MAYADEVI TEMPLE

RECENT DISCOVERIES AND ITS IMPLICATIONS ON HISTORY OF BUILDING AT LUMBINI

SUDARSHAN RAJ TIWARI[*]

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. The professional orcheological excavations in and around the Mayadevi temple and sensitive restoration of finds are thus paramount for this site.

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[*]   Dr. Tiwari is Professor of Architecture, Institute of Engineering, Pulchowk Campus, T.U. Nepal.

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 period[1] 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 momentus 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 constructions 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 immidiate 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" *sila vibada vucha*[2] (which could mean " at the centre of the making 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. It also outlines some conjctural possibilities associated with the lowest structure. It will limit itself to the constructions prior to or about the Ashokan era.

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 × 25.5 cm × 8 cm. This box is situated on the western side of the later constructions and its top level is 100.15m. There is a wider paved area around it. The bottom level is 99.4m. The level also has a brick paving which is seen in several undamaged sections extending over a wide area (~27m square ?). 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 birth place marker.[4] The seven courses of brick appear to be a symbolic reference to the seven steps the Lord took at his birth. This structure formed the 'hermica' like part of a stupa with the earth as garbagriha. The axiality relation with Ashoka pillar is non cardinal, the pillar being at a computed distance of 15.7 m in a line due north of west by ~18°. As

the pillar has cardinal locational relation with the pond, it can be inferred from the planning practices of Ashokan times that an intervening structure should have existed between the pillar and the box structure. The distance form the stone to the pillar equals the size of the platform described below as second stage construction and gives a strong reason to believe that this was the interveneing structure. Such a coincidence of measure should also mean that for location the pillar the centre of the marking stone was well articulated already. Thus the first construction should have been constructed between the birth of Buddha and 245 BC, the year of Ashoka's visit to the sacred place. This is also confirmed by the conclusion of the archaeologist that the brick used belong prior to Ashok.[5] Also the marker stone is clearly not an Ashokan sandstone[6] at it is not from Chunar quarry.

The tree under which the Lord was born was obviously located about this place. From the description of Huen Tsang, the tree trunk would have to be located west of the pillar as the following diagrammatic representation of his description of the area indicates. In adjudging the distances, the existing site features such as the Ashokan pillar and the pond have been used.
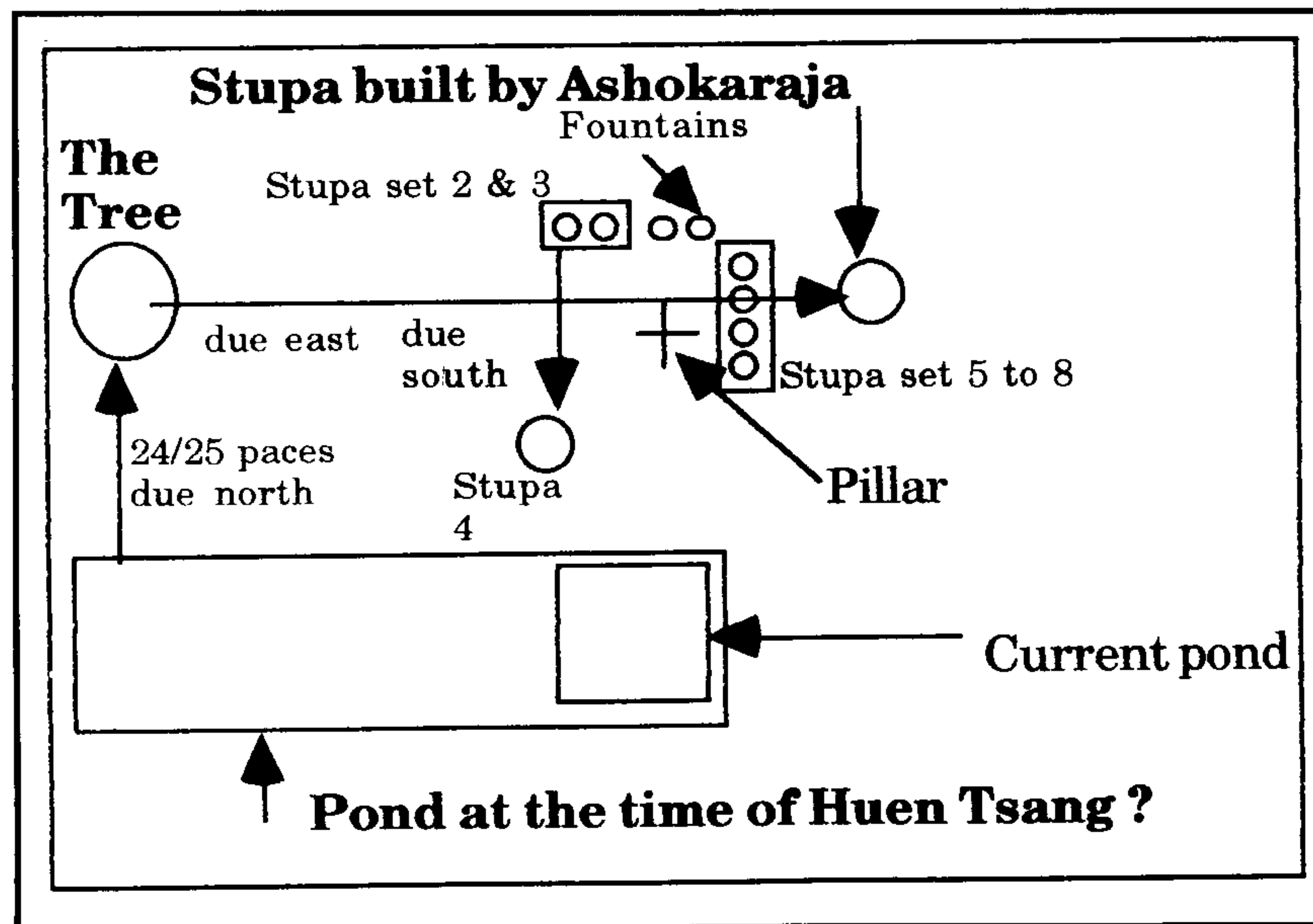

DIAGRAM 1 DIRECTIONALITY OF ELEMENTS AT LUMBINI:

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

ii) The Second Stage: *The large platform with paving:* The construction of the platform, measuring 15.70m × 20.40 m, with earlier paved brickwork extending out and remaining as outer circumambulatory, 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 99.33m (deducted as top of the 12th course). This stage is proposed prior to the shrine construction as the bonding pattern is primitive in comparision to the foundation pit walls. The marking stone appears to have been covered up to form a stupa over the platform. The articulate stupa possibly with a chatri defining its geometric centre was already existing at the time Ashokan Pillar was positioned. The nitch formed a little to the east to house the two irregular pieces of Chunar sandstone suggest post Ashokan date for niche construction.

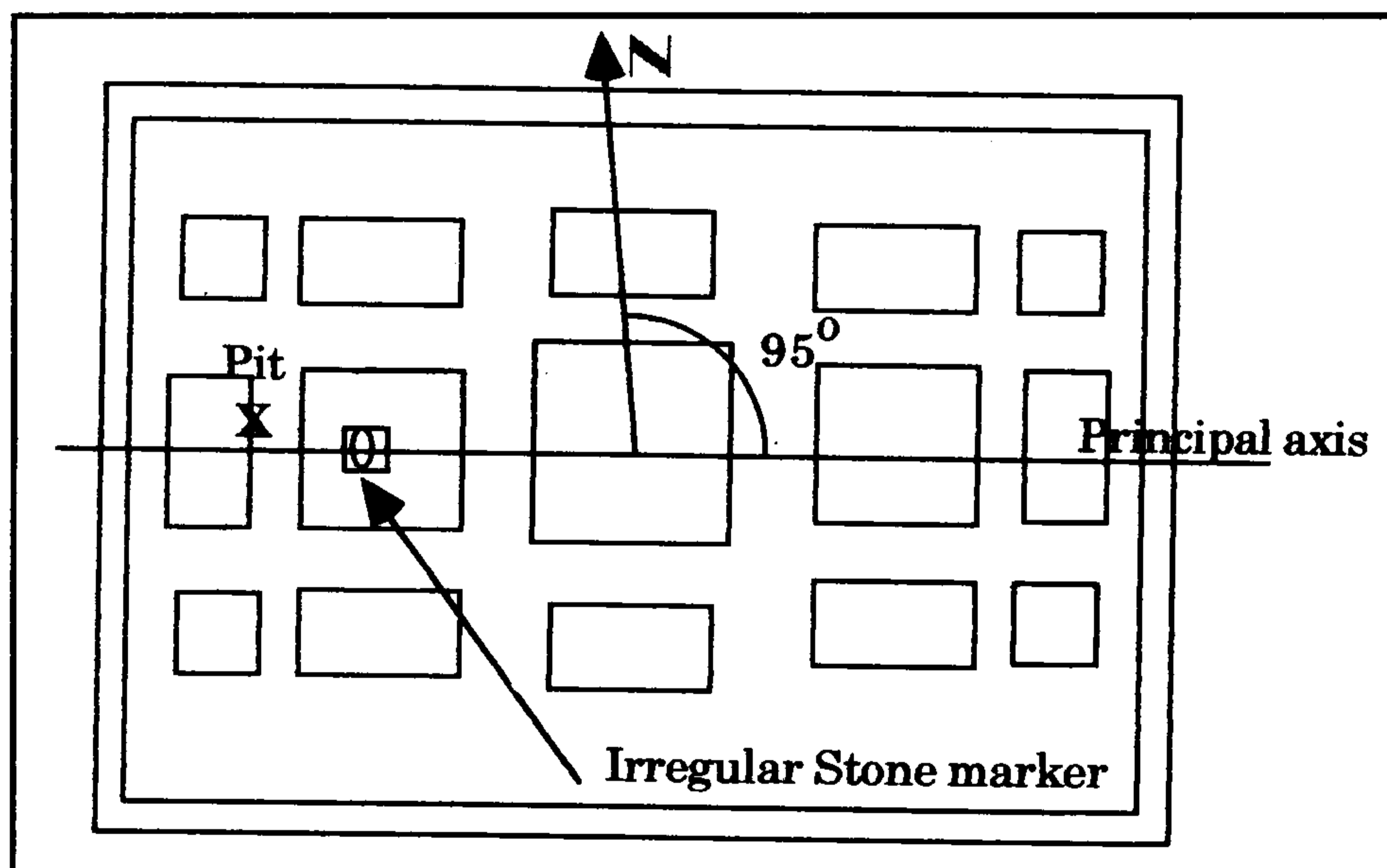**iii) The Third Stage:** The rectangular building or Chaitya Hall

DIAGRAM 2 THE TRENCH PLAN AT STAGE 3

A rectangular building, a likely Chaitya hall, 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 earlier platform. The raised plinth is about 130 cm higher than the circumambulatory passage. The lower path apparently was 3m wide. 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 period of construction as Mauryan. The building superstructure should have been of timber as no stones are found anywhere in the area. The holes of the doorway structure is visible along the center of the short wall on the east. It is proper for the chatya to have such a east entrance as the rays of the morning sun would light the venerated spot. The location of Ashokan pillar to the west and at the back of the Chaitya also suggests a later positioning of the pillar in relation to the Chaitya Hall. The use of timber superstructure would suggest a pre-Ashokan edifice.

The geometry and proportioning of the plan shows interesting possibilities and some relationships can be guessed approximately. The possible geometric relationship used are: 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 5/8 measure for shortside and 7/9 measure for the long side based on a square mandala of 50 Royal Cubits, or, 100 Cubits in size.

GEOMETRIC DIMENTIONAL CORELATI ON : 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 tangantial at P3 and CD is tangantial at P2. Follow similar process to get the complete rectangle. The outer rectangle can thus be derived using the inner rectangle.
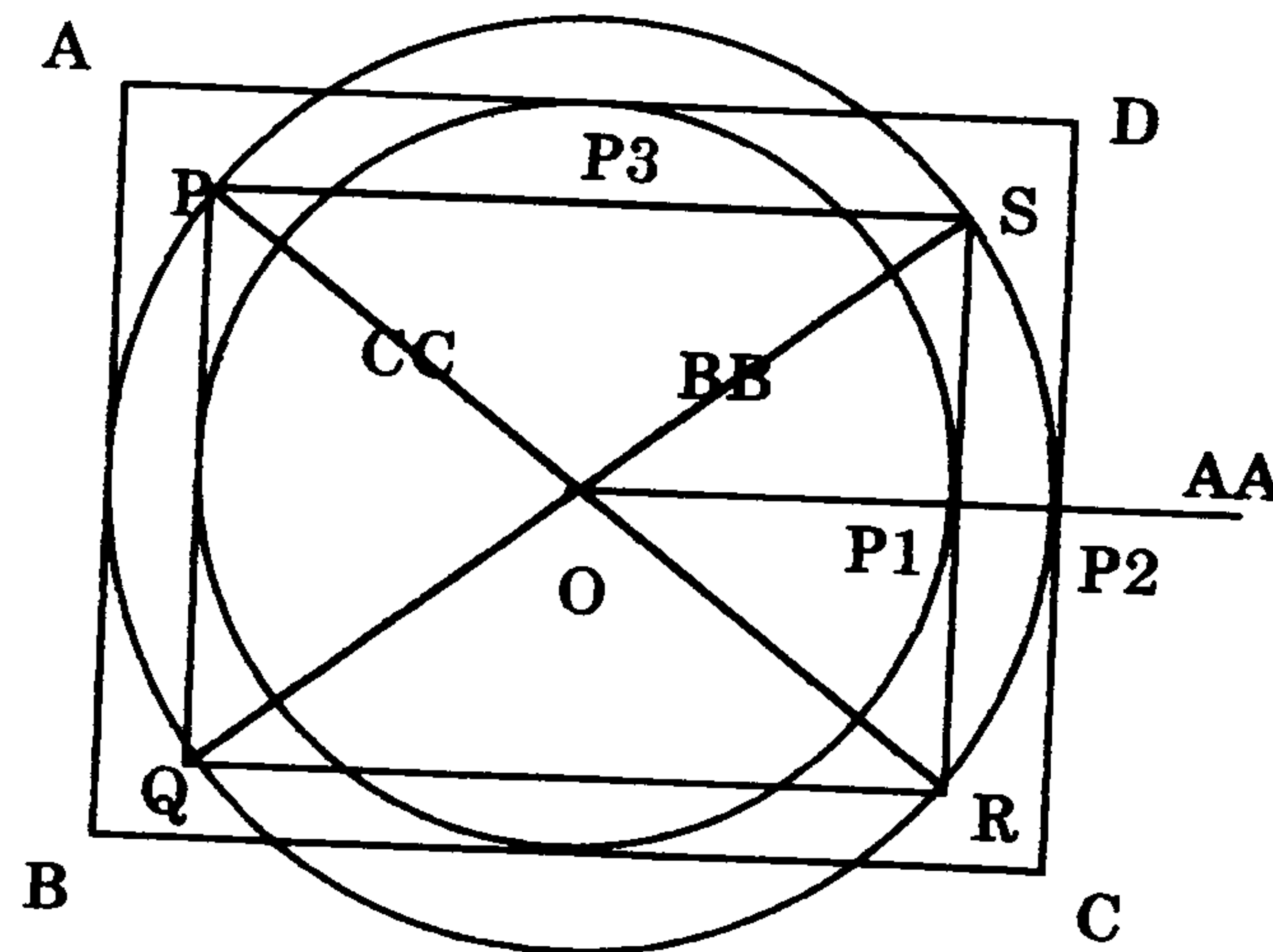
DIAGRAM 3 RELATIONSHIP AND PROPORTIONING OF THE BASIC RECTANGLES

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.

GEOMETRIC DIMENTIONAL CORELATION: USE OF BASE SQUARE MANDALA

The above corelation starts with the inner rectangle of size 15.7m* 20.4m and arrives at the outer rectangle size as 25.74m *20.40m. Here I propose to enquire into the possible use of Royal Cubits. It is known that Cubits have been used in the ancient and medieval times in Indo-gangatic region[7] and the median value of the Royal Cubit was taken at twice the length of four palms, or, 66.4 cm.

Thus 100 Cubits or 50 RC is 33.2 metres. Further calculations indicate that the size of the outer rectangle can be arrived basing on a square of 100 cubits and subjecting it to 8 or 9 divisions, a standard mandala division rule. 8 divisions of a square may be graphically obtained by halfing and quartering the side. The one-third of side needed to obtain nine divisions may be graphically done by location 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.[8]

E.g. 5/8* 33.2=20.75m, 7/9*33.2=25.82m.

These dimensions compare very well with the actually measured average dimensions of the outer rectangle. The difference between the two are marginal and may be computed to be around 0.22%. It can, thus, be inferred that Royal Cubits have been used in the schematic proportioning of the structure.
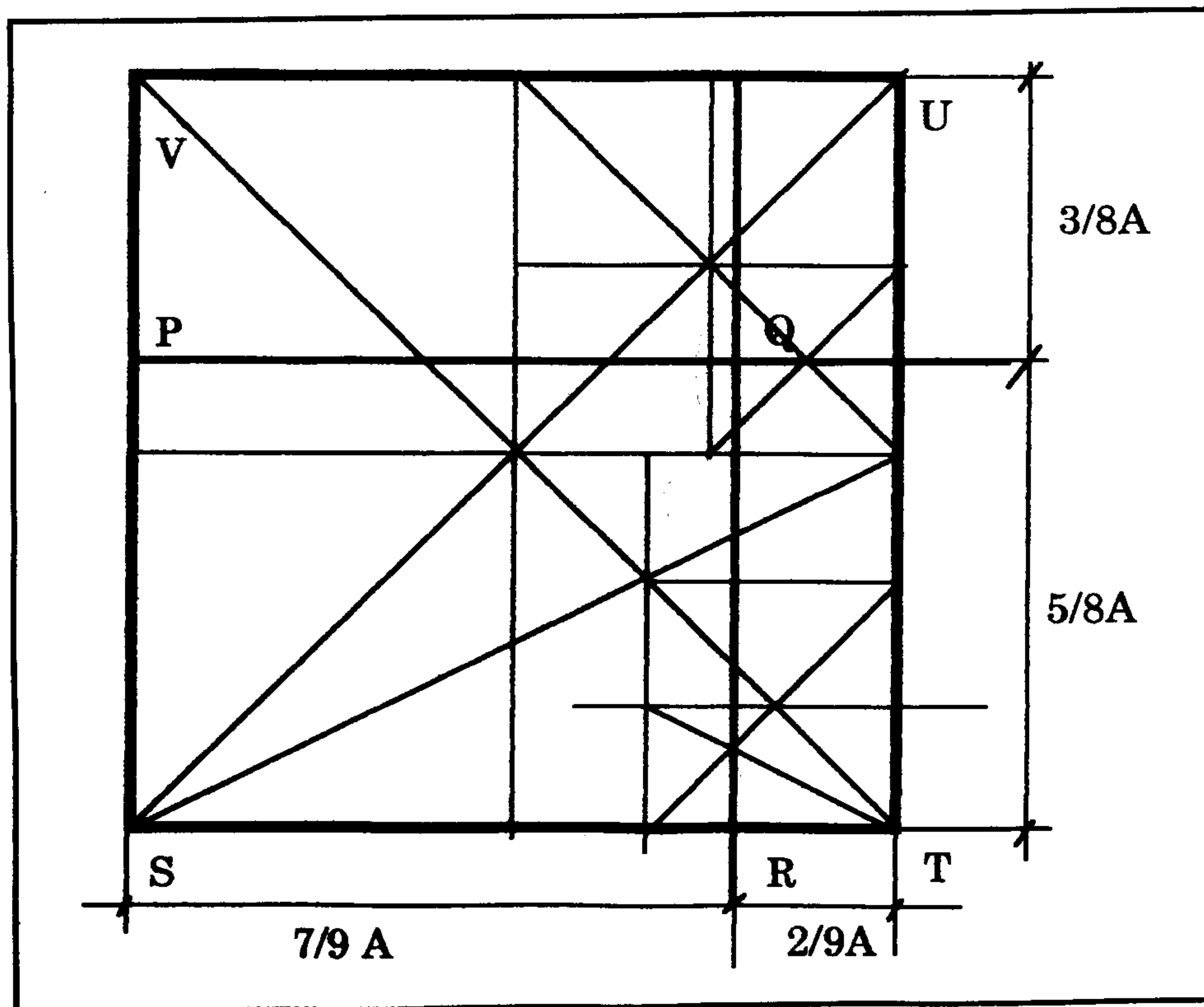

DIAGRAM 4   DERIVATION OF THE OUTER RECTANGLE ON THE BASIS OF MANDALAS OF 100 CUBITS

We have already observed that the main entrance of the Chaitya hall was central on the east side. 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 reliefed outwards by 18.75 cm and this has been interpolated on the basis of the foundation trench offset measure. The Ashokan pillar shows axial relationship with the set of five foundation trench holes forming the north aisle of the chaitya. This should suggest secondary entrances to the chaitya on to the aisles and these should number four, two on east end and two on west. The lack of central entrnce from the west should indicate a blind entrance with Chaitya oriole.

For laying out the Chaitya, the apparent reference bench mark used appears to be 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 cited above, it can be concluded that the construction is pre-Ashokan. At least four reasons may be cited in support: The infill is Mauryan, the pillar is axial to the northern set of five foundation pits, 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 and this error correction was apparently made through the use of the brick 10° laid over the enlarged circumambulatory in the true NE direction at a distance equal to the width of the superstructure.

The 5° departure of the Chaitya 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 calender 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:

$85°$ = $90°$ - (Latitude-declination of the sun)

or, $5 = 27.24'$ - 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:

[CALCULATIONS :

Cos Z=Sin d *Sec L

Z = azimuth angle at sunrise, d= declination angle and

L = latitude of Lumbini.

or, Cos $95°$ = Sin d *Sec $27°24'$

or, - 0.0871557 = Sin d*1.1263603

or, sin d = - 0. 07737817

or, d = - $4.4378°$

This declination of the sun corresponds to MARCH 10.]

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.To establish the exact year of construction, these dates need to be verified with Buddhist festival calender 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 suggest the importance of stupa artefacts numbered 16,17 and 18. The paving addition to the west indicates its pilgrim access direction.

V) STAGE FIVE: THE FIVE FOUNDATION PITS SHRINE

Reported as stage two by the archeologists at work, two sandstone pieces are irregularly places 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 five 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.

In the following stage the temple with the pattern brick socle was constructed with three pits foundation configuration. This temple could belong anywhere fro fifth to seventh century AD.
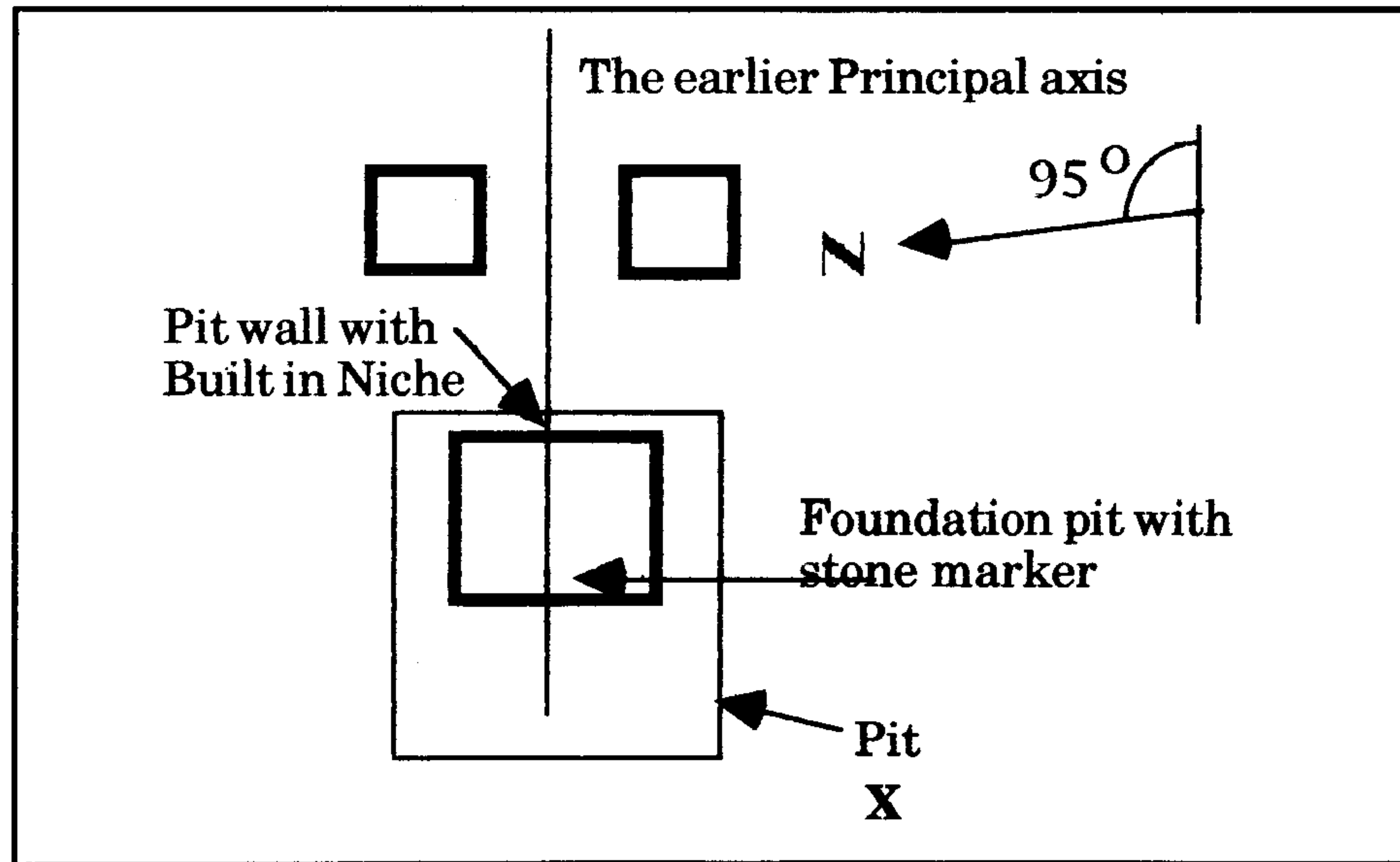

The earlier Principal axis

95°

N

Pit wall with Built in Niche

Foundation pit with stone marker

Pit

X

DIAGRAM 5   THE FORMATION OF THREE FOUNDATION PITS

The above conclusions push whatever structure which was the forerunner of the current temple much further back in history than generally proposed so far. In Lumbini we have found remains of traditions in brick architecture prior to Ashokan period. What has so far been seen as drawings in relief in rock cuts and stone carvings is now unearthed. At least we can say without doubt that Chaityas existed in Hinayana phase of Buddism and they used to be quite large structures.

FOOTNOTES

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 bh eu sa pa pi te hi da bha ga vm ja te ti lu mi ni ga me   u ba li ke cha ka te a tha bha gi ya cha.*

3. The 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.

4. Huen Tsang's travelogue, if accurate, indicates that the tree, under which Buddha was born, seen by him was to the west of Ashoka Pillar. See later discussions.

5. 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.

6. 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.

7. F.G. Skinner, Weights and Measures, London 1956, pp 41.

8. Sudarshan Raj Tiwari: Tiered Temples of Nepal, Kathmandu 1989. pp 81.