship used is : The hypotenuse of the rectangle forming the platform equals the long side of the rectangle enclosing the circumambulatory paving. Another close association can be made with the use of $\frac{5}{8}$ measure for shortside and $\frac{7}{9}$

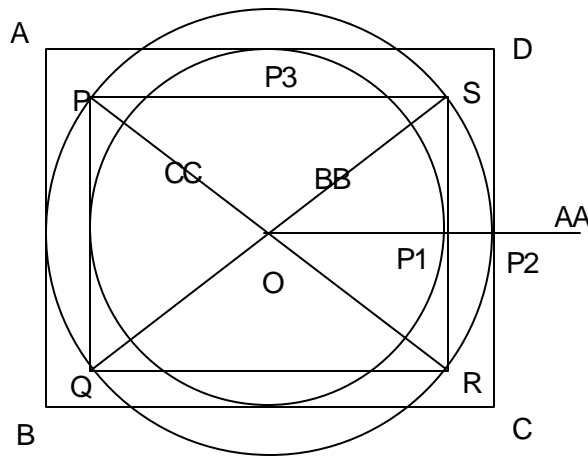
⁴ Pre-Mauryan brick structure is also seen in the 'rectangular room' exposed by Mr. Rijal in 1976-77 season. See: Babu Krishna Rijal: "Archaeological Activities in Lumbini 1976-77", HMG, The Lumbini Development Committee. pp 10 & Fig No 3.

⁵ The stone for Ashokan pillar came from Baragaon village, the hills south of Chunar railway station in Bihar. See " Stone for Ashoka pillar came from Mirjapur", Usha Rai, The Times of India, New Delhi, July 9, 1990.

measure for the long side based on a square mandala of 50 Royal Cubits, or, 100 Cubits in size.

[Possibility one: The Rectangle inscribed in a circle

Draw the rectangle PQRS of size 15.7m * 20.4m. Draw the diagonals BB and CC and locate the centre O. Draw a circle with the centre as located. Draw the axis AA and locate points P1 and P2. Draw circles with radii equal to O-P1 and O-P2. Draw the two sides of the rectangle ABCD so that AD is tangential at P3 and CD is tangential at P2. Follow similar process to get the complete rectangle.



The computed size will be 25.74 metres * 20.40 metres. The site measurements of 25.8 metres * 21.0 metres are pretty close given possible wall shifts and malalignments.

Possibility two: Use of base square Mandala

[Calculations:

$$\frac{8}{5} * 21 \text{ m} = 33.6 \text{ metres}, \frac{9}{7} * 26 \text{ m} = 33.42 \text{ metres.}$$

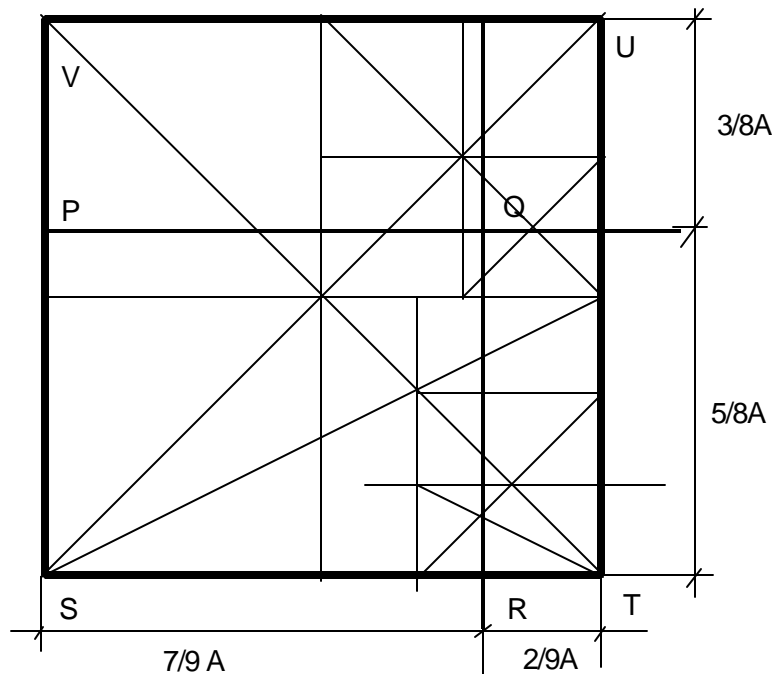
(8 divisions of a square may be obtained by halving and quartering the side. The one-third of side needed to obtain nine divisions may be graphically done by locating the point of intersection of the diagonal of the main square and the diagonal of the rectangle obtained by halving the square in earlier process[@].)

Cubits have been used in the ancient and medieval times in Indo-gangatic region[#] and the median value of the Royal Cubit is taken at twice the length of four palms, or, 66.4 cm

$$50 \text{ RC} = 33.2 \text{ metres.}$$

Thus the base square size of 33.6 ~ 33.42 metres is very close to 50 Royal Cubits

The difference between possibility one and possibility two are marginal and may be computed to be around 0.22%]



Rectangle PQRS as derived from the square STUV with side equal to A

The set of holes seen along the west side edge of this circumambulatory could belong to timber railing. The foundation trench infill materials indicate the

[@] Sudarshan Raj Tiwari: Tiered Temples of Nepal, Kathmandu 1989. pp 18

[#] F. G. Skinner, Weights and Measures, London 1957, pp 41.

period of construction as Mauryan. The building superstructure could have been timber or corbel vaulted brickwork. The suggestions are based on the remains of the structure that followed and the many post holes seen. The exact drawing of the location of post holes can lead to exacting determination of form of the superstructure. The use of timber superstructure would suggest a pre-Ashokan edifice.

Conjectural rendering of the plan is shown in Drg. No. 1. The size of the superstructure is deduced from the geometric relation seen between the outer two rectangles and the pattern of foundation trenches. The location of the pillar as well as the spot of veneration exclude the possibility of central entrance from the west or other directions. The chaitya windows were possibly located on all the four 'cardinal' directions as was usual to get the sun entering from such windows to fall on object of worship. The window panels are relieved outwards by 18.75 cm and this has been interpolated on the basis of the foundation trench offset measure. The apparent reference bench mark was the stupa artefact numbered 14 in its exact NW. This stupa's importance is also attested by the casket find reported in earlier excavation. As the stupa has a 45° angularity from the centre of the unearthed temple structure, this should be thought as contemporary to the temple. From the conjectural geometric relation between the pillar and the foundation structure, it can be concluded that the construction is pre-Ashokan. At least four reasons may be cited in support:

- a. The infill is Mauryan.
- b. The pillar is axial to the northern set of five foundation pits.
- c. The five degree orientation 'error' of the shrine is corrected by aligning the pillar due true west from the NW corner of the earlier structure.
- d. The error correction was apparently made through the use of the brick 10_0 laid over the enlarged circumambulatory in the true NE direction at a distance equal to the width of the superstructure.

The 5° departure need not be seen as a layout error. Three possibilities need to be tested eg. (i) the orientation chosen was to magnetic north rather than

the geographic north, (ii) the orientation was related to the altitude of some important celestial markers such as the sun, and, (iii) the east end of the long axis pointed to the direction of sun at sunrise on the day of consecration of the building.

(i) The magnetic north is reported at 2~3° east of North and thus cannot be said to be close to 5°, the observed deviation east of north.

(ii) To explore the second option, the date of construction need to be known, and this is unknown. However the construction of the temple could date to an important Buddhist calendar day. For Lumbini, with latitude 27°24' N, 85° altitude of the noon sun falls about June 6 or July 8 of any year.

[Calculation:

$$85^{\circ} = 90^{\circ} - (\text{Latitude} - \text{declination of the sun})$$

or, $5^{\circ} = 27^{\circ}24' - \text{declination}$

or, **Declination of sun = 22°24', which occurs about June 6 or July 8 of any year.]**

(iii) The azimuth of the sun at sunrise, in this option should equal 95°. Thus the following calculation may be made:

Cos Z = Sin d * Sec L **Z=** azimuth angle at sunrise, **d=** declination angle and
L= latitude of Lumbini.

or, $\text{Cos } 95^{\circ} = \text{Sin } d * \text{Sec } 27^{\circ}24'$

or, $-0.0871557 = \text{Sin } d * 1.1263603$

or, $\text{Sin } d = -0.07737817$

or, $d = -4.4378^{\circ}$

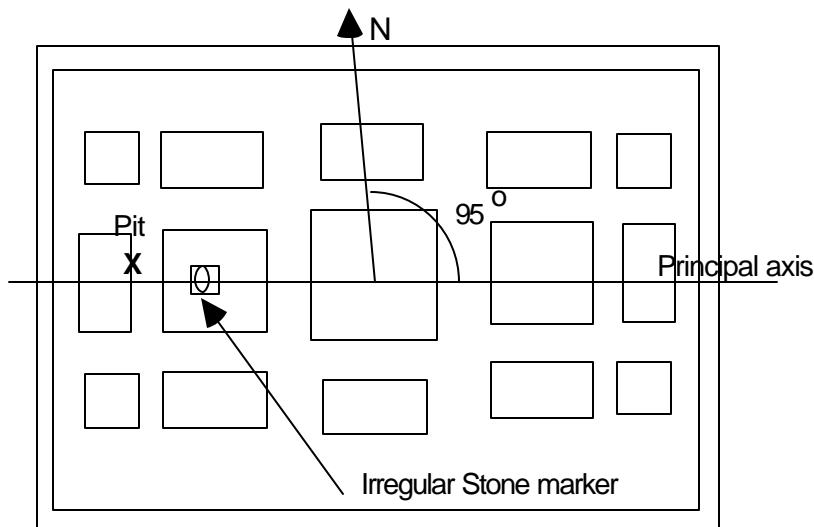
This declination of the sun corresponds to MARCH 10.

Though the departure is seen as 5°, another pointer from the geometricity study is an angle of 83°47', which will yield through similar calculation the date May 26 or July 19 of any year.

The most likely possibility is option (iii) and we may suggest that the Buddhapurnima in the year of construction of the temple fell on March 10. These dates need to be verified with Buddhist festival calendar days in the years following the death of the historical Buddha.

iv) Stage Four: Raising the Circumambulatory.

This stage is very close to the second stage and possibly an Ashokan intervention or was at least done at the same time. At this stage the circumambulatory was walled in with infill buttress walls to enlarge the platform. Paving was added in the west and north sides as an enlargement. The paving addition to the northern side suggests the importance of stupa artefacts numbered 16, 17 and 18. The paving addition to the west indicates its facing direction.



2. The Trench Plan at Stage 3.

v) Stage Five: The first three foundation pits shrine

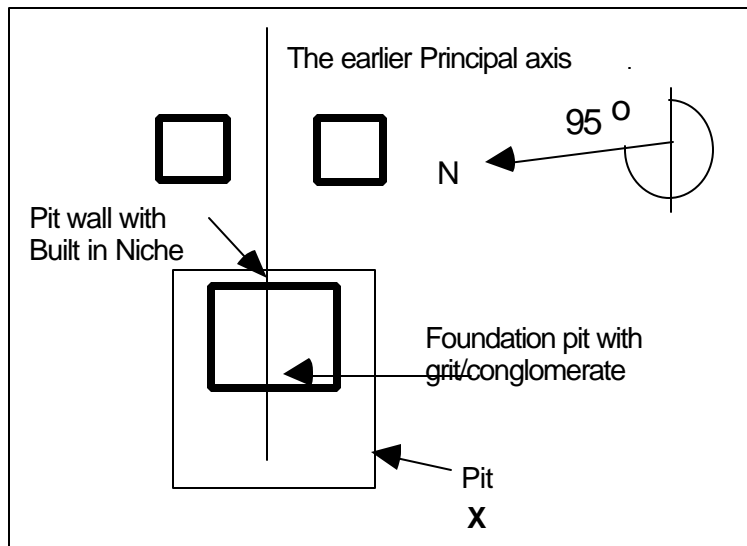
Reported as stage two by the archeologists at work, two sandstone pieces are irregularly placed over a refilled heap and these are located about 50cm to the east on the principal axis of the larger stone about a meter below. The hole seems to have been plundered as judged from the irregular fill. The stones were put later to mark the spot after filling for the construction. The stone pieces are Ashokan sandstone. A three pit foundation trench for the construction of the superstructure at this stage is laid out such that the central pit is sited over the sanctum pit of the earlier stage. The superstructure of the earlier shrine was completely removed and levelled to the level of the two stone piece place markers.

vi) Stage Six: The Second three foundation pits shrine

vii) Stage Seven: The Third three foundation pits shrine

viii) Stage Eight: Last one hundred years

The above discovery of Mauryan, pre-Gupta, and Gupta brick layers and structures under the platform of Mayadevi temple push whatever structure which was the forerunner of the current temple much further back in history than generally proposed so far. Questions become more vexing then. When did Mayadevi temple structure got built ? Did it start as a temple with anthropomorphic qualities ? Did something else exist in the area before the Nativity image was installed ? One has to try answering these questions before proceeding further.



3. The Formation of Three Foundation Pits

Some such questions and possibilities were presented by me earlier. The particular relevance and possibility of guiding the exploratory archeology to some concrete direction were then presented in the context of possible geometrical planning and layout principles drawn from other early Buddhist sites and literature. I would like to recapitulate what I proposed then with consideration of the new finds the excavations have revealed so far.

In 249 BC Emperor Ashok was guided by his preceptor Bikkshu Upagupta to Lumbini and the birth spot shown to him. He ordered the erection of a stone pillar to mark the birthplace.

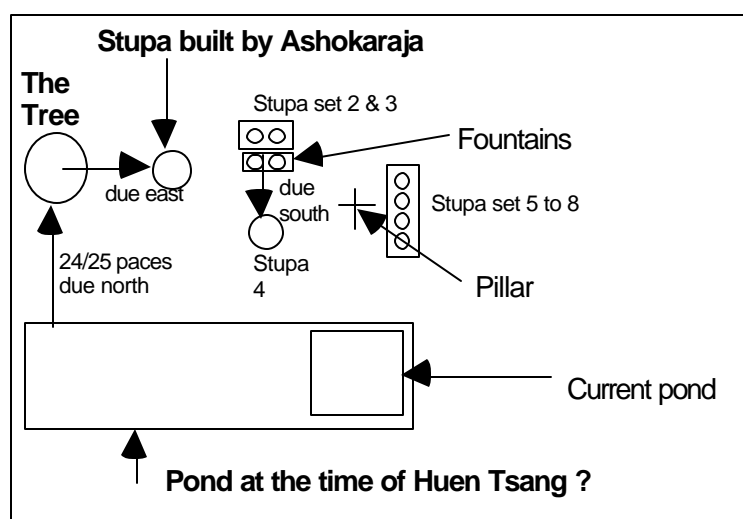
About 404 AD the famed Chinese traveller Fa-hian found the Lumbini environ deserted. His account indicates a pond or a bathing tank in the royal garden, where the queen washed herself. Then she took twenty paces to the north and “holding a branch of the tree in her hand, as she looked to the east, brought forth the prince...two dragon-kings washed the prince's body- the place where this occurred was afterwards converted into a well”.

About 636 AD, another famous Chinese traveller Hiuen Tsiang visited Lumbini. He noticed the bathing tank, which was “bright and clear as a mirror and the surface covered with a mixture of flowers”. He also noticed about 24 or 25 paces to the north “ an Ashoka flower tree which is now decayed ; this is the place where Bodhisattva was born...East from this is a stupa built by Ashoka-rajā, on the spot where the two dragons bathed the body of the prince... To the east of this stupa are two fountains of pure water, by the side of which have been built two stupas... To the south of this is a stupa ... Close to this there are four stupas... By the side of these stupas and not far from them is a great stone pillar, on the top of which is the figure of a horse, which was built by Asoka-rajā...it was broken off in the middle and fallen to the ground.

Several questions are raised and remain unanswered by these description of visits to Lumbini. It is unclear as to what Upagupta showed to Emperor Ashok. Was it a spot on ground, a tree trunk, a tree, a stupa or a temple ? Or, was he just shown the general area ? Fa-hian does not describe or notice the pillar, stupas or temples in the area and only reiterates the pond and a new well. However Hiuen Tsiang observed many objects and monuments of veneration. Apparently the Ashoka tree, under which Lord Buddha was born, was still to be seen in a decayed state by 636 AD. In addition to the bathing tank and the Asokan pillar, several stupas were noticed by him. Obviously the pillar or the stupas were not built over the site of birth. Also until the time of his visit, the tree was left as it were, in its natural state.

Today the Asokan pillar is directly north of the centre of the bathing tank. Hiuen Tsiang's description puts the Asokan pillar generally to the south-east of the Ashoka tree. Use of the adjective 'great' to describe the pillar suggests that the stupas were probably small as also seen in so many of these finds in the general vicinity of the pillar today. No structures other than the pillar, stupas and the bathing tank existed then. Given his acute observation and general accuracy attributed to his travel accounts, it can be said with fair certainty that the

anthropomorphic 'nativity image' as well as temple structure for it was not built in the sacred garden area by early seventh century AD.

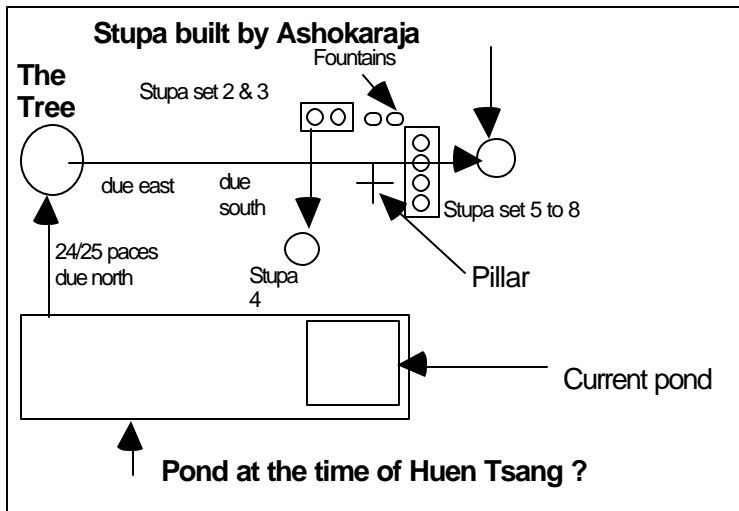


1.a Directionality of elements at Lumbini:

According to Huen Tsang's Observations

It is noted that Huen Tsang does not give more than one approximate distance and also does not give the directionality of Stupa set 2 & 3 in relation to the fountains or Stupa set 5 to 8 and the pillar in relation to Stupa 4. The non-use of directional or dimensional qualifications should indicate their very close positions.

However as the pillar is in its original position, we will have to conclude that the pond extended westward and was larger than the current pond. It is also obvious from the above drawing 1a that the the site of the Temple of Mayadevi now being explored is outside of the area described by Huen Tsang as it lies to the east of the pillar. It is therefore necessary to make adjustment in geometric development of the travel account. The figure 1b is one such adjustment in which the statement of Huen Tsang "due east" for the Asoka Stupa has been extended so that the current position of Mayadevi Temple gets in the Mauryan field. This has been necessitated largely due to the archeological finds.



1.b Directionality of elements at Lumbini:

Adjustment of Huen Tsang's Observations on the basis of site features

The stupa set 5 to 8 may already be those at the site immediately east of the pillar. The two forming the end ones in the set may be those now seen. The middle two stupas appear to be under the archway built at the time of Keser Sumshere possibly the arch form itself was chosen to protect whatever was left of these stupas. Thus we may also suggest and assume that the large square platform to the west is the base for Stupa 4 described by Huen Tsang, then both the tree and the Ashokan Stupa must be located to the general northwest. The position of the pillar alone would also mean as much. In the excavation of 1970-71 and 77-78, the one-room like structure to the north of the platform and west of pillar was excavated and restored to ground level. The relational association with the above sketch would suggest that this enclosure marks the position of the fountains. It would be interesting to check the details of finds within the enclosure but such logs are not available. The so-called pre-Mauryan one-room-structure, the northernmost element seen in the past excavations and now under cover again remains unexplained.

We may thus conclude that the area to the west of these edifices should be the location for the **Tree under which Buddha was born**. This is largely unexplored in scientific manner and I would recommend that this be done before we start any preservation activities.

The above consideration locating the Stupa set 5 to 8 to the east of the pillar leaves no structure from the description of Huen Tsang to locate.
