C H A P T E R IV

ARCHITECTURE

All the architectural remains of Devanimori exposed by the excavations were in a state of highly dilapidated condition. The walls, roofs of Viharas and the flanks of the Stupa had collapsed or slided down due to erosion of centuries and growth of vegetation. Finally, the brick robbing activity of recent period almost completed the destruction. Inspite of these human as well as natural activities, the salient features of these monuments are still preserved, at least worth the spade and pen of the archaeologists.

All the structures of this site - except protection wall - are built of burnt bricks and mud mortar. The bricks as well as mortar are prepared from local alluvial clay which contains 10% of clay, 22% of silt, 61% of sand and 7% of other impurities*.

Before use, the clay seems to have been well levigated so that most of the sediments of other impurities and big grains of sand etc., are discarded. The drying and firing of bricks as well as other decorative terracottas used in

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*The chemical analysis was done by Shri K.T.M.Hegde, Lecturer in Chemistry, Department of Archaeology and Ancient History, M.S.University of Baroda. The writer is thankful to him for this information.

architecture is accomplished with utmost care and ability. The crimson red core of the bricks as well as terracottas is the testimony of this.

The bricks are manufactured in various shapes and sizes according to their position in the structure and their architectural function. They can be classified into following types:-

1) Plain Rectangular bricks:
   - A - 19" x 13" x 3"
   - B - 17" x 10½" to 11" x 2½"
   - C - 16" x 10" to 10½" x 2½"
   - D - 15" x 10" x 2½"
   - E - 13" x 9" x 2½"
2) Rectangular chamfered bricks:
   - A - Plain
   - B - Decorated for producing ovolo moulds.
3) Rectangular bricks with one of the longer flank ledged.
4) Decorated square bricks.

In addition to these, a large number of terracotta decorations like arches, medallions, dentils etc., and beautiful Buddha images in Dhyanamudra are also fabricated to decorate the Stupa. Further details of these terracottas are given in Chapter V which deals with Art.

The cementing material is black clay. The technical

ability of brick manufacturer is evident in the compact red core. The craftsmanship of the mason is clearly evident in the perfect bonding of construction. The outer faces of the structures are finished with an even surface of perfect joints.

Besides bricks, stone is also used in limited quantity. Big boulders of quartzite and quartz are used in the construction of protection wall. Flat slabs of schist are used for the pavement of shrine room. A big (about 6' length) broken schist shaft (probably a part of a door jamb) having a deep groove in its side along its length was found placed on the instep of the north-western side passage of Vihara I. This was no doubt a later addition during Phase III, but it at least indicated the use of stone for constructional purpose.

For raising the ground level kankari yellow silt is used. Pebbles, sand, brickbats and brick powder are also used for ramming the foundations.

Wood was probably used for frames of doors, and the rafters of roof. The existence of wood is inferred from quite a large number of nails (340) and other iron objects. The roof was covered with flat rectangular tiles chamfered on one of its narrower sides.

The architectural remains of Devanimori can be classified into three main groups according to their utiliterian purposes:

1) Religious structures such as the Maha Stupa, Votive Stupas and Chaitya Hall

2) Residential structures such as Viharas

3) Protective structures such as protection wall and a ground level plinth.

As already mentioned in Chapter II, all these structures are built on a slightly elevated position on the eastern bank of the river Meshvo. Their positions are well planned in such a way that the inter-communication may be unhampered. The well planned commanding position of Stupa was such that it attracted the pious pilgrims from quite a distance. It seems that the Maha Stupa in which were enshrined the relics of The Great Master was considered the nucleus of the whole settlement. And, therefore, it was situated just on the bank of the river which can provide it a perfect foreground to emphasize its grandeur and beauty. The beautifully set picturesque natural setting of hills and forest provided a perfectly harmonious background for this magnificent structure. The votive stupas were just by the side of the Stupa. Their dimensions were kept to such proportions that they might not disturb the grandeur of the Maha Stupa. The Viharas were planned in a crescentic formation to the south and east of the Stupa.

THE MAHASTUPA

The greatest and the most outstanding achievement of

architects of Devanimori is the Mahastupa (The great tope). Though built of only burnt bricks and mud-mortar, due to its majestic height and beautiful embellishments of various decorations in relief, this edifice of Buddhist creed might be cutting a conspicuous figure against the green and purple panorama of jungle and hills.

This structure is erected on slightly elevated ground level after bringing the site in an even level by spreading a thick layer of yellow silt.

The Stupa is roughly conical or pyramidal in form, having square base and round top. Due to its height and steep sides, it is much damaged by rain. When the water action had completed its work, the growth of vegetation has inflicted much damage. Inspite of all these destructive activities of natural agencies, when the Stupa mound was taken up for excavation, it stood thirty-seven feet. Its base platform is still intact, except some portions of its decorative frieze and capitals of pilasters. The top portion of platform I. and its surmounting construction of drum are highly damaged. The decorative portions of all these parts have collapsed. The umbrella and its railing (Chhatravalli and Harmikā) are completely missing.

In short, the original Stupa can be assumed to be a massive and roughly tapering solid structure having two or perhaps more square tiers - one overlying the other - and an

elongated hemispherical drum surmounted by a small railing (Harmikā) with an umbrella (Chhatravalli) planted in its centre.

The Stupa as it stands to-day can be divided into four parts:

1. Foundation and base
2. Platform I
3. Platform II
4. Circular drum

Foundation and Base:

It seems that when the erection of the Stupa was undertaken, the ground level of the site was sloping towards river i.e. towards north-west. This is evident in the section under the oblique platform. This slope was first levelled by laying a thick layer (2'-9") of kankari yellow silt. After this, the foundation of the structure was rammed with pebbles, brickbats and earth. On this ramming was spread thin layer of brick-powder. The first course of construction of the Stupa was laid on a thin layer of black clay, which was exposed at the base of the structure in the central shaft hole trench of the Stupa (Fig.6). The first course was laid slightly projecting out (0'-6") of the structure proper. Platform I was raised on this course.

Platform I

Platform I measures 86'x86' from corner to corner at

base. To support the heavy bases of pilasters and to break the monotony of plainness, the lower part of this platform is decorated with recesses, projections, and roll moulding. As these projections and recesses were always exposed to rain, sun and wind activities, they were manufactured of fine clay and are fired perfectly almost to crimson red.

About 1'-4" of the base was kept plain and devoid of any ornamentation or architectural feature. This was surmounted by a roll-moulding (10" thick) composed of chamfered bricks. Above this was a right-angled ledged projection which is in turn surmounted by a course of chamfered bricks with chamfered side up. Above this is a straight vertical plain face of 9½". Each side of this platform is divided into eleven bays by means of twelve pilasters in relief (Fig.12 A). These pilasters are arranged at a regular interval of 6'-8". The corner pilasters are common for adjoining sides as could be judged from an excavated capital having two flanks decorated. According to this arrangement, originally there might have been forty-four pilasters of which nine are preserved on the south side, nine on western side, eight on northern side and six on eastern side.

Each pilaster (Fig.12A) is composed of three parts; moulded base without decoration (1'-1" broad 6" high) with rounded horizontal mould, plain shaft composed of single brick courses arranged in vertical alignment (1'-8"), and capital (6½" : Fig. 12 and 12A). Each of the surmounting

Indo-Corinthian capital (Fig.12A) is composed of two horizontal decorative bands. The upper band is composed of a central acanthus leaf sprouting up which is flanked by tendrils of the same leaf in diagonal sprouts. The lower band is composed of an enclosed rectangular design in horizontal alignment, which, like the upper band, is flanked by diagonal tendrils.

Each capital is surmounted by interrupted architrave (Fig. 12A, 3½" broad - 1'-6" long) which is composed of three horizontal bands. The central band is decorated with pairs of vertical lines and the lower and upper bands are kept plain. These capitals protrude about 8" from the surface of the Stupa and support a broad decorative frieze in relief running all along the lower half of the roll-moulded cornice Or it can be said that the lower half of the roll-moulding of cornice is turned into a frieze in relief.

This frieze is composed of three decorative bands:

1. Fillet Band
2. Ovolo mould
3. Dentils

These three bands are produced by arranging decorated bricks (longer sides of which are worked) in a horizontal stringcourse. The decorative scheme of each of these bricks is planned in such a way that when they are arranged in a string course, a continuous horizontal mould of required motif can be created without noticing any joints. (Complete details of these bricks are given in Chapter V, ART).

The lowest band is composed of chequer pattern on plain surface. It is composed of alternate hollow and plain squares. The plain square is decorated with crosses produced by incised diagonals. The middle band is an Ovolo mould composed of series of conventional acanthus leaves decorations in relief. These leaves in low relief are depicted sprouting from under the projecting brick. Their sprouting follows the rounded section of the brick and reaches upto the upper edge of mould. The top band is composed of dentils, the under surface of which is decorated with sprouting acanthus leaf motif in very low relief. The remaining facets of these dentils are decorated with geometric decorations of saw-tooth decoration, and zig-zag and vertical lines; (Fig.12 A). Thus, as a whole, this decorative frieze of floral and geometric decorations composed of straight lines of chequers and dentils, and curved lines of acanthus leaves, produces a contrast as well as harmony.

The top angle of this platform is roll-moulded in a cornice which is protruding prominently over the decorative bands. This rounded cornice serves two purposes. Its curved projection guards the decorative frieze from weathering effects, and blunts the corner of the edge.

The top of this platform was most probably utilized as a circumambulatory path. This path is eight feet wide and is paved with well burnt hard bricks most of which have finger marks. Curiously enough no trace of steps have been found at any point.

Platform II

Platform II is again a square measuring 70' x 70'. As already stated above, the upper portion of this platform is highly damaged. Still about 5' to 6' of its lower part is intact, some parts of which seem to have been repaired.

Two feet of the base of this platform is plain above which is a roll-moulding of 1'-6" thickness, running all along the platform. This roll-moulding is damaged at certain points. Some of its parts seem to have been repaired during Phase III. These repairs are not carried out perfectly, as a result, the rounded mould is not uniform. It is deformed and even flattened at some places (Fig.13A). Some intact portions of this platform above this moulding have horizontal string courses of projections and recesses surmounted by undecorated pilaster bases with torus mouldings.

The lower parts of deep plain niches were exposed at cardinal points on all four sides. These niches were plain. Two bases of pilasters were exposed placed on the floor of a niche in the southern side. These bases were not placed in regular order. From their irregular positions, it seems that they were placed there simply to prepare something like a pedestal.

The Stupa above this level is highly dilapidated. The plan as well as the elevation of the remaining upper part can be conjectured from following data:

1. Constructional details
2. Comparative study of the terracotta plaque (found from Vihara I) depicting a Stupa
3. Mathematical calculations of dimensions of architectural decorations
4. Comparative study (with other known sites from Sind)

As already stated above in Chapter III, during the excavations of 1961-62 and 1962-63, the Stupa was opened from the top by sinking a vertical shaft through its core. During this excavation, every course of the Stupa was noted with the details of brick measurements, masonry, antiquities etc. (chart on page 112, and Fig.16). From the study of these details, it is evident that the circular alignments, ceased at 49th course i.e. at about 23'-6" from the ground level and 13'-6" from the top. Under this level, the bricks were laid in headers and stretchers alignments suggesting an angular plan. From this evidence, it is certain that the top of the upper most square tier of the Stuppa reached upto this height. Whether there were totally two platforms or more cannot be decided with certainty, because the upper part of platform II is highly damaged and hence the side elevation of the Stupa does not indicate any definite architectural feature above 14' to 15'.

In such circumstances, this question can be settled with the help of comparative study, which gives following theories:

(1) A terracotta plaque of a dye depicting a Stupa flanked by two human figures (probably Padmapāṇi and Vajrapāṇi) was discovered from Vihara I. If this plaque is considered valid to represent a rough replica of the Mahastupa of Devanimori than it represents an engraved figure of a Stupa having slightly sloping base, two tiers above it alongwith cornices, and elongated hemispherical drum surmounted by a Chatravalli. If the slopping base is considered as Platform I, and the surmounting two tiers as Platform II and Platform III, then the Stupa might have three platforms.

(2) The measurements of the preserved architectural features of Platform II and the decorative terracottas along with Buddha images, give following heights:

Plain base	1'-6"
Roll-moulding	1'-6"
Plain face	0'-8"
Chamfered ledge	0'-2"
Recess	0'-6"
Projection	1'-0"
Decorative ledge under niche	0'-6"
Image	2'-2"
Curvature of arch surmounting the image.	0'-9"
Decorative frieze of cornice	1'-0"
Rounded cornice top	1'-3"
Total	11'-3"

In addition to this, there must be some space between top of niche and the cornice.

These measurements give a total height of at least 11 to 12 feet, if the space between cornice and the arch is kept plain without any decorations. But, it seems that this space was decorated with Chaitya arches with central medallions (Fig.41). Though no such arch was found in situ, it is most probable because otherwise, there is no space left for these arches. (The drum surface being circular). And it should be noted that fragments of about forty arches are found from the excavation.

These calculations suggest that the height of platform II must be at least 12 feet (most probably more). These calculation, if considered without any other decorations on space between cornice and the top of the arch suggest a height of 11'-3". The total height of platform I is 7'-6" to 8'-0". So according to these calculations, the total height of two platforms together will be about 20'. Now, the angular alignments of bricks reach upto the height of about 23 feet. Hence, these calculations cannot explain the remaining four feet. It is possible that a small supporting tier of about 3' to 4' height was there. Such supplementary tiers were common in Gandharan Architecture in the swat valley*.

The closest allies of Devanimori Stupa are the brick-

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*Stein Sir Aurel : ASI, "An Archaeological Tour in Upper Swat and adjacent Hill Tracts", Shinasi Stupa near Batera and Jurgurai Stupa, Pl.7, Top Dara Stupa Pl.8.

stupas of Sind. The Mirpur-Khas Stupa (53'-6"x53'-6") has only one square tier and a total height of about 55 feet.[1] The Stupa of Thul-Mir-Rukhan in Sind is 66' x 66'.[2]. It also has only one square platform and a height of 60'. The Stupas at Sudheran[3] and Jarak[4] measure 98'-6" x 76'-9" and 85'-6" x 85'-6" respectively. Unfortunately, the details of the square platform and total height of these monuments are not available.

The Mirpur-Khas Stupa has much elongated 'tower' and the Thul-Mir-Rukhan has cylindrical tapering tower. The rectangular platform of Sudheran Stupa is supposed to be 15', out of which 10' is still intact.

All these evidences indicate that Devanimori Stupa was also having an elongated hemispherical drum (but probably not so much elongated as the Sind Stupas) which surmounted platform II (15' to 16' high). Platform I is actually 7'-6" to 8'-0" high. If these levels are considered reliable, the top of angular alignment (23'-6" H.)more or less tallies with these calculations. But, it should be noted that this theory is partly based on hypothesis of relative study. The height of the drum and the dome cannot be conjectured with any certainty, but considering the Gandharan style, it must be fairly high - much more than at least 16'. (Height of Platform II).

Thus, from all these evidences, it can be concluded that

Devanimori Stupa had at least two square platforms. The base Platform, i.e. Platform I, has a height of 7'-6" to 8'-0". The height of Platform II must be at least 11'-3" to 12'. It may be more (about 16"), but not less than that. If Platform III was there, it must be of a height of about 4'. The drum in its present dilapidated condition is 13' to 14' high, but it must have been fairly elongated, but probably not so much like its allies in Sind.

As top of Platform I was most probably used as circumambulatory path, all the four sides of Platform II were treated with special care. The chief objective of Stupa was to be achieved here. Therefore, to impress the circumambulating worshipper with the superhuman spiritualized personality of the Great Master, all the four sides of the Platform II were decorated with half-life size (H.2'-2" : Fig.27 to 30) Buddha images in Dhyanamudra.

The broad panel in Ulto-Relievo which encircled the whole platform was composed of elaborate terracotta sculptures of arches (Figs. 39, 40, 41), Medallions (Fig. 44A and 44B), Pilasters (Fig.12A) and capitals (Fig.43).

These terracotta decorations were exceptionally heavy (The Chaitya arches : 1'-7" x 3'-2"). They were fixed on the face of the structure by means of mud-mortar only. Thus, the binding material was exceptionally poor for such heavy pieces. It would not stand much even the weathering effects. As a result, the whole panel and the surmounting decorated cornice

has collapsed.

Majority of these collapsed terracottas along with Buddha images were found lying loose and broken on top of Platform I (Fig.24A). Some of them had even slided down to the ground leve. This collapse wrought a havoc not only to the images, but to the arches and other decorative terracottas also. As a result, all images are partly broken. Some of them were even in loose fragments. Although majority of these fragments could be assembled into their original form and posture, the only in situ remains of the decoration of this platform were a few pilaster bases which have retained their original positions for centuries.

Major portion of the upper part of this platform and the surmounting drum is completely destroyed due to weathering effects of rain and sun, and growth of vegetation.

Under such circumstances, the original plan of the panel ought to be reconstructed on conjectures derived from mathematical calculations based on actual dimensions of images, arches, pilasters etc., because these pieces were modelled to fit with each other and hence are modelled according to certain proportions which must tally with the width and height of field of decoration, which was confined on the four faces of Platform II.

It is beyond any doubt that the whole scheme of decoration was centered around the Buddha images in Dhyanamudra,

because they are of the foremost importance. The back slabs of these images (H.2'-2"), which had a flattened wedgeshaped top were fixed in the face of the Stupa. They were flanked by two small pilasters which were smaller (H.1'-3") replicas of the main pilasters which divided the platform sides in bays. The Chaitya arches which had wedgeshaped undercut fitted with the top wedge of the back slab of the image and their side volutes rested on the top of the pilaster capitals (See Fig.45). Under the niche was probably a protruding ledge of series of dentils (Fig.45).

Whatever may be the height or the decorative scheme of this platform, it is certain that this platform was divided into nine bays by pilasters placed at a uniform interval of 6'-8". The pilasters of this platform were fairly high, i.e. about 8' to 10'. Irrespective of the height, they were surmounted by typical Indo-Corinthian pilasters (Fig.43 and 43A). These pilasters were composed of three main parts. The plain moulded base (1'-2¼" broad and 7" high), straight plain shaft rectangular in section, and surmounting capital. Like the capitals of Platform I, the capitals of Platform II are also decorated with acanthus leaves. But their treatment and plan of decoration is different. Their decorations can be divided into two horizontal bands of sprouting acanthus leaves. Between the capital and the surmounting horizontal frieze of moulds was an interrupted architrave cut off on both sides (Fig.13 B). Like the cornice of Platform I, the cornice of

Platform II might also have been decorated with horizontal moulded bands of plain chequer pattern, mould of acanthus leaf decoration, and dentils (Fig. 13 B). But the acanthus leaf pattern of this platform seems to be more intricate. Unlike the Platform I mould, it is composed of a composite design of acanthus leaves in more stylized forms. In this type, the serration and the tips are more exaggerated and the spinal lines of leaves are curved in semi-circles in such a way that two spoon-shaped tips of adjoining leaves meet in the centre of each decorative brick just above the double egg Motif (Fig.47 and 48).

The dentils are also of different type (Fig.13B and 64 B). They are constricted horizontally in their middle. They are decorated with incised lines on their lower parts and chevrons on the upper one. From the evidence of Platform I, it can be inferred that top half of this cornice was also rounded (Fig.13B).

DRUM:

As already mentioned above, the drum is highly damaged. In its present condition, it is 52 feet in diameter. Its shape and height are to be conjectured only, although the circular alignment of brick courses above Platform II clearly suggest that it was at least circular in plan. The alignment of these courses is typical. Unlike other circular structures, the courses of this drum were in volute formations. The Volutes

were arranged in Pipal leaf pattern with their pointed tips changing directions clockwise at every course. Like the 'towers' of Mirpur-Khas and Mir-Rukhan Stupas, drum of Devnimori Stupa also must have been fairly elongated hemispherical in shape. But the basic plan and elevations of Sind Stupas differ from Devanimori Stupa to some extent (For details, see Chapter VII : Contacts and Correlations). Like Platform I and Platform II, the drum was also adorned with pilasters and moulds corresponding the drum of Thul-Mir-Rukhan[5] (Fig. 13 C).

VOTIVE STUPAS :

The tradition of erecting votive stupas near the main Stupa was a widespread tradition in Buddhist architecture[6]. At Devanimori also, four votive stupas have been unearthed. These stupas are erected to the west of the main Stupa, and are planned in pairs (at various phases of the site). One pair is near north-western corner and the other one near south-western corner (Fig.15). All of them are in highly dilapidated condition, hence plans and elevations of only their bases can be traced.

But from whatever has been left, it is clearly evident that they are mainly built of burnt bricks and mud-masonry. The cores of some of them are built of brickbats and earth. Even fragments of decorative bricks are also used. The bricks of following dimensions are used : 14" x 10" ; 15"x10½";

16" x 11" and 16½" x 11½". These sizes suggest that some of these structures were built after building of the main Stupa. For the sake of convenience, these stupas are named in numerical order. The Stupa near south-western corner of main Stupa is named Stupa 1 and its western neighbour Stupa 2. The stupas near north-western corner are also similarly numbered as Stupa 3 and Stupa 4.

Stupa No.1 :

This Stupa is 8'-6" square and is built of 14"x10" bricks. Only six of its courses are preserved, out of which first two seem to form the base. After this, a course of plain bricks is there, which is overlaid by a rounded mould composed of two courses. The top course is highly damaged. This Stupa is built on natural soil. From the section connecting this Stupa and the main Stupa (Fig.21), it is clearly evident that this Stupa was contemporary with the main Stupa.

Stupa No.2 :

This Stupa is 10' to the west of Stupa No.1. Only six courses of its 11'-6" square base are preserved. It is built of 15½" x 10½" bricks and brickbats. Its core is composed of brickbats, while its face is built of whole bricks. It is built on the pavement of the court-yard which covered the court-yard between Vihara and the main Stupa. This feature indicates that this Stupa was built at a later phase (Phase II or III) than main Stupa and Votive Stupa No.1.

Stupa No.3 :

This Stupa is built of 15½" x 11" bricks and brickbats. Like No.2 Stupa, core of this Stupa is also built of brick-bats. Only four of its base courses are intact which are built on a pavement of brickbats, gravels and mud. From the section of the base, it seems that this Stupa is also contemporary with the main Stupa.

Stupa No.4 :

This Stupa is 11' to the west of Stupa No.3 and measures 8'-9" square. It is built of 16" x 11" bricks. Only eight of its courses are intact. It is composed of two courses of plain foundation, three courses of plain base, a roll-moulding of two courses and the plain top course.

From the descriptions of these four votive stupas, it is clear that two of them (No.1 and 3) which were nearer to Stupa were built during Phase I and II of the site and the other two were built after that, i.e. probably during Phase III. The actual elevation of these Stupas cannot be judged, but it can be assumed that they were more or less the replicas of the Maha Stupa.

CHAITYA HALL :

The Chaitya-Hall was exposed about 6' to the south-west of the main Stupa (Fig.15). It is built of burnt bricks and mud-masonry. The bricks measure 16"x10" and 17"x10½". At some places, brick-bats are also utilized. It is an apsidal ended structure with such an end towards east, and the entrance

towards the west, i.e. towards the court-yard. Only parts of its apsidal end are preserved. Hence, the conjectural reconstruction of the remaining parts is derived from the study of a cross-section and plan of ghost walls, foundations and patches of pavement (Fig.14). From these evidences, it seems that its foundation was composed of rubbles. Above this foundation, its base was formed of five courses, on which two receding courses were laid. The structure proper was raised on this. In plan (Fig.14), it had two parallel walls : the inner wall (3'-2" broad) and outer wall (3'-8") which were separated by a space of about 4'-4" between them.

This hall can be divided into three main parts :

1. The apse
2. Rectangular approach chamber
3. Side aisle.

The apse measures 18'-7" east-west and 13'-1" north-south. It was probably meant for a Chaitya. But, no traces of its existence could be traced. (2) The rectangular approach chamber and the apse were separated by a 3'-2" broad screening wall. This chamber was probably meant for small assembly. The apse and the rectangular chamber were encircled by a 4'-4" broad side aisle which was formed by the space between outer and inner walls of the structure. One such structure was found at Taxila[7] also. No traces of entrance of this Chaitya Hall were discovered. The height and the roof of this structure cannot be ascertained. But, it seems that like other Chaitya halls, this hall also had a vaulted roof.

Square Structure :

The base portion of a square structure was exposed mid between the votive stupas (Fig.15) at about 10' to the west of the main Stupa. It is a burnt brick structure of mud masonry (bricks 17"x11½"). This structure is also highly damaged. Only its base and sixteen courses of some parts of its walls are preserved. Its central part is completely missing due to brick-robbing activities of recent times. Inspite of this, its central pavement is still intact.

As it stands today, it measures 31'-3" square. A 2'-9" broad brick pavement runs all along its four sides at base. Some post-hole like holes are also traced on this outer pavement.

What was this structure for cannot be ascertained. If it was a smaller Stupa, there are no traces of its central core. If it was a square structures with four walls on four sides and outer verandah, no traces of its walls could be traced.

VIHARA :

The Vihara or the residential quarters of monks is situated about 70' to the south-west of the Stupa. The Stupa and the Vihara thus form a right-angle. The space between these two structures seems to have been paved with burnt bricks. This is attested by the patches of this pavement exposed at several places during excavation. But, as the whole site was not excavated, the full spread and plan of this pavement cannot be traced.

Being an isolated simple structure of foundation, walls and roof only, Vihara has suffered a great deal from nature as well as man. The weathering effects of centuries have left only damaged walls here and there and the central court-yard, alongwith parts of inner and outer verandahs. This destruction was completed by the brick-robbers of recent times. The outer walls of the Vihara and parts of its outer verandahs are completely destroyed. But, from whatever is left, it is not difficult to conceive at least its original plan. The elevation has to be conjectured only.

From the study of sections, it seems that this Vihara is built in three constructional phases (Page 121 and Fig.7). During Phase I, a monastery was erected on the natural soil with a central court-yard of brick pavement, the inner and outer verandahs and an entrance in its northern side. This monastery was probably same on plan as the present monastery which is built during Phase II. During Phase III, this monastery was repaired, which is evident from the use of brickbats in the repairs of these walls.

The present Vihara is a simple rectangular structure measuring 160' x 150' (including the outer plinth). Like the Stupa, it is also built of burnt bricks of various sizes ranging between 17" x 11" and 16" x 10".

On plan, this Vihara can be described as a rectangular structure having an inner verandah and outer plinth with rooms

on all four sides. These rooms are open towards the central court-yard.

Thus, this Vihara is composed of following architectural features :

1. Compartments of rooms, entrance and passages
2. Verandah
3. Central court-yard
4. Steps
5. Drain and water channels
6. Platform on the verandah
7. Outer plinth.

Rooms :

The rooms can be divided into four categories :

(a) Residential quarters
(b) Shrine room
(c) Entrance room
(d) Store room.

Totally, there are thirty-two compartments (plus four side passages at four corners), of which twenty-nine were utilized as residential quarters, one room each was used for entrance and shrine room and an enclosed cell was used probably as a store (See Fig.15 : Vihara).

All these rooms were rectangular or square and were separated from their adjoining rooms by screening walls. The

thickness of these walls varies from 3'-0" to 3'-3". The entrances of all the rooms except No.13, are towards the central court-yard. (Room No.13 was an extra room attached to the outer side of the south-eastern corner of Vihara, hence its entrance was outside the Vihara). The breadth of these entrances also vary. They are 2'-9" to 3'-0" wide.

Main Entrance :

The main entrance of the Vihara is in the centre of northern side. No details of its door or door-frame could be traced. But, considering its level, it seems that originally, it might be having approach steps. Its entrance gap is 7'-9" wide which is flanked by portions of projecting walls. The entrance chamber (12'x12') is completely open in its southern side, i.e. towards the central court-yard where the approach steps of verandah commence.

Following are the details of these rooms. For convenience, these rooms are given numbers. Numbering is done in clockwise direction starting from the room to the east of the entrance.

Room No.	Length	Breadth	Floor	Breadth of entrance	Remarks
1.	9'-6"	8'-6"	damaged		
2.	10'-3"	9'-3"	Brick pavement	2'-7"	Better preserved room.
3.	9'-6"	8'-6"	Brick pavement	2'-8"	Better preserved room.

Room No.	Length	Breadth	Floor	Breadth of entrance	Remarks
4.	9'-0"	9'-0"	Brick pavement	Not preserved	North-eastern corner room approached by an aisle 5'-3"x12'-0" running east-west.
5.	10'-9"	8'-6"	Damaged	-	Highly damaged room. The measurements of room are taken from traces of walls.
6.	11'-2"	8'-5"	Damaged	2'-9"	Use of brickbats and rubbles in repairs of walls.
7.	10'-3"	9'-3"	Brick pavement	2'-10"	Marks of revolving pivot of door near the western wall.
8.	10'-5"	9'-5"	Brick pavement	3'-0"	Use of brickbats and rubbles in the repairs of walls.
9.	9'-6"	10'-3"	Parts of brick pavement are preserved.	-	Details of door are destroyed.
10.	10'-3"	9'-6"	Damaged	2'-10"	-
11.	10'-3"	9'-3"	Damaged	2'-10"	-
12.	10'-6"	8'-9"	Damaged	2'-9"	South-eastern corner room. It is approached by a side aisle measuring 11'-10" long & 6'-4" broad. The passage gap of this aisle is 2'-9" broad. Clear indications of later repairs of brickbats.

Room No.	Length	Breadth	Floor	Breadth of entrance.	Remarks.
13.	7'-9"	-	-	2'-10"	This room is attached to the outer side of south-eastern corner of Vihara. It is probably a later addition during Phase III. It is highly damaged, hence details of its floor & breadth cannot be had.
14.	9'-3"	7'-6"	Damaged	3'-2"	-
15.	11'-10"	8'-6"	Damaged	-	Door and floor damaged.
16.	25'-10"	About 8'-6"	Brick & green schist slab flooring	7'-0"	This is the shrine room. It is in the centre of the southern row of rooms and is exactly in front of the main entrance. A 3'-3" broad platform (probably kept for pedestal) is attached along its walls.
17.	17'-0"	9'-3"	Brick pavement	2'-9"	This room is composed of two parts : the room proper and its adjoining partition to its west. This partition is separated from the main part by a screening wall of about 1'-7" breadth. This small chamber is 9'-3" long and 4'-9" broad. Curiously, no traces of an entrance could be traced in the partition wall, although its ten courses are preserved. It seems that this cell was something like a store-cell with a small window like entrance at a higher level. This is quite possible because this room was just adjoining the Shrine room and hence it might have been used by the priest who may need a store-cell for keeping important ceremonial objects here. It should be noted that the seal bearing the Buddha gatha (Fig.69) was found from this cell.

Room No.	Length	Breadth	Floor	Breadth of entrance.	Remarks.
18.	10'-6"	9'-2"	Damaged	3'-0"	-
19.	-	-	-	3'-0"	This highly damaged corner room is in the south-western corner of Vihara. It is approached by an side aisle under which the drain of the central courtyard is running East to West.
20.	12'-6"	7'-9"	-	-	Highly damaged room, hence only few details are available.
21.	9'-3"	8'-3"	-	-	Highly damaged, hence no other details are available.
22.	9'-6"	-	Some portion of brick floor is visible.	-	This room has some interesting features. The instep of its entrance is paved with fragments of roof tiles, suggesting the repairs during Phase III. Remains of a small hearth are exposed in the centre of this room. This hearth is roughly semi-circular on plan and is about 1'-9" long. Its sides are composed of upright brickbats about 6" high which are planted in the floor. The inner sides and the bottom of this furnace are blackened due to fire. It seems that this hearth was the work of some later intruders during Phase III or perhaps even after that when this Vihara was deserted.
23.	9'-9"	9'-6"	Some portions of brick pavement preserved	3'-0"	Highly damaged room. Its entrance gap revealed interesting results. A schist stone was found fixed on the instep. This stone had marks of revolving of the door. The groove of the wooden instep is also preserved here.

Room No.	Length	Breadth	Floor	Breadth of entrance.	Remarks.
24.	9'-6"	8'-3"	-	2'-10"	Highly damaged room.
25.	9'-9"	8'-6"	Des-troyed	2'-10"	-
26.	9'-3"	8'-9"	Des-troyed	2'-10"	The position of door is well-preserved by the grooves.
27.	-	-	-	-	Highly destroyed room. It is in the north-western corner of the Vihara. It is approached by a side aisle 12'-5" long east-west & 5'-8" broad North-South.
28.	10'-3"	8'-9"	Brick pavement	2'-10"	The dilapidated walls of this room show clear indications of repairs by use of brickbats.
29.	10'-0"	9'-0"	Brick pavement	2'-6"	Better preserved room.
30.	10'-8"	9'-0"	-	2'-10"	-

Verandah :

A 2'-9" high and 4'-9" broad verandah is provided all along the four sides of the central court-yard. This was a common practice in Buddhist architecture[8]. At present, a ramming of yellow silt (5' broad) mixed with small kankar, separates this verandah from the wall of the rooms. But, it is probable that originally this ramming was also covered with one or more courses of bricks, and hence formed the part of the

verandah itself. This verandah also shows two phases of construction, which is evident from a local section near south-eastern corner of the verandah (Fig.20). It seems that the verandah of Phase I was built on the natural soil and like the verandah of Phase II (present verandah) was running all along the four sides of the central court-yard. This verandah was enlarged during Phase II by adding some courses of bricks along its court-yard side as well as its top.

Central Court-yard :

The building of the central court-yard can also be divided into two constructional phases. During Phase I, a court-yard was built on the natural soil. Exact dimensions of this court-yard are not available because it is not exposed fully. (Only parts of its south-east corner and its central part are exposed). But, from this, it is clearly evident that at least like the present court-yard of Phase II, it was also composed of well burnt bricks and mud-mortar. The bricks of this court-yard measure 17" x 11" x 2½" or 16½" x 10½" x 2½". The alignment of courses is diagonal-running north-east south-west. To raise the level of the court-yard of Phase II, a 4'-3" thick layer of yellow silt was laid on this court-yard, and the court-yard of Phase II, i.e. the present court-yard, was built on it. This court-yard measures 82'-6" north-south and 74'-0" east-west. This court-yard is built of well burnt bricks of various sizes running between 17" x 11" x 2½" to 16½" x 10½" x 2½". The courses of this court-yard are also laid diagonally.

Steps :

The steps can be divided into two categories:

1. Steps of the main entrance,
2. Steps of the verandah.

The details of the steps of the main entrance cannot be had because they are completely destroyed by the brick-robbers. But, it seems that they were attached to a broad plinth in front of the main entrance, which was a common feature in the Buddhist monasteries. The most reliable evidence is provided by the section of Vihara II which clearly shows the existence of steps about 1'-6" broad and 1'-0" high (Fig.23).

The verandah steps were built on the central court-yard attached to the verandah at all the four cardinal points in the four sides. But, unfortunately, they are destroyed. Only parts of their plinths are preserved. About 12'-3" x 15'-0" of the northern plinth and about 15' x 15' of the western plinth are intact. But they do not provide any information about the steps proper.

Drain and Water Channels :

The drain as well as the water-channels seem to have been provided for the monsoon waters only.

The covered drain was planned in the south-western corner of the Vihara. It is 1'-3" wide and 1'-5½" deep. It was composed of burnt bricks only. It started exactly

at the south-western corner of the court-yard, and after running about 10' in a segmental curve towards south-west under the verandah runs straight for about 12' under south-eastern passage No.3 and ends at the outer wall of the Vihara (Fig.15). The covering courses of this drain are missing.

For the outlet of monsoon water, channels are provided at several points on the verandah all along its length. These channels are open at top at present and measure 7" broad, 5½" deep and 3'-10" broad. But originally, they might have been covered. They are planned at intervals of 5'-4" to 6'-4".

Platform of the Verandah :

A structure - something like a preaching platform (Vyākhyāna Pīṭha) - was exposed on the western wing of the verandah. In its dilapidated condition, it is of eight courses and measures 13'-0" along the verandah, i.e. north-south and 5'-3" east-west. Near its top, it was decorated with a horizontal band of chevrons in relief which are carved on the bricks arranged in a horizontal string course.

Outer Plinth :

The study of the section of the outer plinth indicates three phases of construction. It seems that during Phase I, a 3'-9" broad plinth was built attached to the outer side of the Vihara of Phase I. This plinth was built on the black natural soil. After some time, another plinth was added to

its outer side which composed the outer plinth of the present Vihara during Phase II. During Phase III, another addition was made. (For these three phases, see Fig.17). This plinth had a 23'-6" width on the northern side (some remains of which are exposed to the N.E. of Vihara) and on the northern side ~~this plinth has~~ it had a 15' wide projection which is projected upto 12' towards north. This projection is exactly in front of the main entrance. Such projections of plinths meant for approach steps are common in Buddhist Viharas[9].

No trace about the roof of the Vihara was found except the flat rectangular tiles with narrower sides chamfered. Some of these tiles are perforated at one end suggesting the use of nails (which are found in abundance) for fixing into it. From these evidences, it can be assumed that the roof was built of wooden framework and was covered with rectangular flat tiles. Such system of roofing was common during early centuries of Christian Era.*

From the above description of Vihara, it will be evident that during Phase I, a Vihara measuring 135' x 125' (excluding outer plinth) was built on the black natural soil. On plan, it was a rectangular structure having inner verandah, outer plinth and square and rectangular rooms opening towards central court-yard which was paved with diagonal courses of bricks. Due

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*Sankalia H.D. and Dikshit M.G., Excavations at Brahmapuri (Kolhapur), 1945-46, p.138.

to some unknown reason, another slightly enlarged Vihara measuring 155' x 144' (with outer plinth) was erected probably on the same plans after raising the level of the site by a yellow silt filling. During Phase III, this Vihara underwent some repairs which are evident in use of brickbats or even small rubbles in the masonry of the walls.

It seems that this Chatussala - plan of Vihara 4 was a common feature of Buddhist monasteries which is evident at Taxila[10], Kasia[11] and Sarnath[12].

VIHARA 2 :

Vihara 2 is about 500' to the east of Vihara I. It was exposed during last season's (1962-63) excavations. As the aim of its excavation was only an exploratory one only a small trench measuring 40'-20' was laid on the south-western corner of the mound which revealed some portion of the south-western corner of this structure. Hence, it is not possible to get complete details of this structure. Although its salient features can easily be assumed from the exposed remains. Like Vihara I, this Vihara is also a burnt brick structure of mud-masonry. Its bricks measure 16" x 10½" to 10" x 2½".

Being an isolated structure of mud-masonry, it has suffered much from nature. Only 15 to 20 courses of walls are intact. The upper parts of these walls and the roof are completely missing. But from the similarity of shape and

topography, between this mound and Vihara I mound, it can be assumed that this Vihara was also a square or rectangular structure with rooms on all four sides opening towards central open court-yard.

As it stands today, this Vihara can be divided into following parts :

1. Rooms
2. Inner Verandah
3. Central Court-yard
4. Drain and Water Channels
5. Outer Plinth
6. Steps
7. Additional Walls.

Rooms :

Parts of only two rooms are exposed. They are the south-western corner rooms of the western wing of the Vihara.

Room No.1 :

This is the southern room. It measures 8'-9" x 8'-0" and is paved with bricks and brickbats. Its entrance is 3'-0" wide.

Room No.2 :

This room is to the north of room No.1 and is separated by a screening wall which is 2'-5" thick. Only the southern part of this room is exposed, hence only its east-west

length (8'-0") can be measured. Like room No.1, the floor of this room is also paved with burnt bricks and brickbats.

Inner Verandah :

The verandah is composed of six courses and is 1'-6" high and 2'-8" broad. It is separated from the wall of the room by a yellow silt filling which seems to be part of inner ramming of the verandah itself.

Central Court-yard :

Only some portion of the central Court-yard is exposed, which is paved with diagonal courses of burnt bricks.

Drain and Water Channel :

For the outlet of monsoon water, a drain similar to the drain of Vihara 1 is provided in the south-western corner of the court-yard. This drain is 11" broad at its mouth. It narrows down as it goes towards its end towards west. It is composed of schist slabs, whole bricks and even brickbats. Near its mouth, its floor is paved with well dressed and polished schist slabs. Like the drain of Vihara 1, this drain also might have been a covered drain.

Some traces of a water channel about 5" broad and 2" to 2½" deep were noticed on the verandah. It runs all along the breadth of the verandah.

Outer Plinth:

Eighteen courses of the outer plinth of this Vihara are

intact. It is 3'-1" broad and seems to be running all around the Vihara. Its outer face is decorated with an off-set on its ninth course, and a decoration of horizontal bond of saw-tooth design near its top angle.

Steps :

Parts of four steps are exposed in the section (of trench) facing south, just on the outer plinth (Fig.23). In all, 17 courses of these steps are exposed. Two courses of each steps are visible in the section. From this evidence, it can be assumed that the main entrance of this Vihara was facing the Stupa, i.e. West.

Additional Walls :

Parts of two walls at right angle to the outer plinth of the Vihara were exposed to the west of the Vihara. These walls seem to be parts of some other structures built after the construction of the Vihara proper. This is evident in their brick sizes (15" x 10" to 9½" and 14" x 9") which differ from the brick sizes of the Vihara.

PROTECTIVE STRUCTURES

Two structures can be classified under this head:

1. The Oblique platform adjoining the Stupa.
2. Protection Wall.

Both of them were originally (probably) formed one

continuous rectangular structure. But, as both of them are highly damaged at their junction near the north-eastern corner of Stupa, it cannot be stated with certainty that they formed parts of one structure.

The Oblique Platform :

As suggested by its name itself, the Oblique platform is aligned slightly oblique to the main Stupa. It is actually connected with the Stupa at its base. The correction of alignment of the platform is done by means of three courses under the base of the Stupa, which gradually diminish the obliquity and merge with the structure proper. The top of this structure was to the ground level of the Stupa, hence it is clearly evident that this structure was built for protection against erosion. This assumption is further supported by the deposit of sandy and kankari soil just by the side of this structure. This assumption is further supported by the base-level of this structure. Actually, this structure is built on a slope towards the river, i.e. towards north. To bring this slope in an even level, the lowermost base courses of this structure were laid on the northern lower level base. When this level tallied with the other levels, the overlying courses covering the whole plan were laid on them. Due to this, the northern part of this structure is composed of seventeen courses, while the southern part is built of fourteen courses. This platform is broader at the southern end (12'-10"). It becomes narrower as it runs towards north. Its northern end

is completely destroyed, hence the measurements of that end cannot be traced. The top of this platform is marked by post-holes in irregular alignments. These were probably used for the offering of flag-posts.

Near the southern end of this structure, two walls were built on this platform itself. They were probably later additions constructed during Phase III. This is clearly evident from the bonding of these structures and their stratigraphic relations with the Stupa. One of these structures (18'-8" long - 3'-6" borad) - which is near the south-eastern corner of the Stupa is part of a circular wall which actually joins the Stupa covering the details of decorative cornice of the Stupa. The other is a part of a wall running east-west. It is 13'-6" long and 2'-2" broad, and is built on the oblique platform itself.

Protection Wall :

As already mentioned in Chapter II, the river Meshvo flows just to the north and west of this Buddhist settlement. Hence, its flood waters during monsoon may cause damage to the monuments. (Even at present, the flood level touches the Stupa and Vihara). Hence, a protection wall was built as a kind of bund against this natural danger.

It is built of two materials : Burnt bricks, and rubbles. The core is composed of heavy rubbles of quartz which due to their heaviness give stability against the powerful thrust of

the river flood, while the brick work which covered the stone work protected it against erosion and bound the whole core together. The rubble core is of dry masonry while the brick work is cemented with mud mortar. The outer side, i.e. the northern face of this wall facing the river - is slightly buttressed.

In its present dilapidated condition, this wall can be described as a huge right angle with its vertex situated about 380' to the west of the Stupa and 200' to the north-west of the Vihara (Fig.15). Thus, its two arms protected two sides of the site. The longer arm which ran just by the northern side of the Stupa protected the monuments in north and the western arm protected them in west.

The upper part and the top of this structure which were above the ground level of the Stupa are completely destroyed except at some places near the Stupa (Fig.22 and Fig.70). From these preserved parts, it seems that originally, top of this wall was composed of recesses and projection (8'-0" wide) which were decorated with horizontal rounded mould running in a string course.

The eastern end of this wall is completely missing, but it seems that it might have been joined with the oblique structure, which is to the east of the Stupa (Fig.15). The southern end of the western side is also destroyed by the stream which meanders its way just by the side of this wall. But, it seems that this part was also extended further towards south.

From the above description of these monuments, it will be clearly evident that this nucleus of Buddhist monuments was a very well planned settlement of Viharas and Stupas spread in an area of a quarter square mile situated picturesquely on bank of river Meshvo. The form and decoration of religious structures were planned very carefully. The monuments of worship were adorned with attractive as well as beautiful terracotta panels and other architectural features in Ulto Relievo. These monuments seem to have been built by the Buddhist monks themselves. This is clearly evident from the inscription on the Casket which is found from the Stupa itself. (For more details, see Chapter VI). According to this inscription, the Stupa was erected by two monks namely Agnivarma and Sudarsana. This assumption is supposed by the Buddhist text like Chullavagga also which mentions that Buddhist monks used to supervise constructions of religious buildings[13].

Thus, these monuments of Devanimori are eloquent testimonies of the engineering genius of the Buddhist architects.

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