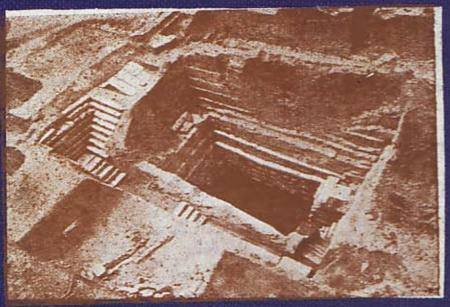
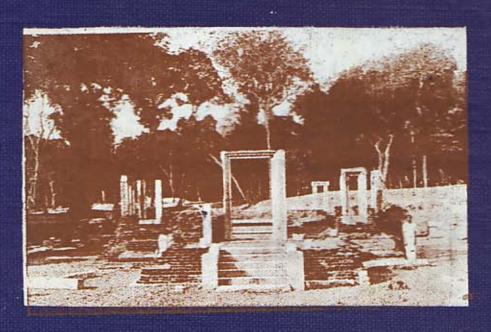
MEMOIRS OF THE ARCHAEOLOGICAL SURVEY OF CEYLON VOL. III



THE EXCAVATIONS IN THE CITADEL OF ANURADHAPURA



S. PARANAVITANA

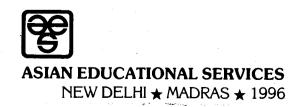
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Memoirs of the Archæological Survey of Ceylon

VOLUME III.

The Excavations in the Citadel of Anuradhapura

 $\mathbf{B}\mathbf{Y}$

S. PARANAVITANA

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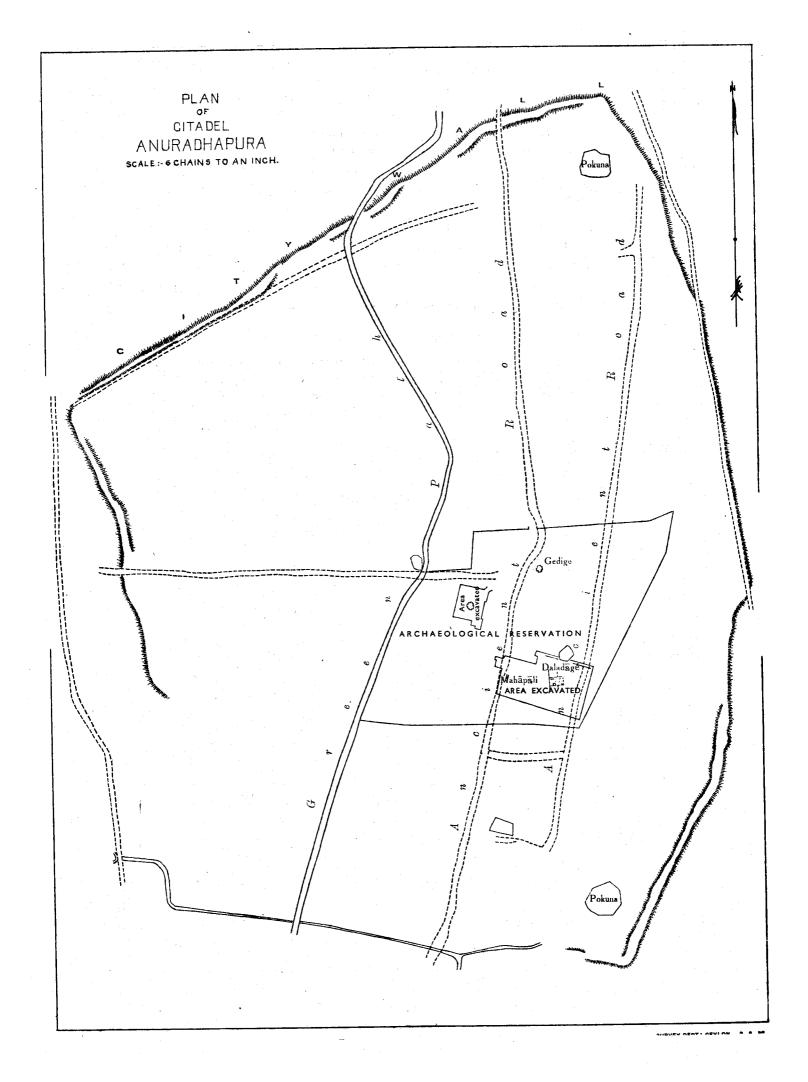
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Memoirs of the Archæological Survey of Ceylon.

THE EXCAVATIONS IN THE CITADEL OF ANURADHAPURA.

A.—INTRODUCTION.

THE outlines of the Citadel of the ancient Anuradhapura—referred to in the Chronicles as nagara 'the City' and in inscriptions as ätnakara 'the Inner City '-were first traced by Mr. H. C. P. Bell in 1893. Three years earlier, the Archæological Survey, at the suggestion of Mr. R. W. Ievers, the then Government Agent of the North-Central Province, searched for the remains of the Royal Palace, which was in the Inner City, in the area to the north of the 'Jetavanārāma'; but was not successful in his quest. This failure led Mr. Bell to locate the Royal Enclosure or Citadel at a distance of about 1½ miles north of the sacred Bo-tree. In his Annual Report for the year 1893 (p. 5), Mr. Bell says:-- 'Everything now points to its definite location within areas A B, lying between the Y road and the Outer Circular Road on the east or broadly between the Jetavanārāma ruins and the Abhayagiriya and Thupārāma groups. A high brick bamma, easily discernible on the south and south-west, has been followed more or less clearly, and surveyed throughout a circuit of some three miles. This was doubtless the "Royal Enclosure". Of the palace itself—unless it be the massive brick structure, once storied, still standing-no traces remain above ground'.

Subsequent researches have confirmed this hypothesis of Mr. Bell's. Mr. H. Parker, who has discussed this question on the evidence of certain statements in the chronicle concerning the distance between the southern gate of the City and the Sacred Bo-tree, comes to the same conclusion.

The massive brick structure, referred to by Mr. Bell in the paragraph quoted above, and which is known as the Gedige (Plate I, a), was first noticed in 1886 by Mr. Burrows who says that it 'looks like a bit of Polonnaruva suddenly transplanted to this capital'. This was cleared in 1897 by Mr. Bell and was found to be 'a rectangular recessed building constructed of brick and mortar's

¹ Ancient Ceylon, London, 1909, pp. 272-275.

² Ceylon Government Sessional Paper X of 1886, p. 6.

A. S. C. Annual Report for 1897, p. 4.

with an upper storey. It has been assigned to the 12th century; but, as will be shown in the sequel, an earlier date is more probable. Some 225 yards to the south of this Gedige there are the remains of an 'imposing oblong building resting on 40 grand monolithic pillars' (see Plate I, b). A few yards north of this is a small circular pokuṇa unfaced. On its brink a fine inscribed slab with moulded facing was found almost completely buried.

This inscription, which unfortunately is partly defaced, has been published by Dr. Wickremasinghe; but, owing to its find spot being wrongly reported to him as 'a few yards to the east of the Thūpārāma Dāgäba', its archæological significance escaped his notice and was only realized by Mr. E. R. Ayrton who, with its help, identified the remains near by as those of the Temple of the Tooth. The inscription lays down certain rules regarding fields belonging to the royal palace and also mentions the Shrine of the Tooth Relic.

Fifty yards to the west of this monument there is a large stone trough (Plate II, a) near which a few pillar stumps show above the earth. Relying on certain statements in the Mahāvamsa, Mr. Ayrton conjectured that this stone trough might have belonged to the Mahāpālī, the alms-house maintained by the Anuradhapura kings within the precincts of the royal palace.4 On the stone trough there are three short records of the 10th century which were yet undeciphered when Mr. Ayrton put forward his hypothesis. In 1927, the present writer succeeded in deciphering these inscriptions and found that two of them referred to the place as 'this Mahāpālī' (me Mahapela), thus confirming Mr. Ayrton's conjecture. As has been stated above, the Mahāpālī appears, from the statements in the chronicle, to have been a part of the royal establishment. It has also been noticed by Fa-hien⁶ who says that it was by the side of the King's palace. The decipherment of these inscriptions established beyond doubt the location of the royal palace suggested by Messrs. Bell, Parker, and Ayrton and, therefore, the Archæological Survey decided to undertake some excavations in this area, and the work was first started in 1928. It was continued in 1929, but, in the next two years, was temporarily suspended owing to lack of funds. work was resumed in 1932 on a small scale and continued in the year 1933. following pages give an account of the excavations conducted in the Citadel during these years.

In 1913, Mr. Ayrton conducted trial excavations in the northern area of the Citadel; but his tragic death in the following year prevented the work being continued. Mr. Ayrton was also not able to publish the full account of the results of his researches, but such notes and memoranda as he has left on the subject have been edited and published by his successor, Mr. A. M. Hocart, in Volume I. of the Memoirs of the Archæological Survey of Ceylon, pp. 48-53.

¹ A. S. C. Memoirs, Vol. I., p. 49.

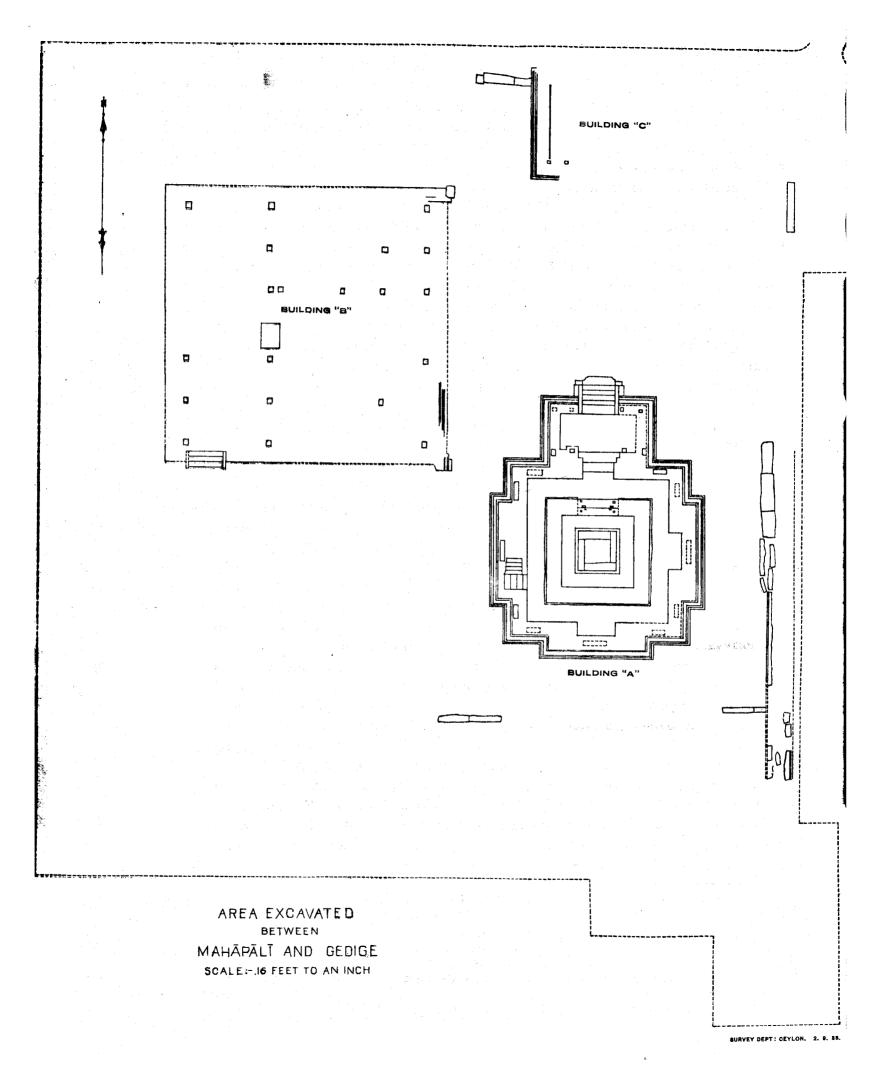
² E. Z., Vol. I., pp. 113–120.

³ A. S. C. Memoirs, Vol. I., pp. 47-50.

⁴ A. S. C. Memoirs, Vol. I., p. 50.

⁵ See *E. Z.*, Vol. III., pp. 131–137.

[•] Beal, Buddhist Records of the Western World, Vol. I., p. LXXIV.



B.—BUILDINGS EXCAVATED BETWEEN THE MAHĀPĀĻĪ AND THE GEDIGĒ.

THE site selected for the excavations of 1928 and 1929 (Plate II, b) was 80 yards to the north-west of the Mahāpālī and about 100 feet to the east of the modern road called the Green Path, where a few stone pillars appeared above the ground level. Three of these pillars seemed intact and their tops were only 3 feet above the ground. As stone pillars of the ruins at Anurādhapura are, on an average, about 12 feet in height, it was evident that a good deal of digging was necessary to reach the floor level of the building. The ground sloped towards the east and the highest point of the mound was near the western row of pillars belonging to the building now marked B. A few yards to the west of these pillars is a depression in the ground near which can be seen two fragments of a stone lion. A few other stone pillars on the lower area of the mound had been broken in recent times and their upper portions removed elsewhere.

Excavations at the site were continued for two seasons in 1928 and 1929. During the first season only about 25 labourers were available for a period of little over a month and hence very little progress was made. In 1929 more labourers and funds were at our disposal and the work at the site was continued from the end of January to the beginning of June. Progress was retarded by the necessity of removing the spoil earth to a distance of about a quarter of a mile outside the limits of the ancient citadel, as it was not considered desirable to dump earth in this area and thereby increase the labour of possible excavators in the future. During both these seasons, an area (Plate III) roughly measuring 140 ft. by 125 ft. was excavated and, at certain places, it was found necessary to dig to a depth of 10 feet in order to reach the foundations of the building of which the pillar tops were visible before excavation.

Remains of buildings belonging to two different periods of occupation were laid bare during the operations. Of these, the upper stratum, which was revealed immediately after the subsoil was removed, consisted of vestiges of ephemeral mud structures in the foundations of which fragments of the older buildings were freely used. In this stratum there was not a single structure of which enough remained for a ground plan to be made; and these fragments of foundations had to be removed in order to lay bare the remains of more substantially built edifices of an earlier age. Remains of one of these structures, built about 2 feet above the landing slab of Building B, is shown in Plate IV (a). A copper coin of Lilavati (1197-1200 A.D.) was picked up on this stratum and, with this evidence, we may date these flimsy structures as belonging to some time in the thirteenth or fourteenth century, i.e., the last days when Anuradhapura was still a centre of population before the place was opened up in modern days. The occupants of these huts seem to have been workers in metal, for we found several fragments of plumbago-coated crucibles, each about 4 inches in height, and one complete specimen about 10 inches in height. Beads of various sorts, mostly made of glass and paste, fragments of conch-shell bangles, clay disks and several terra-cotta rings for a well, were among the finds belonging to this stratum, besides material from the lower deposits thrown up in diggings. 2-J. N. 48241 (8/35)

The building at which the excavations were first started (Building B) was completely cleared of debris which had buried it, at places, to a depth of nearly 10 feet (see Plate IV, b). On plan it measured 50 feet square and was erected on a brick-faced plinth, 2 ft. 2 in. in height above the ground level. This structure has suffered greatly at the hands of despoilers. Of the 40 stone pillars which originally seem to have supported the superstructure, only three, each 12 ft. 3 in. in height above the floor level, and fragments of seventeen others, were in position. It cannot now be determined how many of these pillars were embedded into the walls and how many were freestanding. No traces of any walls separating the ground floor into apartments could be seen. The probability is that the entire space was an open hall or a mandapa. Doubtless, the stone pillars supported one or more upper storeys, probably of wooden construction. In the debris round about this building bricks were found sparsely; consequently, the walls must have been constructed of clay as in the Kandyan buildings. In this, as well as in most of the ancient buildings of Anurādhapura, the principle of construction was of the wattle-and-daub type; foundations were rarely laid to any great depth, the stability of the structure depending on the stone pillars which were firmly planted in the ground, and which supported the woodwork and clay walls. Lumps of plaster with which the walls were coated were found in the debris. Four complete bricks from this building measured:-

12 $\frac{3}{4}$ in. by $6\frac{1}{4}$ in. by $2\frac{1}{4}$ in. 12 $\frac{3}{8}$ in. by 6 in. by $1\frac{3}{4}$ in. 12 $\frac{1}{4}$ in. by $6\frac{1}{4}$ in. by 2 in. 11 $\frac{3}{4}$ in. by $5\frac{3}{4}$ in. by $2\frac{1}{2}$ in.

Of the flight of steps, facing east, at the main entrance to the building, only the landing slab of polished white limestone is in situ. A moonstone, of the same material, in a crumbling state of decay, was found several feet above its original level. This has a band of well executed elephants, horses, bulls, and lions. One of the carved risers of the flight of steps is to be seen about 10 feet from the entrance. In addition to this main entrance, there is another flight of steps (Plate V, a) at the south-west corner of the building—a feature not noticed in any other building hitherto discovered at Anurādhapura. This flight of steps which, too, is of limestone, is in a better state of preservation; only one of the balustrades and one riser being missing. Near the centre of the hall, there was found, removed from its original position and with its smoothed face downwards, a rectangular moulded slab (Plate V, b), similar to the royal āsanas found at Polonnaruva.

This building was originally roofed with glazed tiles of various colours. Fragments of these tiles were found in large numbers in the debris round the building; but, unfortunately, no complete specimen was forthcoming. The great majority of these tiles were of a bluish green colour, some white, a few yellow and one specimen red. Thus we have four out of the traditional five colours.

The tiles were of the typical Sinhalese pattern and only the lower part, visible when placed on the roof, was glazed. Fragments of glazed tiles have been

found at other buildings in Anurādhapura¹ and also in the excavations carried out by Dr. Paul Pieris at Kantarōdai in the Jaffna Peninsula.² But I do not think that they have been found elsewhere in such large numbers and in various colours as at this site. Several lumps of the actual coloured glaze were also found in the debris.

A few fragments of these glazed tiles were sent to Mr. Mohd. Sana Ullah, M.Sc., the Archæological Chemist in India, and he has very kindly furnished me with an analysis of the composition of the glaze. It is as follows:—

Silica	• •			66.26%	
Alumina	• •			12.09%	*
Ferric Oxide	••			0.11%	
Manganese Oxide	• •	-		Nil	
Lime	• •			$2 \cdot 10 \%$,
Magnesia	• •			traces	
Copper Oxide	• •		• •	$2 \cdot 33 \%$	
Alkalies (chiefly S	oda)		• •	17.11 %	(by difference)
	7 - 1 _V	Total	••	100.00%	

He further remarks:—'The lump of glaze of the same colour is probably identical with the material with which the potsherd is coated. The colour is due to the presence of $2\cdot33\%$ oxide of copper; but in its absence a white glaze would be obtained such as can be seen on some of the specimens. The black lump is a fragment of crude glass or glaze which has a dark yellowish colour in their sections due to the presence of ferric oxide. The composition of this glaze does not exhibit any close relationship with those found in Egypt, Mesapotamia, or India, and it is therefore highly probable that the glazes were prepared independently in Ceylon. It is quite conceivable that the art was originally learnt from some foreign traders and the variation in the chemical composition is due to the nature of the materials (e.g., sand) which were handy locally in Ceylon.'3

The glaze on the tiles discovered by Dr. Pieris at Kantarodai has been examined by Mr. W. N. Rae and found to consist of ferric iron, aluminium, lead, calcium, sodium, copper, and silica.

To the south-west of the building described above, remains of another building (marked A), of quite a different type, were brought to light. The only indication of it that was noticeable before excavations started was about one foot of a stone pillar embedded into the wall of the porch (Plate VI, a). This building is of massive brick construction and, at places, the walls are preserved to the level of the window sills, four of which are still in situ, at a height of about 8 feet from the original ground level. The bricks used in its construction

¹ See A. S. C. Memoirs, Vol. I., p. 3.

² J. R. A. S., C. B., Vol. XXVI., p. 22.

In a letter dated 21st August, 1929,

measure, on an average, $12\frac{1}{2}$ in. by $6\frac{1}{2}$ in. by $2\frac{1}{2}$ in. and are laid in a very adhesive kind of lime mortar. Though the bricks are laid in alternate courses of stretchers and headers, the resultant bonding is not quite regular. All the bricks used in this building seem to have been specially made for it, for no fragments have been used as in the brick buildings of Polonnaruva. Bricks were specially made for the different mouldings, and wedge-shaped ones were used for constructing arches. Among the large fragments of masonry which were scattered outside the building, we came across a fragment of an arch constructed with wedge-shaped bricks, an interesting piece of evidence to show that the principles of the true arch were known to the Sinhalese architects at the date of this building which, as will be shown later, is about the eighth century A.D. The arch in old Sinhalese buildings was, however, not made use of for spanning any considerable spaces. The walls were covered with lime plaster which is still preserved in many places.

On plan, the edifice comprises a cella 33 ft. 6 in. square externally with projections 20 ft. 6 in. by 2 ft. 6 in. on the west, south, and east. On the north, the projection is lengthened to form a porch 20 ft. 6 in. by 11 ft. 3 in. Stone pillars are embedded in the walls of the porch which seems to have carried a roof constructed of timber and covered with tiles. The main building would appear to have had a vaulted roof. Entrance to this building is through a flight of five plain stone steps (Plate VI, b) facing north. The two balustrades and the guardstones as well as the treads of this flight of steps are devoid of any ornamentation. The moonstone, also plain, is of an elongated type hitherto known from only one or two other specimens. The outer wall is 5 feet in thickness and rises from a moulded basement (Plate VII, a) 4 feet in height. It appears as if the wall was originally plain and the mouldings were added at a later date. The foundations of the buildings are of stone and are not laid to a very great depth. The interior dimensions of the porch are 13 ft. 10 in. by 7 ft. A stone doorway, only the sill of which was in situ, 7 ft. 4 in. broad and 3 ft. 7 in. high, led from the porch to a circumambulatory passage, 3 ft. 6 in. in breadth, which ran round the inner room. This measures 13 ft. square and its walls are 2 ft. 10 in. in thickness. The entrance to the inner room is also from the north through a stone doorway of which also only the sill was found in position. The passage was lighted by eleven stone windows, two of which, at the centre of the eastern, southern, and western walls, are broader than the others. These broader windows on the eastern and southern walls were placed in arched niches and at the corresponding point on the western wall there is a stone staircase (Plate VII, b), built into the thickness of the wall, leading to the upper storey. Eight of the steps are still in situ.

Within the inner room, or sanctum, is a platform or āsana, faced with moulded slabs of stone, measuring 8 feet square and 2 ft. 7 in. high from the floor

¹ Ten bricks from this building were measured and found to be of the following dimensions:—

⁽¹⁾ $12\frac{1}{2}$ in. by $6\frac{1}{2}$ in. by $2\frac{1}{4}$ in.

⁽²⁾ $12\frac{3}{4}$ in. by $6\frac{1}{2}$ in. by $2\frac{1}{4}$ in.

^{(3) 12}½ in. by 6½ in. by 2½ in.

⁽⁴⁾ $12\frac{3}{8}$ in. by 6 in. by $2\frac{1}{4}$ in.

^{(5) 12‡} in. by 6½ in. by 2½ in.

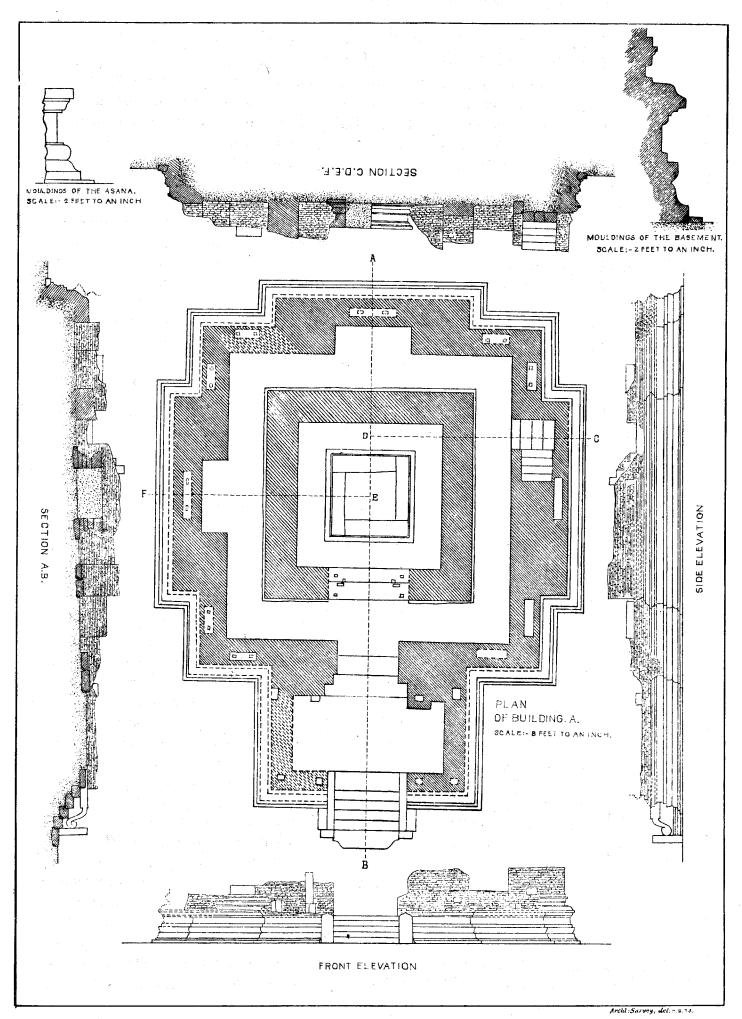
^{(6) 12}½ in. by 6½ in. by 2½ in.

⁽⁷⁾ $12\frac{1}{2}$ in. by $6\frac{1}{2}$ in. by $2\frac{1}{2}$ in.

⁽⁸⁾ $12\frac{1}{2}$ in. by $6\frac{1}{2}$ in. by $2\frac{1}{4}$ in.

⁽⁹⁾ $12\frac{1}{4}$ in. by $6\frac{1}{2}$ in. by $2\frac{1}{4}$ in.

^{(10) 121} in. by 61 in. by 23 in.



level. The moulding consists of an ovolo and ogee with a vertical face between. When the room was cleared of debris, the upper slabs of this stone platform or $\bar{a}sana$ were found fallen down (Plate VIII, a). But all the slabs were preserved and were replaced in their original position with little difficulty (Plate VIII, b). On the vertical slab on the northern side of this platform, there were five letters (Plate XI, b), reading uturudese 'north side', which doubtless comprised a masons' mark. The stones, it seems likely, were fitted together at the quarry and the position of each was marked on them so that the masons could, at a glance, find out the relative position of each slab. It is only on this slab that the direction is given in letters. On others, symbols such as crosses, circles, and squares at the end and beginning of two consecutive slabs, indicate their position.

Though constituting only a masons' mark, these letters are of interest in that they supply us with a date for this building. The letters, from their form, must be ascribed to the eighth century; hence we must conclude that this building, too, dates from the same period. This discovery is of considerable archæological interest as very few examples of datable stone-work of this type have been discovered at Anurādhapura or elsewhere in Ceylon. This building also shows that lime mortar was used as a binding material in brick constructions before the Polonnaruva period. In Ceylon, the great majority of ancient buildings in which lime mortar was used, are found at Polonnaruva; and archæologists generally ascribe similar buildings, when found elsewhere, to the same period. This building now shows us that it need not necessarily be so.

On plan, the building just described is identical with the structure, now called the Gedige, which has already been mentioned. The Gedige has its walls standing to a much greater height than the present building; but, in other respects, the latter is better preserved. The details of the mouldings are clearly discernible in this building, whereas they are obliterated in the Gedige, which also has its porch and the entrance completely demolished; and we do not know whether it contained an āsana in the inner room. The deficiencies of the one are supplied by the other and both together give us a fairly accurate idea of a type of building of which no other examples have so far been brought to light in the island. The Gedige and the building we have described are both, more or less, on the same level. This fact, coupled with the similarity of plan noticed above, leads us to the conclusion that both these structures are of the same date. has hitherto been assumed that the Gedige must have been built in the twelfth century; but, as our building can be dated, on the evidence of the inscription mentioned before, in the eighth century, the same date, I think, will have to be assigned to the other building also.

We cannot speak with certainty about the ornamentation of the upper part of the outer walls, but that they were not plain is indicated by the find, among the debris, of some fragments of a frieze of stucco geese, similar to those met with in the brick buildings, of a later date, at Polonnaruva.

The conservation of the building was undertaken immediately after its excavation was over and has been completed under the supervision of Mr. P. Don Ambrose who also assisted in superintending the excavations. The brickwork,

where necessary, was pointed and such parts of the walls as were in a slanting position have been straightened. The plaster which was peeling off in places has been strengthened. The door-jambs and the window-posts which had fallen down were replaced in their original positions and the different members of the $\bar{a}sana$ have been put together. Plate IX gives the appearance of the building after conservation.

About 35 feet to the north of the flight of steps leading to this building, there are, on a somewhat higher level, the vestiges of what appears to have been a gatehouse (Plate X, a). Its ground plan cannot be made out clearly. The walls are constructed of bricks laid in mud mortar and stone pillars are embedded in the brickwork. The basement of this structure, too, was moulded and the lime plaster was still visible when it was excavated. To the east and the south of the buildings described above, there are remains of an outer $pr\bar{a}k\bar{a}ra$ (Plate X, b) which enclosed the whole group. The lower part of this $pr\bar{a}k\bar{a}ra$ was built of slabs of stone placed vertically and the upper part was of brick construction.

When the main work at the site was completed, a trench was dug from the excavations to the low lying ground to the north in order to drain away rain water. In so doing we had to dig below the level of an old street and the remains of an ancient underground drainage system were brought to light (Plate XI, a). This drain was laid across a street and consisted of terra-cotta pipes, each about a foot in length, socketed to each other. The pipes were laid on stone slabs and seem to have been covered with brickwork. Our attempt to trace this drain pipe further was without success; and, for obvious reasons, it was covered with earth after photographs were taken and drawings were made.

Mr. Bell has informed the Archæological Commissioner that similar terracotta drain pipes have been met with during his excavations at Anurādhapura. They have also been discovered at the building known as Rajamāligāva within the citadel of Polonnaruva.¹ Terra-cotta pipes, forming an underground system of drainage, have also been found by Mr. E. W. Perera at the site of the city of Kōṭṭe.² But they were, I presume, not found there in position, as in the present instance.

A similar discovery was accidentally made a month later at Polonnaruva. The rains had washed away the ground to the south-east of the Rankot Vehera near the footpath from the Northern Gate and a terra-cotta pipe was exposed to view. We had the place cleared and an underground drain was traced to a distance of about 8 feet. The pipes in this place were longer and broader than the Anurādhapura ones and seven of them could be traced in all. Near this drain an old street can definitely be traced. An example of vertical terracotta pipes embedded in a brick wall so as to drain the lustral water from the upper storey of the shrine was brought to light by Mr. P. Don Ambrose in a vihāra at the so-called Ramsimāligāva near the Northern Gate of Polonnaruva. That underground drainage was common in ancient Indian cities, we know from references in Sanskrit literature, and the excavations at Mohenjo-Daro in the

¹ A. S. C. Annual Report for 1905, p. 5, foot-note 3.

² J. R. A. S., C. B., Vol. XXIX., pp. 261-264.

Indus Valley have brought to light the existence of a drainage system, much more in advance of the examples mentioned here, in cities dating from the third millennium before Christ.¹

The excavations yielded very few minor antiquities. A classified list of the finds that may be considered to be of some interest is given below:—

Coins.

- 1. Copper massa of Līļāvatī, well preserved, found in the upper stratum. Diameter ·75 in., weight 51 grs.
- 2. Copper coin (Plate XXIV, a) containing the legend read as $Sr\bar{\imath}$ Lamkeśvara or $Sr\bar{\imath}$ Lamkā-vibhu (Codrington, Ceylon Coins and Currency, p. 54). Considerably worn, the legend being not fully preserved. Found 9 ft. below datum.² Diameter ·75 in., weight 43 grs. This is the only known specimen of the copper issues of the "Lamkeśvara" or "Lamkāvibhu" type, though gold issues of this type are found in considerable numbers.
- 3. Copper coin, $\frac{1}{2}$ in. in diameter, very badly corroded and unidentifiable. Found 12 ft. below datum.
- 4. Copper coin, $\frac{5}{8}$ in. in diameter. The obverse bears traces of a head and a legend now undecipherable. The reverse is completely worn. Seems to be an Indo-Roman coin. Found 9 ft. below datum.
 - 5. Copper coin, $\frac{9}{18}$ in. in diameter. Too worn for identification. Found 8 ft. below datum. Nos. 3 and 5, though unidentifiable, appear to be Indo-Roman coins.

Metal Objects.

The only gold object found during these excavations was a thin circular plate of gold, $\frac{9}{16}$ in. in diameter, with the figure of a lion between two lamp stands shown in intaglio (Plate XI, c). It is only a fragment, and appears to be a piece from the gold plating of a seal. As regards the device shown on it, I quote below the remarks of Mr. H. W. Codrington to whom it was sent for examination:—

'The type of an animal or object between two standing lamps is not uncommon. It appears in the Pallava coins and most commonly in the Pāṇḍyan Series. In this last, it is the type of the coins which apparently precede the introduction of the "Ceylon Type", but it re-appeared in a modified form in a coin of the XIIIth or XIVth century.

'The gold ornament shows a maned lion between two standing lamps, all within the bead circle. The nearest type to this is the Pāṇḍyan "fish" or "fishes" type which I attribute to the period before the Chola connexion in the Xth century. The present document is identical save that the dynastic emblem of the Pāṇḍyan fishes is replaced by the Sinhalese lion.

'Provisionally, I should put this ornament as belonging to the same period (before Xth century). There is, however, a possibility, in view of the XIIIth to XIVth century Pāṇḍyan coin, that it is later.'

From the level in which the object was found (9 feet below datum), it is, I think, very improbable that it belonged to the later date suggested by Mr. Codrington. There is also some resemblance between the device shown on this seal and the seated lion of the Kandyan flag.

¹ Sir John Marshall, Mohenjo-Daro and the Indus Civilization, London, 1931, p. 280.

^{*} The point fixed for the datum is the top of the pillar at the north-west corner of Building B.

Other metal objects included:-

- 1. A copper object as shown in Plate XII (f). On a rectangular sheet of copper $1_{\frac{11}{16}}$ in. by $\frac{9}{16}$ in., two nails of unequal height, one $\frac{3}{8}$ in. and the other $\frac{3}{4}$ in., have been fixed and on these another copper sheet, slightly longer, has been set in a slanting position. There is a small circular hole between the two nailheads on the upper sheet of copper. Found at a depth of 7 ft. below datum.
- 2. Copper object as shown in Plate XII (g). Height $1\frac{1}{4}$ in., diameter at base $\frac{13}{16}$ in. Found 10 ft. below datum.
- 3. The foot and part of the leg of a copper image. Bears traces of gilding. Very clumsy workmanship. Found in the southern passage in Building A.
 - 4. Copper nail, $1\frac{1}{2}$ in. in length. Depth 8 ft. below datum.
 - 5. Copper nail, as above, 12 ft. below datum.
 - 6. Copper needle, $1_{\frac{9}{16}}$ in. long, 12 ft. below datum.
- 7. Rectangular copper piece $\frac{13}{16}$ in. by $\frac{9}{16}$ in., found among the bones of a bull by the side of the eastern wall of Building A.
- 8. A small lump of lead, probably a weight, found 8 ft. below datum. Besides the above, various fragments of iron and steel objects, mostly fittings used in the woodwork of the buildings, were found sporadically.

Beads.1

- 1. Fragment of cylindrical glass bead with tubular perforation. Found $7\frac{1}{2}$ ft. below datum.
- 2. Short circular bead of red clay, length $\frac{1}{8}$ in., $7\frac{1}{2}$ ft. below datum.
- 3. A spherical bead of agate, gray in colour with a white band in the middle, $\frac{5}{16}$ in. in length, 5 ft. below datum.
- 4. Collared spherical bead made of chalcedony or jaspar, $\frac{3}{16}$ in. in length, 5 ft. below datum.
 - 5. A spherical bead of glass or clay, \(\frac{1}{4}\) in. in length, 9 ft. 4 in. below datum.
- 6. One disc bead $\frac{3}{8}$ in. in diameter, one long cylindrical bead $\frac{3}{16}$ in. in length, and one standard bead $\frac{1}{8}$ in. in length, all of red clay, found 10 ft. below datum.
 - 7. Spherical bead of terra-cotta, length nearly an inch, 12 ft. below datum.
 - 8. Blunt-edged lenticular bead of crystal, ½ in. in length, 9 ft. below datum.
 - 9. Chank-shaped bead of green jade-like glass, $\frac{3}{8}$ in. in length, 8 ft. below datum.
 - 10. Disc bead of red clay, $\frac{7}{16}$ in. in diameter, 8 ft. below datum.
 - 11. Standard circular bead of jasper, $\frac{3}{16}$ in. in length, 10 ft. below datum.
- 12. Long convex bicone bead of quartz with faint amethyst tinge, unperforated, length $\frac{1}{2}$ in., 13 ft. below datum.
- 13. Short circular bead of blue glass, $\frac{3}{16}$ in. in length, found inside Building A, 1 ft. above floor level.
 - 14. Elliptical bead of greenish glass, length \(\frac{1}{8} \) in., 11 ft. below datum.
 - 15. Long crystal bead with six unequal facets, $\frac{9}{16}$ in. in length, $13\frac{1}{2}$ ft. below datum.
 - 16. Ivory bead of spheroid shape, \(\frac{3}{8}\) in. in length, 14 ft. below datum.
 - 17. Blunt-edged lenticular bead of crystal, $\frac{7}{16}$ in. in length, 14 ft. below datum.
- 18. Collared tabular circular bead with conical sides, of blue glass, $\frac{15}{16}$ in. in length, 13 ft. below datum.
 - 19. Chank-shaped bead of jade-like glass, somewhat smaller than No. 9, 10 ft. below datum.
 - 20. Lenticular bead of amethyst with hair-like incisions, 7 in. in length, 13 ft. below datum.
 - 21. Faceted and collared bead of purple amethyst, $\frac{3}{8}$ in. in length, 14 ft. below datum.
 - 22. Fragment of a circular concave bead of green jade, 1 in. in length, 7 ft. below datum.
 - 23. Spheroid shaped bead of green glass, length $\frac{1}{8}$ in., 5 ft. below datum.

¹ I am much indebted to Mr. J. S. Coates, the late Government Mineralogist, and Mr. P. T. L. L. Direkze, the Acting Mineralogist, for identifying the material of the beads found in the excavations at the Citadel.

- 24. Disc bead of red clay, diameter $\frac{1}{4}$ in., 4 ft. below datum.
- 25. Short cylindrical bead of greenish glass, length $\frac{3}{16}$ in., 5 ft. below datum.
- 26. Spheroid bead of green glass, $\frac{3}{16}$ in. in length, 14 ft. below datum.
- 27. Disc bead of red clay, diameter $\frac{3}{16}$ in., 14 ft. below datum.
- 28. Thin disc bead of red clay, $\frac{5}{16}$ in. in diameter, found inside Building A.
- 29. Spheroid terra-cotta bead with three intersecting perforations, length $\frac{1}{2}$ in., 14 ft. below datum.

Pottery.

- 1. An earthenware cooking pot (Plate XII, c), well preserved, height, $11\frac{1}{2}$ in., diameter at mouth, $6\frac{1}{3}$ in., belonging to a type of vessel now called häliya in Sinhalese.
- 2. Flat earthenware vessel belonging to the type known as koraha at present (Plate XII, b). Plain outside, inside grooved. These two vessels were found by the side of the eastern wall of Building A, about 1½ ft. from the ground level of that building. It was evident that they had been placed there after that building had fallen down, probably by the occupants of the houses whose remains were noticed in the upper stratum. The cooking pot, when found, was covered by the koraha as will be seen from Plate XII (a).
- 3. Earthenware crucible, height $6\frac{3}{4}$ in., diameter at top 6 in., 8 ft. below datum (see Plate XII, d).
- 4. Plumbago-coated crucible, slightly damaged, height, $2\frac{1}{4}$ in., diameter at top, $1\frac{3}{4}$ in., 8 ft. below datum.
- 5. Fragment of a gilt earthenware vessel, 8 ft. below datum. The fragment belonged to the rim and is too small to ascertain the shape of the vessel.
 - 6. Fragment of bowl-shaped earthen vessel, gilt, 14 ft. below datum.
- 7. Thick rim of an earthen vessel containing a double vajra or triśūla in relief, found outside Building A.
- 8. Potsherd containing two pre-Christian Brāhmī letters, liya, 11 feet below datum (see Plate XII, e).
- 9. Potsherd containing two pre-Christian Brāhmī letters, pata, 8 feet below datum (see Plate XII, e).

Besides the above, a considerable number of potsherds were found in the course of the excavations, particularly in rubbish heaps belonging to the upper These, however, are so fragmentary that they are not of much interest for a study of Ceylon ceramics. The great majority belonged to coarse types of vessels, the like of which are in daily use among the Sinhalese people to-day. Fragments of korahas with various types of groove marks both inside and outside, fragments of vessels now known as muttiyas, häliyas, and ätiliyas were the com-Scattered among these coarse fragments of pottery were pieces belonging to types of ceramics of a superior order both as regards shape as well as texture, among which mention may be made of two small fragments, the one a polished brown ware and the other of an 'egg-shell' type. Fragments of the better sort of ceramics were found sporadically both in the upper as well as in the lower strata, though potsherds of any description were rarer in the latter. It may be conjectured that the better type of potsherds belonged to lower deposits and were thrown up, mixed with the earth, when the ground was dug for purposes of laying the foundations of buildings during the successive ages of occupation at the site. This hypothesis will gain further support from the remarks, which will follow, about the inscribed potsherds. Among earthenware fragments, there were also pieces of lampstands, fireplaces, and terra-cotta rings for facing wells.

A considerable number of circular disks, of various sizes, fashioned out of broken vessels, were found at the site, mostly in the upper stratum. Similar disks have been found at Tirukkētīsvaram,¹ Tissamahārāma,² Kantarōḍai,³ and other ancient sites of Ceylon; and the theory has been put forward that they were used as playthings.⁴ They were also recently found among the objects deposited in the hatarās-koṭuva of the Ruvanvälisäya at Anurādhapura in the thirteenth century. Broken pieces of chinaware have also been utilized for making these disks. The two fragments of gilt earthenware noticed above are of interest as similar finds have not, to my knowledge, been found elsewhere in Ceylon.

The two potsherds inscribed with Brāhmī letters of about the second century B.C. are of considerable interest for a chronology of Ceylon pottery. The letters have been scratched with a sharp point after the vessels had been baked. Those on one read liya and on the other pata. The first may be the end of a name such as 'Asaliya' with the genitive termination and the second may be considered as the Sinhalese equivalent of Skt. pātra, P. patta 'vessel'. Both these fragments seem to have belonged to the same type of ceramics a flat dish-shaped vessel, red outside and black inside, and of good texture. It should be mentioned that these two potsherds were found among the debris of buildings at least ten centuries later than the age of the letters; and we may therefore conclude that they were thrown up in disturbing the deposits of the lower strata when the ground was dug for foundations of buildings in successive They also indicate that this site had been in occupation from pre-Christian ages. Potsherds with Brāhmi letters have also been found by Parker at Tissamahārāma.5

Miscellaneous Objects.

- 1. Fragment of a limestone slab, measuring 1 ft. $7\frac{1}{2}$ in. by 1 ft. 1 in., with a sculpture showing a railing pattern.
- 2. Fragment of grinding stone, $11\frac{1}{2}$ in. by 10 in. by 3 in., the centre hollowed and containing carvings, in sunk relief, of bo-leaves at the corners.
- 3. A cubical piece of polished granite, measuring 2 in. by $1\frac{1}{4}$ in. by $1\frac{3}{8}$ in. Probably a weight. Found 4 ft. below the surface.
 - 4. A small granite pestle, 1 ft. below the surface.
 - 5. The leg of a terra-cotta figurine of a bull, 12 ft. below datum.
 - 6. A horn, 3 in. long, with cuts in the centre, probably a handle, 12 ft. below datum.
- 7. A stilus-shaped piece of bone or ivory, with a sharp point at the end, $2\frac{3}{4}$ in. in length. Found 13 ft. below datum.
 - 8. Fragment of a crystal disk, with a hole in the centre, diameter 1½ inches, 10 ft. below datum.
- 9. A plano-convex crystal pendant of good workmanship, measuring $\frac{13}{16}$ in. by $\frac{3}{4}$ in. and $\frac{1}{8}$ in. in thickness, containing perforations at the centre of the two narrow sides. Probably a pendant. Found 8 ft. below datum.
- 10. Rectangular piece of crystal, well cut and polished, $\frac{1}{2}$ in. by $\frac{3}{8}$ in. and $\frac{3}{16}$ in. in thickness. Found 14 ft. below datum.

¹ J. R. A. S., C. B., Vol. X., p. 111.

^{*} Ibid., Vol. VIII., p. 45.

² Ibid., Vol. XXVI., p.

⁴ Ibid., Vol. VIII., p. 139.

^{*} Ibid., Vol. VIII., p. 161.

- 11. Fragment of a conch-shell bangle, 12 ft. below datum.
- 12. Fragment of a glass bangle, 12 ft. below datum.
- 13. An object shaped like a chessman, of blue glass, height $\frac{7}{16}$ in., 12 ft. below datum.
- 14. A small ruby (pale pink corundum) cut into a semi-spherical shape, \(\frac{1}{8} \) in. in diameter, 12 ft. below datum.
 - 15. Fragment of a carnelian ring, $5\frac{1}{2}$ ft. below datum.

The excavations themselves did not yield any evidence to determine what purpose the buildings unearthed served in their time. But, in the introductory remarks, enough evidence has been put forward to show that this locality was the royal enclosure, and therefore we may not be wrong in concluding that the buildings formed part of the Sinhalese royal establishment during the late Anurādhapura period.

The brick-built structure excavated appears, from its plan, more like a religious shrine than a building intended for living purposes, though it is remarkable that no cult objects of any sort were found within or near it. It is quite possible that it was one of the religious edifices which were located within the limits of the royal palace.

C.—EXCAVATIONS AT THE DALADAGE.

THE excavations in the Citadel of Anurādhapura were resumed in 1932, after an interval of two years, and were continued in 1933. The work in 1932 was on a small scale as, on an average, only 42 labourers were employed for this work for two months and twenty-eight days. In 1933, an average of fifty-five labourers was employed daily and the work was continued for six months and five days. The work of the field season in 1932 consisted of clearing the remains of the uppermost stratum at the building identified as the Temple of the Tooth; while, in the following year, the continuation of this work and the clearing of the remains of the adjoining building, the Mahāpāļī, were undertaken and carried out.

The identification of the remains near the inscribed slab in the Citadel with those of the Temple of the Tooth has already been dealt with.¹ The Tooth-Relic, when it was first brought to Ceylon in the reign of Srī Meghavarnṇa (circa 362–389), was kept in a shrine named Dhammacakka, built by Devānampiya Tissa within the precincts of the royal palace.² About the history of the shrine, we learn very little from the chronicles, which is very strange when we consider that, in the case of the shrines built for this relic in the later capitals of Ceylon, there are numerous references in the historical writings dealing with those periods. Dhātusena (circa 516–524) is said to have repaired this shrine³ and Aggabodhi I decorated it with brightly gleaming precious stones.⁴ The Temple of the Tooth, along with the Mahāpālī, was burnt by the Chola army which invaded Ceylon in the reign of Udaya IV (III) (circa 942–950) but was rebuilt by Mahinda IV (954–970).⁵

The remains of this building (see Plate I, b) have been cleared, and some excavations near it appear to have been carried out, by Mr. Bell in 1897. In his Annual Report for that year (p. 3) we find the following reference to it:—'Fifty yards east of the canoe must have stood an imposing oblong building, 76 ft. 6 in. by 45 ft., resting on 40 grand monolithic pillars, 15 ft. 6 in. in height by 10 in. square. Five pillars alone remain upright, a few lie about, but most have long since gone to provide "raw material" for the modern road-maker and builder. The building has been rifled to its very base. Here and there portions of a stone ogee plinth were traced by digging, but beyond the fact that the ground plan was recessed in outline, nothing further can be gathered. Perhaps the building served as an Audience Hall, for which its height and spaciousness would admirably fit in. Its very entrances are not traceable'.

The excavations of Mr. Bell, at this site, were not aimed at the clearing of what remains of the structure, and its environs. They seem to have consisted mainly of digging trenches along the exterior lines of the building, and the earth from these diggings had been dumped quite close to the ruin. A pit had also been dug in the centre of the building. Some of the trenches opened at that

¹ See above p. 2.

² Mahāva sa, Chap. 37, vv. 92 ff.

³ Ibid., Chap. 38, v. 70 f.

⁴ Ibid., Chap. 42, v. 33.

⁵ Ibid., Chap. 54, v. 45.

time had subsequently got filled in and parts of the stone basement which were uncovered by Mr. Bell had been reburied. It was therefore necessary to remove this spoil earth to a considerable distance in order to lay bare such parts of the building as are still preserved.

As may be gathered from Mr. Bell's description of the remains of this building as it existed in 1897, even its foundations have been removed. Only at the north-western, south-western, and south-eastern corners are there to be seen a few foundation stones and fragments of an ogee moulding; these are not enough to form an idea even as to the ground plan of the structure, beyond the fact that it was recessed. However, from the tallness of the pillars, and from the general dimensions, one may come to the conclusion that this shrine was one of the most imposing among the edifices of old Anurādhapura. The pillars are rough, and it may be surmised that they were either embedded in clay or brick walls or were given a coating of plaster and paint. Nothing has also been discovered as to the internal arrangements of the ground floor of the building. The roof seems to have been of glazed tiles, for several fragments of these, of various colours, but mostly of blue, were found among the debris in the course of the excavations. The general view of the building, after excavation, is shown in Plate XIII (a).

The continuation of the excavations exposed the remains of a subsidiary building (Plate XIII, b), adjoining the main shrine described above and to the north-west of it. Only one coping slab of the retaining wall of the platform of this second building was visible before excavation. This building measures 51 ft. by 50 ft. on plan; and on the eastern side was a porch, which has almost totally been demolished. The stone revetting of the western and northern sides of the platform has been removed entirely; and of the other two sides also, only portions remain. That of the porch has also disappeared; but a fragment of a plain guard-stone still remains in situ; and marks the site of the entrance to the building. If this structure was once provided with pillars, no remains of these architectural features are to be seen now.

The revetting of the platform is of the plainest type. It consists of a flat dressed slab, used as the foundation, on which is another slab laid upright on its long edges surmounted by a third slab laid flat for the coping.¹ Mr. Hocart is of opinion that this type of stone platform, owing to its simplicity, must have been earlier in date than the more elaborately moulded ones, and he assigns such stone work to about the seventh century. But this building, as will be shown later, belongs to the uppermost stratum at the site, which dates from the ninth or tenth century. In my opinion, the mouldings of the stone revettings of the platforms of ancient buildings at Anuradhapura can hardly be taken as a criterion for the dates of those structures. The old edifices at Anuradhapura were built mostly of perishable materials; only the pillars and the facing of the basement being of stone. When a building decayed, the stone pillars and the facing of the basement would have been available for use and might have been utilized for other buildings at the site. Therefore, the stonework of most of the buildings which we see at Anuradhapura can possibly be much earlier in date than the buildings themselves.

¹ See Ceylon J. Sci., G, Vol. I., p. 5, fig. 1.

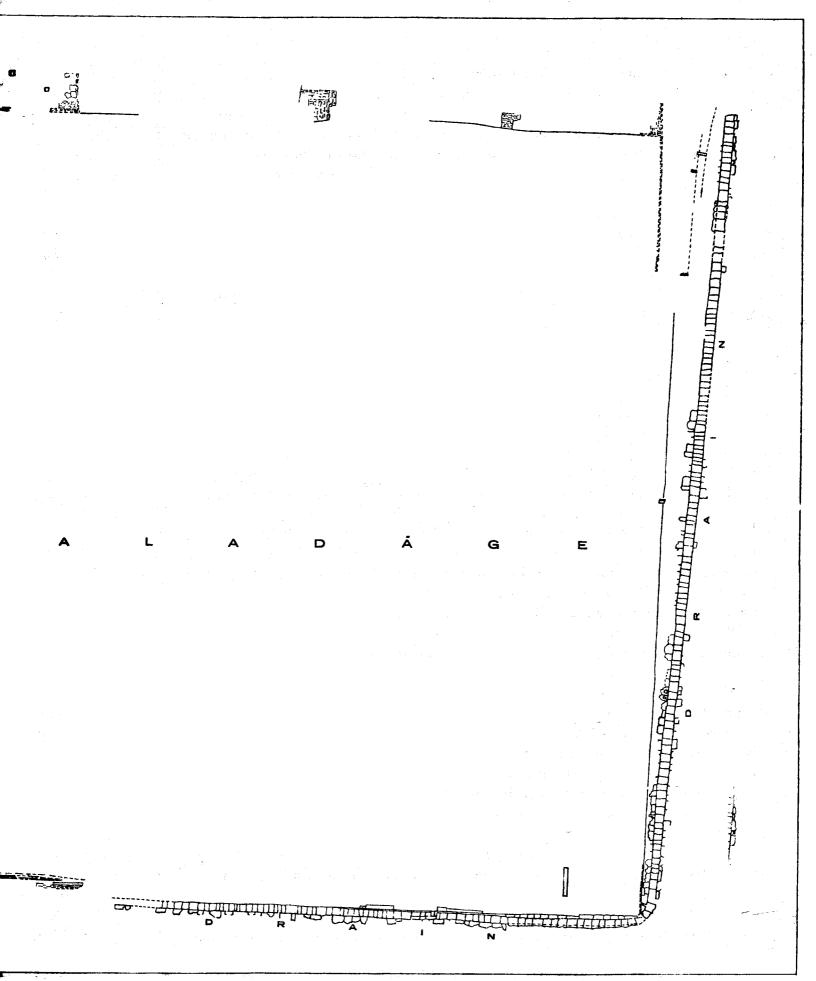
Facing this building, and to the north-east of the main shrine, there seems to have been another structure, for a much weathered moonstone is still in position in a line with the spot where the entrance to the first subsidiary shrine would have been. The usual arrangement of shrines in old Anurādhapura was to have the principal edifice in the centre of a rectangular enclosure with four subsidiary ones at the four corners. This arrangement seems to have been modified at this place to contain only two subsidiary shrines on the side where the main entrance to the enclosure is, *i.e.*, the north. To the south of the main shrine, no traces of any subsidiary structures have been found, and there is also no room inside the enclosure for any such buildings.

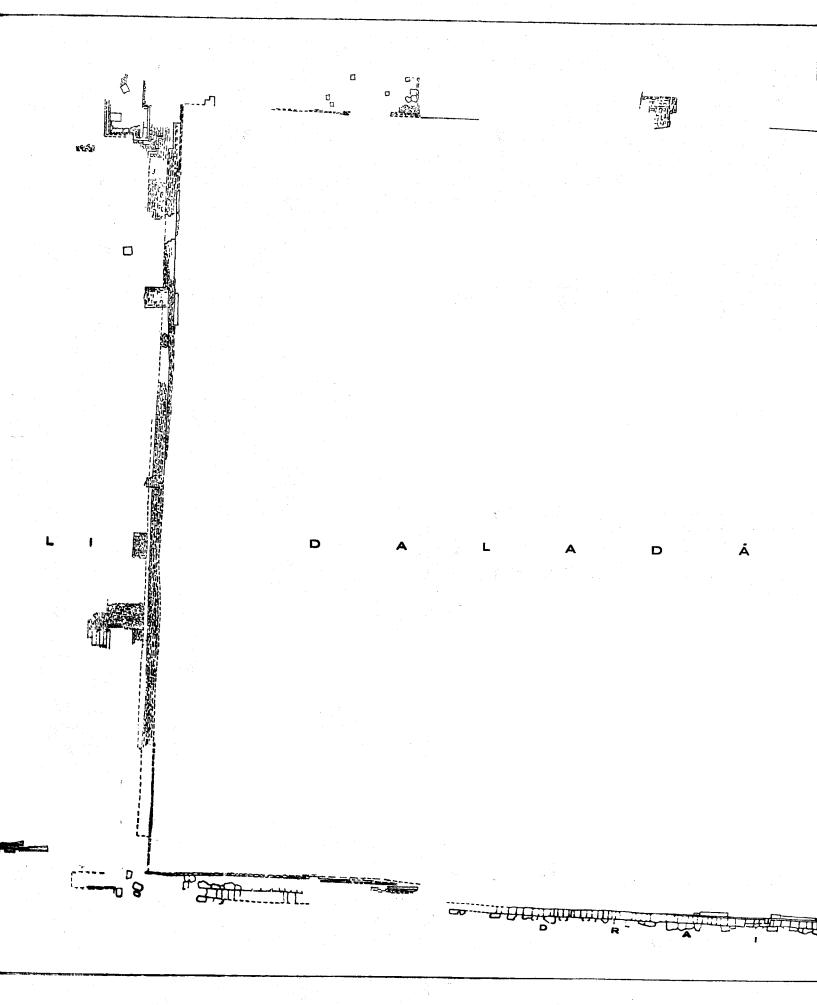
Vestiges of an outer $pr\bar{a}k\bar{a}ra$, which enclosed the whole ensemble of buildings at this place, were found 13 ft. to the west and 26 ft. to the north of the subsidiary shrine mentioned above. The foundation of this $pr\bar{a}k\bar{a}ra$ was built of roughly chiselled oblong slabs of stone, laid vertically on their long edges. Above this, there was brick masonry, which has almost altogether disappeared. As will be noticed in detail in the sequel, this outer $pr\bar{a}k\bar{a}ra$ was built on the remains of the earlier retaining walls of the quadrangle on which the shrine was built.

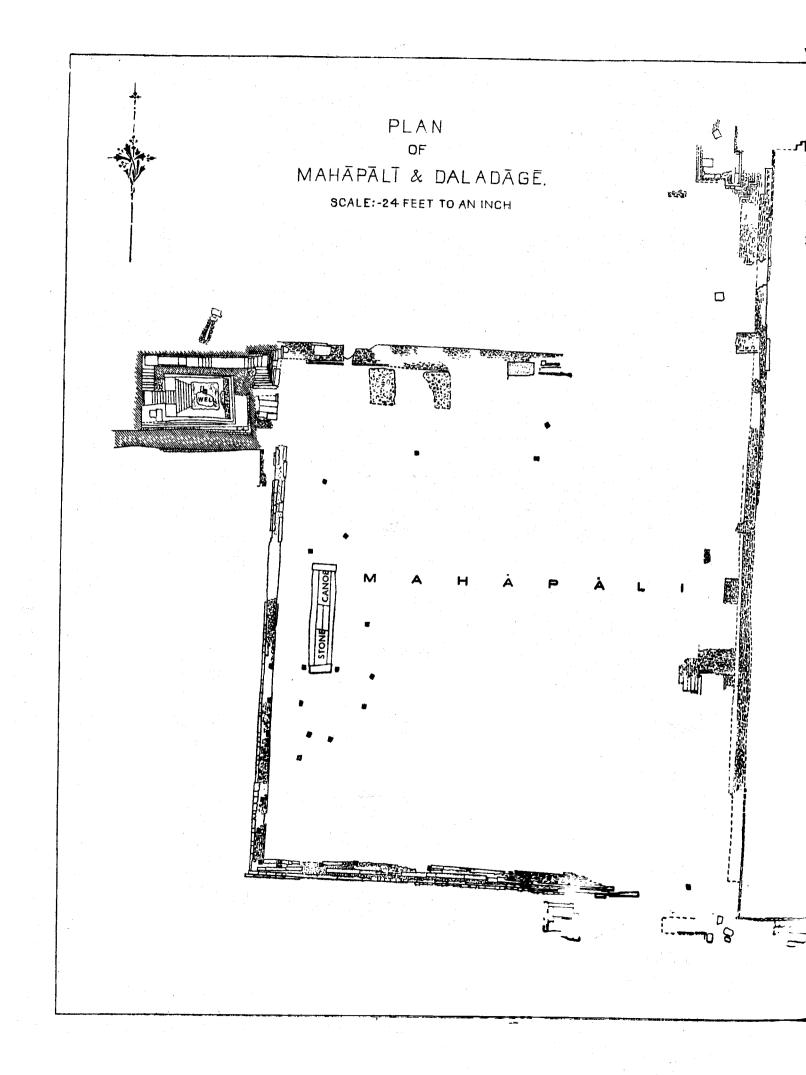
The ruins of a porch (see Plate XIV) were discovered on the northern side of the outer prākāra, close to the inscribed slab by the help of which the building has been identified as the Temple of the Tooth. Only one side of this porch, the western, measuring 11 ft., is more or less completely preserved; and of the northern side, only a portion, 13 ft. in length, now remains. Nothing is preserved of the eastern side. The porch has a revetment of dressed stones, consisting of flat foundation stone, an ovolo, two vertical slabs and moulded coping stones of which not a single slab is now in position. It now stands to a height of 3 ft.1 The western side of this porch is at a distance of 78 ft. from the north-west corner of the enclosure; and, assuming that the eastern side was equidistant from the north-eastern corner, the dimensions of the porch can be restored as 48 ft. by 11 ft. The entrance to the group of shrines must have been through this porch; but of the steps, balustrades, and guardstones, which usually are found at the entrances to buildings in Anuradhapura, not a single member remains in situ. A number of stone treads, smoothed by being trodden upon, and with bevelled edges, were to be seen at this place before excavations started; and it may be surmised that they belonged to the entrance and have been left over when the other parts of the porch were removed. A plain balustrade and the fragment of a guardstone were also found, but not in situ. To the west of this porch, in the outer prākāra, is a stone doorsill with sockets for the wooden doorposts. This is obviously not in its original position as it is unlikely that there was an entrance through the prākāra just near the porch.

In excavating near the remains of the outer $pr\bar{a}k\bar{a}ra$ on the western side, the remains of a retaining wall, built of brick, were discovered below the topmost stratum. Tracing this retaining wall as far as it is preserved, it was found that, in those places where it had fallen down, an earlier retaining wall built of dressed slabs of stone has been covered by it. The stone slabs of this retaining wall,

¹ Without taking into account the coping, 9 in. high, which has been displaced.







on the western side, had almost all fallen down, thereby disclosing at those places where the later brick wall, too, is missing, the earliest of the retaining walls of the quadrangle of the Daladage. This last one was built of rubble laid in lime mortar and was given a thick coating of lime plaster, patches of which are still preserved. A trench was carried along the retaining walls, exposing the remains of the three different periods, so far as it was possible without demolishing what is still preserved This revealed that the quadrangle on which the Daladage was built, measured, without taking into account the projection on the north for the porch, 214 ft. east to west by 200 ft. north to south. The original retaining wall of this quadrangle was, on an average, 4 ft. 8 in. in height, thus showing that the terrace on which this shrine was built was much higher than the level of the surrounding But it appears that, while the level of the terrace remained the same throughout several centuries, that of the surrounding ground rose, for the base of the second retaining wall, built of dressed slabs, is approximately 1 ft. above that of the earlier one. When the brick retaining wall was built on the western side, the ground level here had risen still higher, for its base is 2 ft. above that of the first retaining wall.

The earliest of the three retaining walls, as has been stated, is built of rubble laid in a hard lime mortar and was given a thick coating of lime plaster. The photograph reproduced at Plate XV (a) shows a portion of this wall at the southern end of the western side. It is not clear why it was thought necessary, at a later age, to encase this by building another retaining wall outside; for the original work, in such places as are exposed, is preserved quite well, in fact better than the later work. At certain places the earliest retaining wall is built of rubble up to the level of the terrace, but at other places, the topmost portion is built of bricks, which measure 19 in. in length and $2\frac{1}{2}$ in. in thickness. As all the bricks are laid as stretchers, it is not possible to find out their breadth. According to Parker's table, these measurements would indicate a pre-Christian date for the bricks themselves, but it does not necessarily follow that the retaining wall itself is as old, for the bricks might have come from the ruins of an earlier building.

The second retaining wall is preserved in good condition for about three-fourths of the length along the southern side. Between this and the earlier retaining wall, there is a space 3 ft. 7 in. in breadth which has been filled in with earth. The upper portion of the eastern side and the northern and western sides, almost in their entirety, have come down, and the slabs were found buried in the debris. The stones used in the construction of this retaining wall are roughly dressed pillars and other architectural fragments collected from earlier ruined buildings. The slabs were dry laid on edge; no mortar being used for the joints. This defective method of construction accounts for the demolition of the wall in spite of the fact that it was built of stone. On the southern side, there is a passage through this retaining wall to drain out the water from the surface of the terrace. It is of very simple construction (Plate XV, b), consisting of a slab laid flat with two other slabs on its sides laid on edge.

The third and latest retaining wall, of brick, is found only on the western side; and it has been built when the second retaining wall on this side had already fallen down and the surrounding ground level had risen considerably higher than that on the other sides. The rising of the ground level on this side, out of proportion with that on the other sides, has been due most probably to the existence of another large and important building, namely, the Mahāpālī,—to be noticed in the sequel,—close to the Daladāge. This wall is preserved to a continuous length of 93 ft., and there are portions of it close to the northern end. Its average height is 2 ft. 8 in. The bricks used in its construction measure 1 ft. $2\frac{1}{2}$ in. by $7\frac{1}{4}$ in. by 2 in. The outer ones have bevelled edges calculated to give the basement of the wall an ovolo moulding.

A stone built drain (see Plate XVI, a), of an average depth of 2 ft. 2 in., and of an equal breadth, runs skirting the southern and eastern sides of the Daladage quadrangle. It seems to have been continued from the southern side of the Mahāpālī; but no traces of it have been found there. It is also missing beyond the north-eastern corner of the Daladage quadrangle; but originally it seems to have continued further, and the extension of the excavations might result in its being picked up beyond this. The sides of the drain are built of roughly chiselled blocks of stone, of which there are two courses; and the floor is also paved with smooth slabs of stone. The stones are laid in lime mortar and the sides and the floor seem to have been given a coating of plaster. The south-east corner of the retaining wall of the Daladage quadrangle has been rounded in order to facilitate the flow of water in this drain. Towards the western end of its southern side, the retaining wall of the Daladage quadrangle serves as the side wall of the drain, too; but the drain gradually gets apart from the retaining wall until, at the north-eastern corner, there is a distance of 15 ft. 7 in. between the two. It is apparent that the second retaining wall of the quadrangle was built when this drain was already in existence and its side wall has been partly utilized as the base of the retaining wall. This drain has been exposed up to a length of 429 ft.

At the north-west corner of the Daladāgē quadrangle, were found the remains of a brick-built cistern. One of the sides of this structure abutted on the retaining wall of the quadrangle. It is so much damaged that one cannot be definite about its ground plan or elevation; but the remaining portions show that it was recessed in plan, that the brick facing of its sides was moulded and that it had two or more gangways. The photograph at Plate XVI, b, will give an idea as to the elevation of its sides, so far as they are preserved, and the details of mouldings. The bricks used in the facing of this cistern have sharp edges; perhaps they were rubbed. The joints are extraordinarily fine, and seem to have been effected with some kind of glue. The brick facing was doubtless given a plaster coating originally. The extraordinary care taken in the joints seems to be due to the necessity of making the cistern water-tight. The bricks used in the construction of the lowest tier of the cistern have the following dimensions:— $8\frac{1}{2}$ in. by 7 in. by $1\frac{1}{2}$ in.; 1 ft. 1 in. by 7 in. by $1\frac{1}{2}$ in.; 1 ft. 1 in. by 7 in. by $1\frac{1}{2}$ in. by 7 in. by $1\frac{1}{2}$ in. Above the lowest tier are remains of another, differently moulded, constructed of bricks of smaller

dimensions and of which the joints are not so neatly done as in the lower one. The floor of the cistern seems originally to have been paved with stone slabs; but of these only one remains in situ at present. On the floor can also be seen the remains of a narrow passage through which the water in the cistern was drained out when necessary.

No evidence was found, during the course of the excavation work, to help us in determining the exact age of the different strata below the latest in date. The remains of the uppermost stratum at this place can be dated by the help of the tenth-century slab inscription, near the porch of the quadrangle, which has been noticed earlier. This epigraph dates from the tenth century and when it was set up, the buildings of the uppermost stratum were already existing. We may therefore date these remains in the ninth or tenth century. The enclosing prākāra of the uppermost stratum was built on the ruins of an earlier one, when the surrounding ground level had risen about 2 ft., and we may therefore conjecture that these two are separated from each other by a century at least. The rise in the ground level between the period when the brick wall was constructed and that when the earlier one of dressed stones was built is much greater, and possibly two centuries may have elapsed between these two. On the same grounds. we can also conjecture that the earliest retaining wall, built of rubble, ante-dates the second one by about a couple of centuries. Hence we may assign the earliest stratum unearthed so far at this site to about the fifth or the sixth century A.D. The drain noticed above must have been built at a period between the dates for the first and second retaining walls; and the cistern seems to have been in existence before the second retaining wall was built. We may therefore conjecture that the stratification at this site was somewhat as follows:—

First stratum from above, ninth and tenth centuries. The remains of the pillared structures, the porch, the subsidiary shrine and the inscribed slab.

Second stratum, eighth century. The brick retaining wall on the western side.

Third stratum, seventh and sixth centuries. The retaining wall built of dressed slabs and the stone drain.

Fourth stratum, fifth and fourth centuries. The cistern faced with brick and the retaining wall built of rubble.

The excavations here were disappointing in that they did not furnish us with any fresh evidence to confirm or disprove the hypothesis of the late Mr. Ayrton about the identity of the building. They have, however, revealed the fact that the inscribed slab, on the authority of which the identification was made, stood at the entrance porch to this group of buildings. The inscription, which is much damaged, is concerned with rules and regulations regarding the fields belonging to the royal household and, towards the end, contains a fragmentary sentence which seems to say that certain rules should be written and set up in the Daladāge.¹ It is therefore reasonable to assume that the rules and regulations embodied

¹ Ll. 43-44 of the inscription (E. Z., I, p. 118). Dr. Wickremasinghe's translation of this portion does not bring out this meaning.

⁴⁻⁻⁻J. N. 48241 (8/35)

in this inscription were themselves set up at the Daladāgē and that the reference is to the group of buildings at the entrance to which the slab is placed. This argument is of course not decisive, but other reasons adduced by Mr. Ayrton make the identification plausible and it should stand until more decisive evidence is forthcoming to disprove his hypothesis.

The work of conserving the structural remains uncovered in this area was undertaken immediately after the excavation was over. The brickwork of the latest retaining wall has been pointed and the stonework of the second retaining wall repaired in places where necessary. The old decayed mortar of the earliest retaining wall has been removed and new mortar was added in the joints, thus ensuring the stability of the structure. The patches of old plaster which are still preserved at places on this wall have been edged with cement and strengthened.

Among the finds in the area of the Tooth-Relic temple, particular mention may be made of the following:—

A limestone figure, in the round, of a seated lion (Plate XVII, a) found near the porch. Owing to the fact that limestone disintegrates very fast when exposed to the weather, this sculpture is in a very bad state of preservation. One of the forepaws is missing and, of the other, only a fragment remains. The details of the sculpture are very much worn, but even in its present condition, it shows good modelling and, in its execution, it is much more artistic than most of the lion figures which are so often found among the sculptures of Ceylon.

Close to the porch was found a fragment of a moonstone (Plate XVII, b), also carved out of limestone. Unlike the majority of moonstones found in Ceylon, which contain figures of lions, elephants, horses, and bulls, either all in one row or in several rows, each devoted to one animal, this moonstone contains a single row of horses alone. The horses are shown as if they are racing one another. Though the figures of horses are not anatomically accurate, the drawing is spirited and full of action.

Outside the western retaining wall of the Daladage quadrangle was found, at a depth of 3 feet below the ground level, a fragment of the lower half of a round porcelain box (Plate XVII, d), $2\frac{1}{2}$ in. in diameter at the top, $1\frac{7}{8}$ in. at the base, and $\frac{3}{4}$ in. in height. It is glazed and is of a light green colour both inside and outside, except at the base, round which there is, in low relief, a saw-edge pattern. On the exterior side of the bottom, there is an inscription, in relief, containing four Chinese characters of which one is worn and almost illegible. specimens of this type of chinaware, larger and better preserved than the present one, have been already found at Anuradhapura and are exhibited in the Colombo Museum, but none of these bears inscriptions. Mr. R. L. Hobson, Keeper of Ceramics in the British Museum, to whom a cast of this box, coloured like the original, was sent, has very kindly favoured me with the following exhaustive and interesting note about the object:—'It is the bottom of a box for holding seal-vermilion. It is a well known type. The boxes are as a rule made of a kind of porcelain known as ying ch'ing, which is merely a descriptive title referring to the colour of the glaze. They usually have an inscription giving the name of the

maker's family (or possibly the owner's) with the words ho (box) and dyin (seal) to complete. In this case, the inscription is so blurred that the second and the two last characters cannot be read; but the first is Tuan and the third chia (family) showing that the box was made for, or by, the family of the name of Tuan. A date in the tenth century is quite consistent with our information about other similar boxes.' It may also be mentioned that the date to which the box is assigned by Mr. Hobson, is also the same as that which we can arrive at by a consideration of the stratum in which the object was found. The late Mr. Wong Maw Lam, a Chinese scholar who was studying Pali in Ceylon, and to whom this object was shown, also read the first two symbols in the same manner as Mr. Hobson. He also conjectured that the third symbol reads kung (work) and the fourth shau (hand). The third and fourth symbols can therefore mean "handiwork".

A square copper coin (see Plate XXIV, b), of a type not previously noticed in Ceylon, was found near the remains of the cistern described above, at a depth of 9 ft. from the ground level. This coin is very worn; but on the obverse are symbols representing a caitya and the railed svastika mounted on a staff. The reverse is blank. The coin measures approximately $\frac{15}{16}$ in. each side; but owing to the fact that the sides are wasted, they are not absolutely of equal length. After cleaning, the coin weighs 140 grs. From the evidence of the depth in which it was found, from its shape—the Ceylon coins of mediaeval times being all circular—and from the symbols depicted on it, the coin can be assigned to an early date, probably the early centuries of the Christian era, or even possibly the first century B.C.

A number of small copper coins, too corroded to admit of identification, were also found. Some of these, most probably, are Indo-Roman coins, so commonly found in Ceylon. There was also one coin, of a square type, too corroded to decipher any symbols on it. A Dutch coin dated 1736 was also found, but at a depth of less than a foot from the surface.

Fragments of chinaware and glass objects and potsherds were found, although not in considerable numbers. These, however, are of too fragmentary a nature to be of any use. Some of the more important among other finds are given below:—

Stone Objects.

- 1. Fragment of the figure of a gana, of granite, 43 in. in height, 1 ft. below surface.
- 2. Fragment of the foot of a marble image, $1\frac{1}{2}$ in. in height, 9 ft. below surface.
- 3. Fragment of a sandstone figure, showing one leg with drapery, 5 in. in height, 2 ft. below surface.
 - 4. Fragment of a granite grinder, $2\frac{3}{4}$ in. in length, 7 ft. below surface.
- 5. Three-sided conical object of gneiss, decomposed and now covered with kaolin, $2\frac{1}{8}$ in. in height, with the letter sa of the ninth century Sinhalese script faintly engraved at the base, 2 ft. below surface.
 - 6. Lump of chert, 4 ft. below surface.
- 7. Spherical object of granite, one end flattened, diameter $\frac{5}{8}$ in., probably a weight, 3 ft. below surface.

Iron Objects.

- 1. Two flat circular iron rings, 3 in. in diameter. 3 ft. below surface.
- 2. Iron nails, ranging in length from $3\frac{1}{2}$ in. to $2\frac{1}{4}$ in., 4 ft. below surface.
- 3. A knife-blade, 53 in. in length, 1 ft. below surface.

Copper Objects.

- 1. Fragment of a lid of a copper box, with hole in the centre, $1\frac{3}{4}$ in. in length, 6 ft. below surface.
- 2 Three fragments of thin copper strips, $\frac{5}{16}$ in. in breadth, with traces of gilding, 2 ft. below surface.
 - 3. Two fragments of thin copper sheet with traces of gilding, 2 ft. below surface.
 - 4. Copper ring, \(\frac{3}{4} \) in. in diameter, 2 ft. below surface.
 - 5. Fragment of copper nail, 1 in. in length, 2 ft. below surface.
 - 6. Copper nail, bent, $1\frac{3}{8}$ in. in length, 2 ft. below surface.
 - 7. Small copper nail, $\frac{1}{2}$ in. in length, 2 ft. below surface.
 - 8. Fragment of copper wire, $1\frac{1}{4}$ in. in length, 2 ft. below surface.
 - 9. Brass bell of the type tied to the necks of bulls, $1\frac{1}{2}$ in. in length, surface.

Bone Objects.

- 1. A piece of horn, shaped like a knife-handle, $4\frac{1}{8}$ in. long, $7\frac{1}{2}$ ft. below surface.
- 2. A nail-shaped object of bone, square at one end, and pointed at the other, 2 $\frac{5}{16}$ in. in length, 4 ft. below surface.
 - 3. Fragment of a nail-shaped bone object, 17 in. in length, 2 ft. below surface.

Glass Objects.

- 1. Fragment of a bangle of green glass, with incised spiral cord pattern, and two fragments of dark glass bangles, $1\frac{1}{2}$ ft. below surface.
- 2. Three fragments of glass bangles, two of a dark colour, the other purple, and a fragment of a glass ring $\frac{7}{8}$ in. in diameter, found in spoil earth.
- 3. A diamond shaped pendant of green glass, one side flat, the other with bevelled edges. with hole in the centre, length $\frac{7}{8}$ in., breadth $\frac{9}{16}$ in., 4 ft. below surface.
- 4. A rectangular plano-convex pendant of green glass, length 15 in., breadth 7 in., with hole in the centre, 2 ft. below surface.
 - 5. Fragment of a cylindrical glass object, diameter $\frac{7}{16}$ in., length $\frac{7}{16}$ in., 6 ft. below surface.
- 6. Semi-spherical object of bluish green glass with knob at the head, diameter $\frac{1}{2}$ in., $\frac{7}{16}$ in. in height, 2 ft. below surface.

Crystal Objects.

- 1. Fragment of a rectangular plano-convex crystal pendant, $\frac{7}{8}$ in. in breadth, $\frac{3}{8}$ in. in thickness, 1 ft. below surface.
- 2. An irregularly shaped crystal object, roughly plano-convex, length $1\frac{1}{8}$ in., found in the spoil earth.
- 3. An oval-shaped plano-convex pendant of crystal, with hole in the centre, length 1 $\frac{1}{16}$ in. $1\frac{1}{2}$ ft. below surface.
 - 4. A round crystal object, roughly plano-convex, diameter 1½ in., 2 ft. below surface.
 - 5. Semi-spherical object of crystal, $\frac{1}{2}$ in. in diameter, 2 ft. below surface.
- 6. An irregular shaped bit of crystal, uncut, with numerous shallow holes incised on it, 3 ft. below surface.

Beads.

- 1. Truncated biconical hexagonal faceted bead of crystal, length ½ in., 1 ft. below surface.
- 2. Collared elliptical bead of green glass, length $\frac{3}{8}$ in., $1\frac{1}{2}$ ft. below surface.
- 3. Collared barrel-shaped bead of agate, $\frac{9}{16}$ in. in length, 3 ft. below surface.

- 4. Roughly spherical terra-cotta bead, nearly 1 in. long, 1 ft. below surface.
- 5. Spherical terra-cotta bead, perforated only at the ends, length \(\frac{3}{4} \) in., 3 ft. below surface.
- 3. Roughly spherical crystal bead, $\frac{7}{8}$ in. long, 3 ft. below surface.
- 7. Circular standard bead of white glass, with flat ends, $\frac{3}{16}$ in in length, 3 ft. below surface.
 - 8. Bi-conical bead of terra-cotta, $\frac{5}{8}$ in. in length, 4 ft. below surface.
 - 9. Truncated convex bi-conical bead of reddish clay, $\frac{3}{16}$ in. long, 3 ft. below surface.
 - 10. Spherical bead of shell, $\frac{3}{8}$ in. in length, 4 ft. below surface.
 - 11. Long lenticular bead of amethyst, with collared ends, § in. long, 3 ft. below surface.
 - 12. Barrel-shaped bead of carnelian, $\frac{1}{2}$ in. in length, 8 ft. below surface.
 - 13. Standard circular bead of red coral, $\frac{3}{16}$ in. in length, 1 ft. below surface.
 - 14. An elliptical lenticular bead of agate, $1\frac{1}{2}$ in. in length, 8 ft. below surface.
 - 15. A spherical bead of agate, $\frac{1}{4}$ in. in length, $5\frac{1}{2}$ ft. below surface.
 - 16. A spherical bead of amethyst, $\frac{3}{16}$ in. in length, $6\frac{1}{2}$ ft. below surface.
 - 17. Long circular bead of red clay, collared at one end, $\frac{3}{4}$ in. in length, $5\frac{1}{2}$ ft. below surface.
 - 18. Lenticular bead of agate, unperforated, $\frac{1}{2}$ in. in length, 4 ft. below surface.
 - 19. Cone-shaped bead of greenish glass, ½ in. in length, 2 ft. below surface.
- 20. Long ellipsoid bead of terra-cotta with spiral incisions, $1\frac{1}{8}$ in. in length, 3 ft. below surface.
- 21. Lenticular bead with flattened edges, made of chrysoprase, length $\frac{5}{8}$ in., $1\frac{1}{2}$ ft. below surface.
 - 22. Spherical bead of terra-cotta, ½ in. in length, 2 ft. below surface.
 - 23. Truncated biconical bead of sardonyx, \(\frac{3}{8} \) in. in length.
 - 24. Long faceted bead of crystal, irregularly hexagonal, ½ in. in length.
 - 25. A spheroid bead of agate, $\frac{3}{16}$ in. long, 4 ft. below surface.
- 26. A lot of 73 beads, of various materials, mostly glass, shell and clay, one of agate and one of quartz, of various shapes and sizes, length ranging from $\frac{1}{32}$ in. to $\frac{7}{8}$ in., found embedded in a lump of plaster, along with fragments of steel, and a glass disk, $\frac{3}{4}$ in in diameter, below the foundation of the earliest retaining wall close to the inscribed slab near the porch of the Daļadāgē.

Miscellaneous Objects.

- 1. Fragment of a crude terra-cotta figurine representing a human being, only the hips and parts of the legs being preserved, $1\frac{1}{4}$ in. in length, 4 ft. below surface.
- 2. Terra-cotta object shown in Plate XVII (c), possibly a spindle whorl, length $1\frac{3}{4}$ in., $1\frac{1}{2}$ ft. below surface.
- 3. Cylindrical object, with concave sides, made of dark terra-cotta, length ½ in., possibly a chessman, 5 ft. below surface.
 - 4. Fragment of a ring made of amorphous silica, diameter 1½ in., 1½ ft. below surface.
- 5. An oblong object, $1\frac{3}{16}$ in. long, $\frac{7}{16}$ in. wide, and $\frac{3}{16}$ in. in thickness, of amorphous silication covered with kaolin, 2 ft. below surface.
- 6. An uncut transparent stone, light green in colour, probably quartz, 2 ft. 6 in. below surface.
 - 7. Plano-convex object made of a transparent stone, probably quartz, ½ in. in length.
- 8. Circular plano-convex object of the same material as the preceding one, diameter \(\frac{3}{8} \) in., 2 ft. below surface.
 - 9. Semi-spherical piece of felspar, $\frac{5}{16}$ in. in diameter, 4 ft. below surface.
 - 10. Circular piece of agate from which pieces have been chipped off, 7½ ft. below surface.
 - 11. A hexagonal biconical amethyst pendant, damaged, 13 in. long, 6 in. below surface.
 - 12. Thin leaf-shaped piece of gold foil, 2 ft. below surface.
- 13. Cylindrical object of moonstone, 5 in. long and of equal diameter, 2 ft. 6 in. below surface.

D.—THE MAHĀPĀLĪ.

THE identification of the site of this historic building has already been dealt with. The alms-hall called the Mahāpālī was originally founded by Devānampiya Tissa (circa 247–207 B.C.) who also provided for its maintenance.² This institution seems to have been maintained by Sinhalese sovereigns up to the end of the Anurādhapura period and there are numerous references to it in the chronicles. Khujjanāga (circa 245-247 A.D.) continued alms-giving at this place even when a severe famine was raging in the island and Upatissa II. (circa 426-468 A.D.) distributed food from the royal table at the Mahāpālī, he himself taking no other food than that served at this alms-hall.3 Mahānāma (circa 468-490) is said, in the chronicle, to have enlarged the Mahāpāli and Dhātusena (circa 516-534) also maintained the custom of alms-giving at this institution4. Silākāla (circa 590-603), like Upatissa II., distributed, at the Mahāpāli, delicious meats prepared in the same way as for himself.⁵ Aggabodhi I. (circa 564-597) caused a canoe of bronze to be made at the Mahāpāli and Aggabodhi II. enlarged it and also set up a canoe for the gifts of rice. In the reign of Sanghatissa II. (circa 667), when, owing to civil commotion, even food was scarce in the royal palace, the king was served with meals from the Mahāpāli.8 Silāmeghavanna (circa 672-680) enlarged the Mahāpāli Hall, but one of his successors, Dāthopatissa I. (circa 692-695), gave the canoes in the alms-hall to his Tamil soldiers.10 Kassapa II. (circa 695-703), on ascending the throne after having vanquished his enemies, 'gave a most excellent repast in the Mahāpāli Hall to the community '.11 Dāthopatissa II. (circa 642-651), unlike his earlier namesake, maintained the custom of feeding the monks at this alms-hall and 'he had, besides clothing, rice with sour milk, milk and milk rice' distributed there. 12 Mahinda I. (circa 718-721) gave to it an offering consisting of ten cart-loads (of rice).¹³ Aggabodhi IX. (circa 823-826) enlarged the Mahāpālī Hall and distributed there a quantity of rice equal in weight to his own body.14 Udaya II. (I.) (circa 880-891) also enlarged the Mahāpālī and Mahinda IV. (circa 954-970) restored it after it had been burnt by the Chola army which invaded Ceylon in the reign of his predecessor, Udaya IV. (III.).15 The Chinese pilgrims Fa-hien and Hieun Tsiang both refer to the alms-hall maintained by the Sinhalese kings within the royal palace. 16

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<sup>1</sup> See above p. 2.
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² Mahāvamsa, Chap. 20, vv. 23-24.

³ Ibid., Chap. 36, v. 20, and Chap. 37, vv. 182 and 203.

⁴ Ibid., Chap. 37, v. 211, and Chap. 38, v. 41.

⁵ Ibid., Chap. 41, v. 28.

⁶ Ibid., Chap. 42, v. 33.

⁷ Ibid., Chap. 42, v. 67.

⁸ Ibid., Chap. 44, v. 12.

⁹ Ibid., Chap. 44, v. 65.

¹⁰ *Ibid.*, Chap. 44, v. 134.

^{-- 10}m., Onap. 44, V. 154

¹¹ *Ibid.*, Chap. 45, v. 1.

¹² Ibid., Chap. 45, v. 25.

¹³ Ibid., Chap. 48, v. 34.

¹⁴ Ibid., Chap. 49, v. 78.

¹⁵ Ibid., Chap. 51, v. 132 and Chap. 54, v. 45.

¹⁶ Samuel Beal, Buddhist Records of the Western World, Vol. I, p. lxxiv f, and Vol. II, p. 250.

The most conspicuous object at the site of the Mahāpālī is one of those large stone troughs (see Plate III, a), several examples of which are to be seen at Anurādhapura and Mihintalē. Popularly, these troughs are known as kända-oru 'gruel-boats'; and the vulgar belief is that they were used as receptacles for gruel for feeding the giants who cut and removed the large stone slabs utilized in the buildings of ancient Anuradhapura. Fantastic as this belief is, the real purpose of these stone troughs was something very similar. The Mahāvamsa contains a reference to the boats $(n\bar{a}v\bar{a}yo)^1$ at the Mahāpālī, and in one place in the chronicle, it is mentioned that there was a bhatta-nāvā2 'food-boat' at that alms-hall. The inscription on the trough itself refers to it as a gal-nava 'stoneboat'. As this trough and the similar ones at Mihintalē and Anurādhapura are found in buildings which can be identified as alms-halls for the monks, it is clear that they were used as receptacles for boiled rice intended for feeding the monks. From the size and the number of these 'boats' we can form an idea as to the vast quantity of rice necessary for feeding the inmates of the monasteries. The large figures given in the chronicles and in the accounts of the Chinese pilgrims for the monk population of ancient Anuradhapura do not therefore seem at all exaggerated. On the stone trough are three inscriptions of the tenth century which have already been referred to.3

Mr. Bell, in 1897, did some slight excavation work round this stone trough, which was then partially buried. The account of the work given by him in the report for that year is as follows:—'The ground round this kenda-oruva ("Canji boat") was removed, and all the vegetation cleared. Its north end slab bears a short inscription of the tenth century. The "stone canoe" lies about 200 yards down the track and 50 yards to the right. It is put together with four upright slabs, pitched slightly outwards, the sides huge single stones, 23 ft. 10 in. in length, the ends 5 ft. 3 in., the bottom being formed of four slabs, of which the centre two are half the width of the others. Unlike the large "canoe" on the Outer Circular and the smaller broken one near the Abhayagiri, which are slightly concave, this has straight sides. The entire "canoe" gives an outside measurement of 27 ft. 6 in. by 5 ft. 3 in. and inside of 23 ft. 10 in. by 3 ft. 6 in. by 3 ft. 3 in. in depth. It lies lengthways, N. and S. Two broken pillar stumps flank the north-west and south-east corners, and others may be seen a few yards south.'4

The excavations at this site, carried out by Mr. Bell in 1897, were not extensive enough to have exposed the ground plan of the building inside which the stone trough was placed. When the clearing of the site was undertaken by the writer in April, 1933, the only indications of any buildings were a few stumps of roughly dressed stone pillars to the west and south of the trough (see Plate XVIII, a). No remains of walls or foundations were traceable anywhere. Excavations, which were started towards the end of April, 1933, and continued for about four months, resulted in the unearthing of what is left of the foundations

¹ Mahāvamsa, Chap. 44, v. 134.

² Ibid., Chap. 42, v. 67.

See above p. 2.

⁴ A. S. C. Annual Report for 1897, p. 3.

of the building belonging to the latest stratum at this site, the remains of earlier structures at lower levels on the northern and eastern sides, and a remarkable well at the north-western corner of the Mahāpālī.

Like the neighbouring Daladāgē, the Mahāpālī has been used as a quarry for building materials after it had fallen into decay, and its very foundations have been removed on two sides, i.e., on the north and the east. On the other two sides, however, the foundations of walls can be traced almost completely (see Plate XVIII, b). On the western side, the foundations are built of roughly cut oblong slabs of stone, placed vertically inside and outside, the space between the stones being filled with rubble. On the southern side, in addition to this crude work, there is a facing of well cut stone slabs. It may be possible that, on the western side also, the foundation had this facing but that the stone slabs have been removed later. On the other hand, it may also be conjectured that it was only on the southern side that this facing was added. In either case, we can be definite that this facing of well-cut slabs was later in date than the crude stone work which it encased. Either as it was originally constructed, or with the facing added later, the basement was not moulded, as is the case in almost all the buildings at Anurādhapura. A row of narrow stone slabs has been placed flat on the ground for the foundation, and from this, the wall rises vertically. average height of about $2\frac{1}{2}$ feet, the walls are constructed of stone, and above this, of brickwork. The bricks used are mainly fragments collected from earlier ruined buildings and are laid in lime mortar. The brickwork of the walls has entirely disappeared but for a few vestiges here and there. The stone-work and the brickwork were both originally given a coating of lime plaster, of which patches have been preserved at places. When compared with the remains of other buildings to be seen at Anuradhapura, the methods of construction employed here are rather crude and purely utilitarian, very little or no attempt having been made to impart any artistic beauty to the structure. The foundations of the wall on the western side have been preserved to a length of 97 ft. and the southern side now measures 107 ft.; but neither side is completely preserved. Thus we are unable to be definite regarding the dimensions of the building. the northern side, however, the landing slab at the entrance to the building is preserved apparently in situ. Assuming that the entrance was equidistant from the two corners of this side of the building, as is usual in other structures of ancient Anurādhapura, we may conjecture that the Mahāpālī measured 128 ft. north to south and 120 ft. east to west. Stumps of 33 pillars are still to be seen; but they do not enable us to form any idea about the total number of pillars in this hall and the way they were arranged. No remains of walls dividing the interior space of the building into apartments have been found and it is probable that, as in other ruined alms-halls to be seen at Anuradhapura, the ground floor was nothing more than an open hall. We cannot also be certain as to whether there was an upper storey. In other buildings of this type, for instance in the alms-hall near the Post Office at Anuradhapura, and in the one at Mihintale, the centre

¹ See A.S.C. A.R. for 1902, p. 2; 1910-11, p. 22.

of the ground floor of the building is occupied by a rectangular area paved with stone on a lower level than the rest of the floor, the sides also being retained by stone slabs. It is round this that the pillared halls are arranged on the four sides. At the Mahāpalī, however, no evidence has been found of such an arrangement, though it is quite possible that such a rectangular paved area originally existed, but that all traces of it have now been destroyed by the removal of the stones.

On the southern side, close to the south-eastern corner of the building, there is a passage through the stone-work of the retaining wall of the platform, for draining the water out from inside the building. The water was carried along a stone-built drain, $4\frac{1}{2}$ ft. in length, to a rectangular sump, 8 ft. square, paved with stone slabs and with low side walls of stone, 1 ft. 3 in. in height (see Plate XIX, a). The slabs of the walls have cuts at the top, as if meant for fitting some sort of wood-work. There was possibly a wooden covering fixed to the stone slabs, so that the drainage water when collected in the sump would not be exposed to view. There is no outlet, and it is possible that the drainage water collected in the sump was periodically emptied by human labour, when it was full.

It seems probable that the building, of the remains of which an account has been given, is contemporary with the stone trough which, as is proved by the inscriptions on it, dates from the tenth century. This is also confirmed by the style of the building. As it has been constructed of material collected from earlier buildings, it must have been built towards the end of the Anurādhapura period. The use of lime mortar in brickwork also came into vogue towards the end of this period.

Owing to the fact that the remains of the northern and eastern walls of this building have disappeared, we were enabled to dig deeper in these areas and to expose fragments of structures belonging to earlier ages (Plate XIX, b). Digging was also done below the topmost stratum along portions of the western wall. From these it became evident that the foundations of the tenth century Mahāpāli were laid on the ruins, and following the lines, of earlier buildings. foundations have been completely of brick; but as the materials have been taken for later structures, only some portions here and there are preserved. On the northern side, remains of earlier foundations have been traced to a length of The earlier walls seem to have been of extraordinary thickness—about 5 ft. 2 in.—and bricks of a large size have been used in their construction. length varies from 17 in. to 20 in., the breadth from $8\frac{1}{4}$ in. to 10 in., and the thickness from $2\frac{3}{4}$ in. to 3 in. No lime mortar has been used in the earlier work and no attention has been paid to regular bonding. The bricks used are generally complete ones, with fragments in some places. According to Parker's table of the measurements of ancient Ceylon bricks, these dimensions indicate a pre-Christian date; but as Parker's tables are not absolutely reliable and as there is the possibility of bricks from an earlier building having been used, it is not safe to assign these remains to such an early date. The tenth century foundations are separated from these remains by a layer of debris varying in thickness from 5-J. N. 48241 (8/35)

1 to 2 ft., and it is improbable that, if the lower stratum dates from such an early time, the difference in level between that and the tenth century stratum would have been so small.

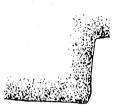
On the top of the earlier brickwork, and close to the north-western corner of the building, there is a stone slab, in position, about 2 ft. below the floor level of the tenth century building. This stone is very much like the landing slabs placed at the entrance to buildings at Anurādhapura, and it may be conjectured that the earlier building had an entrance at this place. In the northern section of the building, and at a depth of $3\frac{1}{2}$ ft. below the tenth century floor level, the remains of a concrete flooring were found. At the same place also we came across a lump of hard lime plaster.

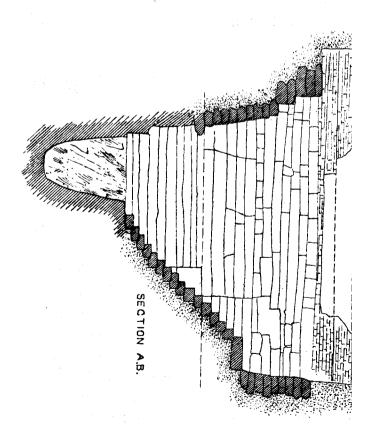
On the eastern side of the Mahāpālī, and abutting the western retaining wall of the Daladāgē quadrangle, were found the remains of a flight of stone steps and some brick walls, at a depth of 4 ft. below the floor level of the tenth century (see Plate XX, a). The remains seem to be those of a rectangular cistern. The bricks are neatly joined together with a very thin layer of mortar, so as to make the walls water-proof. But the fragmentary nature of the remains does not permit us to ascertain any further details of this structure. Considering the level of the topmost riser of the flight of steps, it seems that this cistern was contemporaneous with the remains of walls of the lower stratum on the northern side.

Outside the north-western corner of the Mahāpālī, and abutting its western wall, we came across a well, the like of which has not been found at any other ancient site in Ceylon (see Plate XXI). This was so completely filled in and buried in the debris that, before the excavations started, there was no indication whatever of its existence. The first sign of it that we came across was a flight of stone steps, 4 ft. in breadth at the top, leading downwards from the place where the outer wall of the Mahāpāli should have been. Excavating along this we came across a narrow passage paved with stone flags and with side walls built, partly of stone and partly of brick, at a depth of 8 ft. below the floor level of the At this stage of the progress of the work (Plate XX, b) it appeared Mahāpāli. like an underground passage or a tunnel of which the roof had fallen down and it could not have been guessed, by any stretch of the imagination, that what we were excavating was, in reality, a passage leading to a well, particularly in view of the fact that no wells of this type had previously been noticed. The passage, however, ended at a distance of 25 ft. 5 in. from the foot of the flight of steps, and from this point another flight of stone steps, leading still further down, facing southwards, raised doubts as to the original conjecture. The extension of the excavation to the south revealed the fact that what we were excavating was nothing more than an ancient well of a unique design. The work was continued till we arrived at the very bottom of the well, which was at a depth of 26 ft. 7 in. from the tenth century floor level, and 35 ft. from the modern ground level.

At the top, the well measures 33 ft. east to west by 23 ft. north to south; but, as the side walls are built with a batter inwards and on account of the flights







of steps, passages, and platforms to be noticed later, these dimensions are greatly reduced as one descends lower and lower. At the usual water level the dimensions are reduced to 14 ft. by 10 ft.

What distinguishes this from the numerous other ancient wells found at Anurādhapura, are the flights of steps, passages, and platforms, constructed along its eastern, northern, and western sides, which enable one to descend with ease and safety right down to the very bottom. Between the eastern side of the well and the outer wall of the Mahāpāļī, an area roughly 6 ft. square has been paved with slabs of stone and from this a flight of eight stone steps runs down along the eastern side wall of the well and ends at a landing at the corner formed by the eastern and northern walls. From this landing there are four more steps, facing westwards, along the northern wall, which terminate at a narrow passage abutting the northern wall. This passage, which is 8 ft. below the topmost step, runs for a distance of 8 ft. 8 in. when four more steps have to be descended before the passage is continued, 1 ft. 10 in. below the level of the eastern half, up to the corner formed by the northern and western walls. Both sections of this passage, which is 2 ft. 7 in. in width, were paved with slabs of well-dressed stone, but the pavement has been demolished of that section which is on a higher level. On the left, as one descends, is a low wall built partly of brick and partly of stone as a continuation of the side wall, in order to make the passage quite safe. right is the retaining wall holding the side of the well. From the end of the passage, another flight of steps, descending along the western retaining wall, ends at a landing, to the south of which, at the south-west corner of the well, is a platform 5 ft. by 4 ft. $4\frac{1}{2}$ in. and 3 ft. $2\frac{1}{2}$ in. in height, probably intended for keeping water-pots.

From the last named landing, which is close to the water-level, the stone steps leave the side walls and descend into the water, facing eastwards, thus gradually reducing its internal dimensions. At a depth of 3 ft. from the second landing, there are two other stone platforms, measuring 2 ft. 7 in. by 3 ft. 5 in. and 2 ft. 10 in. by 3 ft. $3\frac{1}{2}$ in., respectively, between which the flight of steps is taken and which still further diminishes the internal area. From the lower of the two landings mentioned above, there are altogether six stone steps, the last of which is placed on the live rock, through which, from this point, the well has been bored. Narrower steps, in fact not more than mere footholds, are incised on the rock at this lowest portion of the well, enabling one to descend right down to the bottom. Of the entire depth of the well, a height of 7 ft. from the bottom consists of the boring through the rock. Above this, to a height of 16 ft., the sides are built of roughly dressed slabs of stone, and the topmost portions of the sides are retained by brickwork which is continued above the ground level so as to form an enclosure on all the four sides (see Plate XXII, a).

At a depth of 5 ft. from the topmost step was found a brick-built drain leading out of the well on its northern side (see Plate XXII, b). This drain must have been in existence long before the flight of steps and passage, which are now to be seen, were constructed; and as the difference in level between the drain and the topmost step, which was the surface level in the tenth century, is as much

as 5 ft., several centuries must have passed from the date of this drain to that in which the well was made in the manner in which it now is. Other evidence was also found to show that the design of the well has been materially altered since it was first built. Below the pavement noticed above, were found several stones, which are now covered, suggesting that the flight of steps leading down originally started somewhat more to the south than it does now. Below the narrow paved passage at the end of the second flight of steps, evidence was found that this did not stop here originally as it does now, but was continued further down. Likewise, the retaining wall to the right of the passage goes much lower than the pavement, for which there was no necessity if originally this paved passage was there. Thus it is evident that the well must have undergone repairs on more than one occasion, when the original design was considerably altered.

A stone slab, containing a much weathered inscription of about the sixth century, found in the filling of the well at a depth of 10 ft. from the surface, seems to throw some light on the date of the original construction of this well. The record in question is too much weathered to make out what its purport was; but, in one place, I believe, I have succeeded in deciphering a phrase which, when rendered into English, reads 'having caused a well to be dug'. This would make us assign a date in the sixth century for the digging of the well. The present features date undoubtedly from the tenth century, after which no building work seems to have been undertaken at this site. It might also be mentioned that, whilst the well was being cleared, some fragments of a decayed human skull were found near the uppermost platform mentioned above.

A trench, 90 ft. in length and $13\frac{1}{2}$ ft. in breadth, was opened to a depth of 7 ft. from the western side of the well towards the west. No structures were found in this area except the remains of a foundation at the extreme west end of the trench at a depth of 7 ft.

The conservation of the remains at this site was also undertaken immediately after the excavation was over. The remains of brick foundations exposed in the area of the Mahāpālī were pointed. The side walls of the well, built partly of brick, were, when exposed, in a very precarious condition. There were numerous gaps here and there, and the old mortar was in a decayed condition. The gaps were filled with new additions and the joints of the brickwork were strengthened by new mortar. The flights of steps and the pavement of the passage were repaired where necessary. The side walls built of stone were also strengthened. The wall on the southern side has cracked and is thrust forward. Its stability has been ensured by a steel girder.

Among the minor antiquities found at the site, the most interesting is a small flat piece of crystal, oval in shape, $\frac{5}{8}$ in. in length, less than $\frac{1}{16}$ in. in thickness, with the edges bevelled and containing a female figure carved in intaglio (see Plate XXIII, a & b). Most probably, this crystal was a seal and was set in a signet ring. The female figure is depicted as standing in a very graceful attitude,—in the pose called *tribhanga* in Indian iconography. Owing to its very minute size, some of the details of the figure have not been shown, possibly because

it was impossible to carve them on so small a scale. For instance, the features of the face—the eyes, nose, ears, and mouth—are not delineated. On the other hand, the fingers of the two hands and the toes of the feet are shown, but quite out of proportion with the rest of the figure. Above the waist, the figure is nude, well developed breasts being shown in an exaggerated form as is common in the portrayal of women in Indian art. The folds of the drapery are shown in a flowing manner. The head-dress is extraordinary. It consists of a coiffure, flattened at the top, with three hood-like projections above, and a tassel hanging below in front. One of the arms is bent downwards and is resting on the hip while the other is bent upwards, the hand holding an object, which appears to be a flower, close to the face. In this particular, the figure bears a remarkable resemblance to the females depicted in the paintings at Sīgiriya.

This seal, as we may call it, was found in the filling of the well at a depth of 4 ft. 6 in, from the surface. But the level in which it was found is no indication of its date, for a small object like this can easily be washed away or otherwise removed and can be found in a stratum either much earlier or later than that to which it should belong. In determining its date, we should therefore be guided mainly by considerations of its style. Sir John Marshall, the late Director-General of Archæology in India, to whom a photograph of the seal was sent, has very kindly favoured me with his opinion that 'it appears to be a very decadent imitation of the Graeco-Roman or Graeco-Persian seals which found their way to the north-west of India in the early centuries of the Christian era'. He is also of opinion that the probable date of the seal should be the fourth or fifth century A.D.¹ The art shown in the representation of the female figure on the seal may not be of a very high class, but the carving, on such a minute scale and also with such sure and firm lines, bespeaks a high degree of skill in the lapidary who executed it. We have no means of judging whether this seal was produced in the island, or whether it was imported from outside.

Among coins found at the site, mention may be made of a large die-struck circular copper piece of the 'elephant and svastika' type (see Plate XXIV, c). described in detail in Mr. H. W. Codrington's Ceylon Coins and Currency, p. 20, and illustrated at plates 7-9. This coin contains the various symbols on the obverse as well as on the reverse, in the order in which they appear in normal coins of this type as given by Mr. Codrington. The coin is considerably worn, its diameter is 1.25 in. and weight 164 grs. It was found at a depth of 7 inches from the surface and must be dating from a very early period. Coins of this type have been previously found in considerable numbers at Anuradhapura, over fifty having come from a site to the E. N. E. of 'Abhayagiri' Dāgāba. A badly worn and considerably damaged oblong copper plaque, containing, on the obverse, the figure of a goddess and, on the reverse, a railed svastika of the type described in Codrington, op. cit., p. 27, was also among the finds (see Plate XXIV, d). These plaques, of which numerous examples have been found elsewhere in Ceylon, are generally considered to have been used as coins. Another circular copper coin, .87 in. in diameter

¹ Letter dated 22nd January, 1934.

and $147\frac{1}{2}$ grs. in weight, appears to contain the figure of an elephant on the obverse and a three-celled caitya on the reverse (see Plate XXIV, e). This coin is badly worn and one cannot be certain whether there were any other symbols in addition to these two. It appears, however, to be different in type from the coin above described and no examples resembling it have been described in the standard work of Mr. Codrington. A few specimens of Indo-Roman copper pieces were also found; but these were too worn to admit of identification. A Dutch copper coin of 1734 was picked up but less than a foot below the surface.

Potsherds were found in considerable numbers; but were of so fragmentary a nature that no accurate idea was possible as to the form and size of the vessels to which they belonged. As at the site near the Gedige, there was no marked difference in the nature of the potsherds coming from various levels. that the ground here had been disturbed repeatedly, in which process the small potsherds might have been mixed together in the various levels, must perhaps account for this fact. Two potsherds containing Brāhmī letters (Plate XXIII, d) of pre-Christian date were found at a depth of 6 ft. from the surface, a stratum which on other grounds cannot be taken as dating from such an early date. Similar potsherds with Brāhmi letters have been found in the site near the Gedigē. All these potsherds with Brāhmī writing seem to have belonged to circular platter-shaped vessels with a vertical rim, about 1½ in. in height. writing is invariably on the rim and has been incised with a sharp pointed instrument after the vessel had been burnt. The inside of the vessel is invariably black while the outside is glossy and red. The two fragments now under notice enable us to restore the diameter of the platter as 1 ft. 2 in. and the circumference as 3 ft. 8 in. One of the potsherds contains letters which give the reading bi Upatiśaya, which may be completed as Abi Upatiśaya 'of Abi Upatiśa'. The genitive case termination in ya suggests that the name is in the feminine gender, with which the title or epithet Abi is in agreement, for this is found prefixed to the names of princesses in pre-Christian Brāhmī inscriptions.2 It may, therefore, be conjectured that the platter, of which we have a fragment here, belonged to a lady named Abi Upatissā who lived some time in the second or first century The other piece contains only two letters which can be read as Yet another fragment of the same type contains a square divided pata 'vessel'. into four equal parts, also squares, by two lines at right angles to each other. This symbol is found in the inscriptions to represent the kahāpaṇa coin. difficult to give a reason for the fact that Brāhmi letters are found incised only on this type of ceramics. Perhaps these platters were used as eating vessels and the letters, the purpose of which, as we have noticed, is to indicate ownership. were intended to prevent the use of a vessel belonging to one person by another. It is a well-known fact that in India, as it was also in Ceylon in olden days, people are very particular to keep the vessels in which they take their food from being used by others.

¹ See above p. 12.

See Parker, Ancient Ceylon, p. 420.

The following are other specimens of pottery and terra-cotta objects of any note found at this site:—

- 1. A cup-shaped earthen vessel, of which part is missing, $4\frac{1}{2}$ in. in diameter at the mouth, $2\frac{1}{4}$ in. in diameter at the base, and $2\frac{1}{8}$ in. in height, found 1 ft. below the surface.
- 2. Fragment of pedestalled cup, which must have originally been $5\frac{1}{2}$ ft. in diameter at the nouth, and is 3 ft. in height, 4 ft. below the surface.
- 3. Fragment of a flat-bottomed cup, 6 in. in diameter, $2\frac{3}{4}$ in. in height, 3 ft. below surface (Plate XXIII, c).
 - 4. Fragment of an ornamental terra-cotta lamp, 2 ft. below surface.
- 5. The lower fragment of a narrow-bottomed vessel of clay with thick walls and a whitish glaze on the exterior, 5 ft. below surface.
 - 6. Fragment of a small broad-mouthed vessel, $3\frac{3}{4}$ in. in height, 1 ft. below surface.
- 7. Fragment of a small vessel of terra-cotta with traces of gilding on the outside, 3½ ft. below surface.
 - 8. Cone-shaped object of terra-cotta, 2½ in. in height, 4 ft. below surface.
 - 9. Terra-cotta object shaped like a chess-man, 11 in. in height, 2 ft. below surface.
- 10. A small drum-shaped object of terra-cotta, with slightly concave sides, diameter $\frac{3}{4}$ in., length $\frac{3}{4}$ in.
 - 11. Thick disc-shaped object of terra-cotta, diameter 1 in., thickness \frac{1}{2} in.
- 12. Fragment of a terra-cotta lamp-stand, bottom portion, diameter at base 3½ in., 1 ft. below surface.
 - 13. Terra-cotta object, truncated cone with concave sides, height \(\frac{7}{8} \) in., 2 ft. below surface.
- 14. Roughly hemi-spherical object of terra-cotta, $\frac{7}{8}$ in. in diameter, containing a symbol resembling the mediæval Sinhalese letter ga incised on the flat side, 5 ft. below surface.
- 15. Terra-cotta object, $1\frac{1}{2}$ in. in length, shaped like a spheroid, with a deep groove, $\frac{1}{2}$ in. wide and $\frac{1}{2}$ in. in depth, round the centre of its axis. Possibly a spindle whorl, depth $5\frac{1}{2}$ ft.

Very small fragments of chinaware of various patterns, fragments of glazed tiles similar to those noticed at the site near the Gedige, and discs of various sizes, formed of potsherds, noticed before, have also been found in considerable numbers.

A classified list of other finds considered to be of interest is given below:—

METAL OBJECTS.

Gold.

Tiny fragment of gold foil bent and twisted, 6 ft. below surface.

Copper.

- 1. A flat copper rod, 1 ft. $1\frac{3}{4}$ in. in length, $\frac{3}{8}$ in. in breadth, and $\frac{1}{8}$ in. in thickness, with rounded ends. One side of the rod is flat. On the other side, towards the edge it is convex, whilst the rest is having the edges bevelled but for four spaces each about $\frac{3}{4}$ in. in length, the middle two of which contain in each two five-petalled flowers with dots between the petals. The flat spaces close to the two ends contain one flower each between straight lines, three on the outer sides and two on the inner. No idea can be formed as to what purpose this copper rod served (see Plate XXIV, f).
- 2. Half-round copper sheet, with rounded ends, 5 in. in length, $\frac{1}{4}$ in. in breadth, $4\frac{1}{2}$ ft. below surface.
 - 3. Four small fragments of a small copper vessel, 3 ft. below surface.
- 4. Small bronze or copper bell, of the type used in tying in strings round the necks of bulls, longish in shape, with a ring at one end, length 1 in., diameter at mouth $\frac{3}{8}$ in., 1 ft. below surface.
- 5. Bronze or copper bell of the same variety as above, but shaped like a fish, length 11 in., 9 in. below surface.

- 6. Copper nail, head on one side only, length 1 1/16 in.
- 7. Copper nail, head slightly projecting out, 1 in. long, 3 ft. below surface.
- 8. Copper nail, with very prominent head, length 1½ in., 5 ft. below surface.
- 9. A small copper ring, $\frac{9}{16}$ in. in diameter, $7\frac{1}{2}$ ft. below surface.
- 10. Worn and much corroded fragment of an oblong copper plaque, 7 ft. below surface.
- 11. Fragment of a copper plaque, as above, 2 ft. below surface.

Iron and Steel.

- 1. A steel or iron katty blade, 6 in. in length, 17 in. at the broadest point, 3 ft. below surface.
- 2. A knife blade of steel or iron, 33 in. long, 1 ft. below surface.
- 3. Large iron nail, $6\frac{3}{4}$ in. in length, 1 ft. below surface.
- 4. Iron nail, headless, 5 in. long, 2 ft. below surface.
- 5. Iron nail, 2½ in. long, 2 ft. below surface.
- 6. Iron nail, 3½ in. long, 6 ft. below surface.
- 7. Three iron nails, length $2\frac{1}{4}$ in. to $2\frac{3}{4}$ in., 4 ft. below surface.
- 8. Iron nail, 27 in. long, 4 ft. below surface.
- 9. Two iron nails, $3\frac{1}{8}$ in. and $2\frac{3}{4}$ in. respectively, 1 ft. below surface.
- 10. Cylindrical piece of iron, probably a fitting, bent, 4½ in. long, 7 ft. below surface.
- 11. Iron horse-shoe, 2\frac{3}{4} in. in diameter, 1 ft. 6 in. below surface.

Glass Objects.

- 1. Glass ring, greenish in colour, diameter 5 in., 61 ft. below surface.
- 2. Fragment of a glass ring, dark blue in colour, 3 ft. below surface.
- 3. Half of a small glass bangle, light green in colour, 4 ft. below surface.
- 4. Fragment of a glass bangle, ornamented with a pattern in yellow, 5 ft. below surface.

Ivory, Bone and Shell Objects.

- 1. Fragment of an ivory pin with rounded head, measuring 1½ in. in length, 4 ft. below surface.
- 2. An oblong piece of smoothly cut ivory, $\frac{1}{2}$ in. by $\frac{7}{16}$ in. by 2 in. in length, 2 ft. below surface.
- 3. Fragment of a handle, roughly shaped, probably of bone, hardened by being impregnated with minerals.
- 4. A globular object of bone, about 1 in. in diameter with four linear incisions round the broadest part of the circumference and a large hole running through the axis. Probably a large bead, 2 ft. below surface.
- 5. Fragment of an object made of shell ornamented with an incised pattern of crossed diagonal lines between two horizontal lines, 1 ft. below surface.

Sea-shells of marine snails and cowries, and animal bones, of sambhur, boar, and tortoise, were also found.

Beads.

- 1. Double pentagon bead of carnelian, 1 in. in length, 2 ft. below surface.
- 2. Lenticular bead of crystal, 3½ in. in length, 2 ft. below surface.
- 3. Circular short bead of yellowish clay or paste, length \(\frac{3}{16} \) in., 2 ft. below surface.
- 4. Cornerless cube collared bead of crystal, 5 in. in length, 3 ft. below surface.
- 5. Lenticular bead of crystal, $\frac{7}{16}$ in. in length, 4 ft. below surface.
- 6. Lenticular bead of crystal, § in. in length, 3 ft. below surface.
- 7. Long barrel-shaped bead of crystal with two flattened sides, § in. in length, 2 ft. below surface.
 - 8. Long ellipsoid bead of crystal, $\frac{1}{2}$ in. in length, $7\frac{1}{2}$ ft. below surface.
- 9. Square faceted bead of blue spinel, with one end rounded, length $\frac{3}{10}$ in., 8 ft. below surface.
 - 10. Disc bead of red clay or paste, \(\frac{3}{3} \) in. in diameter, $2\frac{1}{2}$ ft. below surface.

- 11. Barrel-shape a bead of amethyst, unperforated, ½ in. in length, 3 ft. below surface.
- 12. Long ellipsoid bead of chrysoprase, $\frac{1}{2}$ in. long, 3 ft. below surface.
 - 13. Short circular bead of green glass, $\frac{1}{8}$ in. in length, 3 ft. below surface.
- 14. Irregular pentagonal faceted bead of crystal, truncated bicone in shape, 7 in. in length, found in the drain near the well.
 - 15. Pear-shaped bead, probably of glass, yellowish in colour, $\frac{3}{16}$ in long, 1 ft. below surface.
 - 16. Spherical terra-cotta bead, $\frac{3}{4}$ in. long, 2 ft. below surface.
 - 17. Lenticular bead of carnelian, $\frac{5}{16}$ in. long, 2 ft. below surface.
 - 18. Truncated biconical pentagonal faceted bead of crystal, $\frac{9}{16}$ in. long, 2 ft. below surface.
 - 19. Lenticular collared bead of amethyst, $\frac{1}{2}$ in. in length, $2\frac{1}{2}$ ft. below surface.
 - 20. Oblate bead of terra-cotta, $\frac{3}{8}$ in. in length, 3 ft. below surface.
 - 21. Lenticular bead of quartz with amethyst tinge, $\frac{7}{16}$ in. long, 4 ft. below surface.
- 22. Three short circular beads of green and blue glass, diameter varying from $\frac{3}{16}$ in. to $\frac{5}{16}$ in., 4 ft. below surface.
 - 23. Ellipsoid bead of terra-cotta, $\frac{1}{2}$ in. long, 3 ft. below surface.
 - 24. Collared ellipsoid bead of dark red clay or stone, § in. long, 6 ft. below surface.
 - 25. Lenticular bead of amethyst, \(\frac{1}{4}\) in. in length, 3 ft. below surface.
- 26. Collared ellipsoid bead of yellow glass, $\frac{3}{8}$ in. long, and a short circular bead of the same material, $\frac{1}{4}$ in. in diameter, 4 ft. below surface.
 - 27. Tabular collared bead of yellow glass, $\frac{3}{4}$ in. long, 6 ft. below surface.
- 28. Tabular collared bead, probably of yellow glass, with circular grooves incised on both sides, length $\frac{1}{2}$ in., 5 ft. below surface.
- 29. Biconical bead of terra-cotta, with bands of incised designs, horizontal parallel lines, dots and diagonal lines round the circumference, \(\frac{5}{3} \) in. long, 3 ft. below surface.
 - 30. Lenticular bead of carnelian, $\frac{1}{2}$ in. in length, 2 ft. below surface.
 - 31. Spherical bead of quartz, $\frac{5}{16}$ in. long, 12 ft. below surface.
 - 32. Collared ellipsoid bead, probably of amethyst, length $\frac{1}{2}$ in., 2 ft. below surface.
- 33. Biconical collared bead of an unidentified green substance, possibly glass, $\frac{5}{16}$ in. long, 3 ft. below surface.
 - 34. Spherical bead of carnelian, unperforated, 5 in. in length, 6 ft. below surface.
 - 35. Fluted ellipsoid bead of crystal, $\frac{7}{16}$ in. in length, 2 ft. below surface.
 - 36. Long square faceted bead of amethyst, $\frac{3}{8}$ in. long, 4 ft. below surface.
 - 37. Roughly cylindrical long bead of chrysoprase, $\frac{7}{16}$ in. in length, 3 ft. below surface.
 - 38. Long barrel-shaped bead of agate, $\frac{7}{16}$ in. long, 6 ft. below surface.
 - 39. Collared lenticular bead of amethyst, $\frac{7}{16}$ in. long, 6 ft. below surface.
 - 40. Short circular bead of corundum, $\frac{3}{16}$ in. long, 5 ft. below surface.
 - 41. Long barrel-shaped circular bead of carnelian, $\frac{1}{2}$ in. in length, 8 ft. below surface.
 - 42. Spherical bead of corundum, 5 in. long, 5 ft. below surface.
- 43. Oblate bead of dark glass, with an unfinished additional perforation at right angles to the axis, length $\frac{3}{16}$ in., 6 ft. below surface.
- 44. Long convex biconical bead of blue glass with a white band in the middle, \(\frac{3}{8} \) in. in length, 4 ft. below surface.
- 45. Eighteen short circular beads of glass, blue, green, white and purple in colour, length varying from $\frac{1}{16}$ in. to $\frac{1}{4}$ in., 3 ft. to 6 ft. below surface.
 - 46. Two disc beads of red paste, $\frac{7}{16}$ in. in diameter, 5 ft. below surface.
 - 47. Two ellipsoid collared beads of green glass, $\frac{3}{8}$ in. long, 5 ft. below surface.
 - 48. Fragment of a hexagonal biconical bead of glass, 5 in. long, 6 ft. below surface.
- 49. An irregular shaped uncut corundum, $\frac{5}{16}$ in. in length, with perforation in the middle, 6 ft. below surface.
 - 50. Biconical bead of blue glass, $\frac{3}{16}$ in. in length, 2 ft. below surface.
 - 51. Three disc beads of red paste, diameter $\frac{3}{8}$ in. and $\frac{7}{16}$ in., 2 ft. below surface.
 - 52. Lenticular head of crystal, length ½ in., 2 ft. below surface.
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- 53. A gold or gold-plated spherical bead, 3½ ft. below surface.
- 54. Collared tabular circular bead of amethyst, $\frac{9}{16}$ in. long, found on the floor level near the stone trough.
- 55. Circular tabular bead with conical sides, collared, of a composite substance which has not been identified, $\frac{3}{4}$ in. long, $7\frac{1}{2}$ ft. below surface.
- 56. Irregularly shaped piece of jasper, perforated and used as a bead, length $\frac{3}{5}$ in., $6\frac{1}{2}$ ft. below surface.
 - 57. Pear-shaped tabular bead of lime-aluminia garnet, $\frac{7}{16}$ in. long, 2 ft. below surface.

Miscellaneous.

- 1. Triangular piece of spinel, one side convex, $\frac{5}{16}$ in. long, $4\frac{1}{2}$ ft. below surface.
- 2. A beryl, cut into spherical shape, about $\frac{3}{16}$ in. in diameter, 4 ft. below surface.
- 3. Fragment of a carnelian ring, $\frac{11}{16}$ in. in diameter, 5 ft. below surface.
- 4. A rectangular slab of slate-like stone, measuring $2\frac{1}{16}$ in. by $\frac{5}{8}$ in. by $\frac{5}{16}$ in. One of the two surfaces is smoothed and contains a groove at the centre parallel to the long edges. Parallel to the groove are incised straight horizontal lines, and at right angles to it are vertical lines as shown in sketch in Plate XXIV (g). The purpose of this object has not been ascertained.
- 5. A piece of crystal roughly cut into the shape of a $st\tilde{u}pa$, minus the spire and basal cylinder, diameter at base $1\frac{1}{4}$ in., height $1\frac{1}{4}$ in., 2 ft. below surface.
- 6. A piece of agate roughly fashioned into spherical shape, $\frac{1}{2}$ in. in diameter, 2 ft. below surface.
 - 7. A fragment of mica, 6 ft. below surface.
 - 8. The upper fragment of a pendant of fluorspar, 5 ft. below surface.

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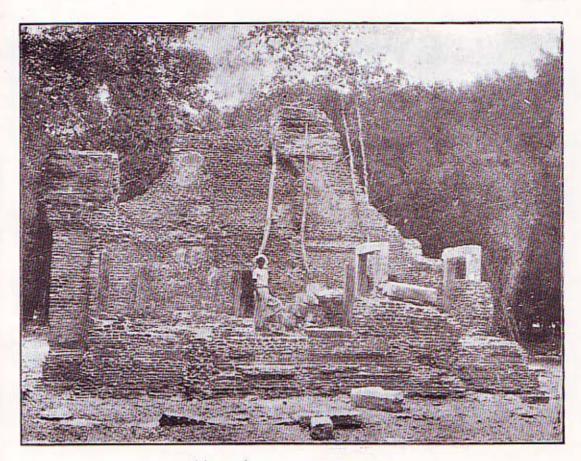
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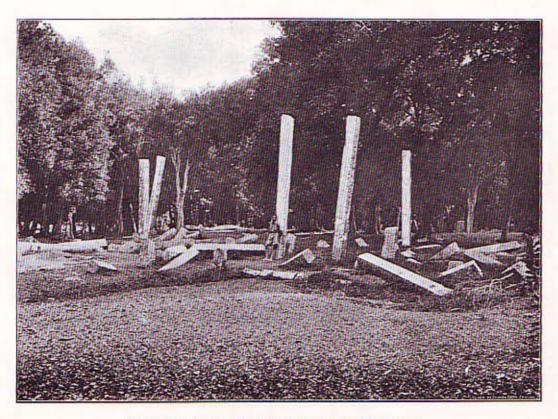
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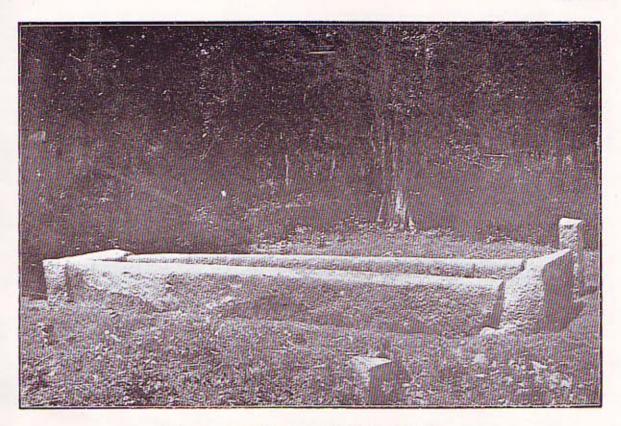
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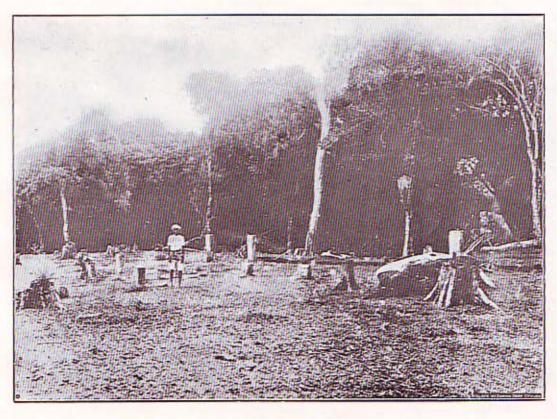
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(b) BEMAINS OF THE DALADAGÉ, VIEW FROM NORTH-WEST.



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(b) site between the mahápáli and the gedigé, before excavation, from east,

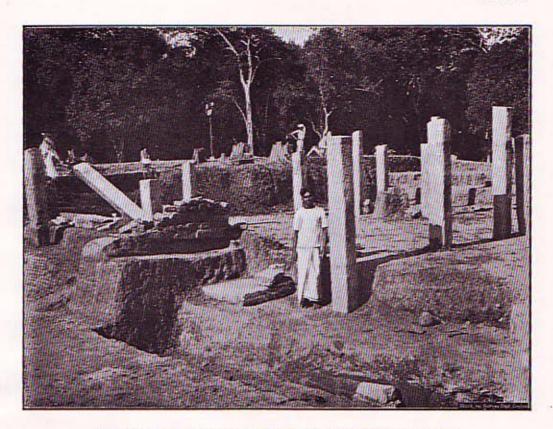


(a) a section of the site detween the mahapalı and the gedige, after excavation. View from south.



(b) a section of the site between the mahápálī and the gepigé, after excavation, view from south.

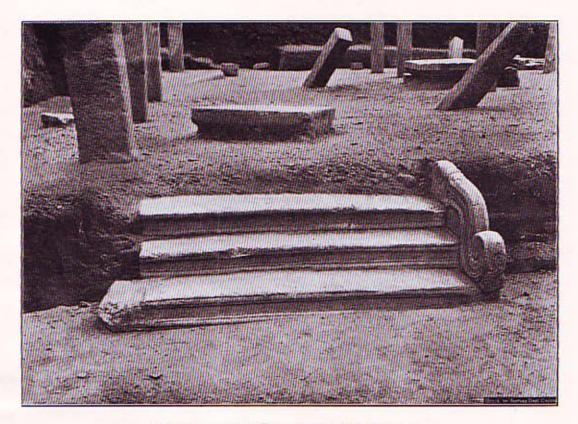
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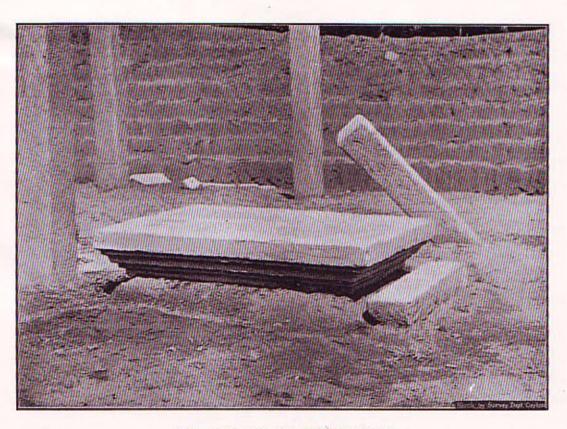
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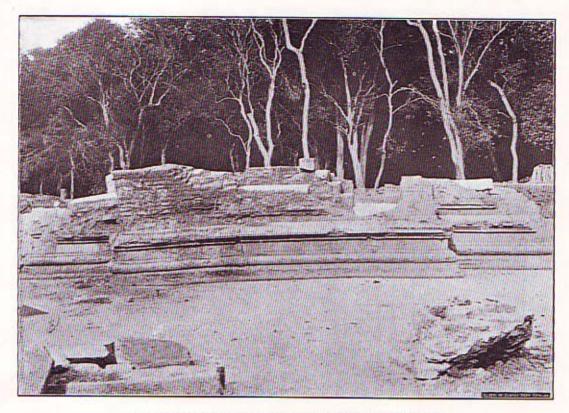
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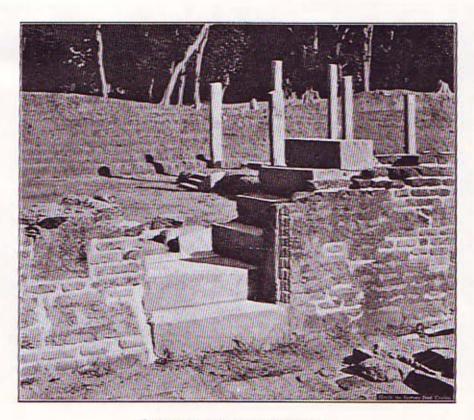
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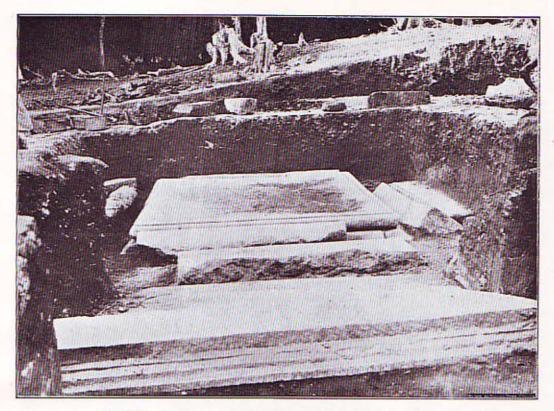
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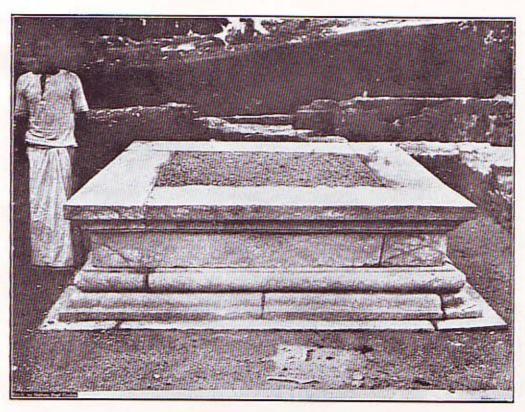
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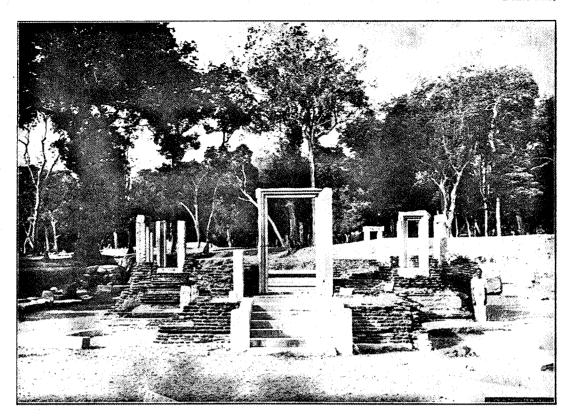
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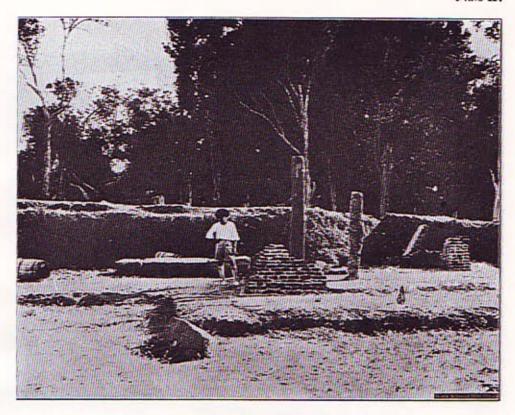
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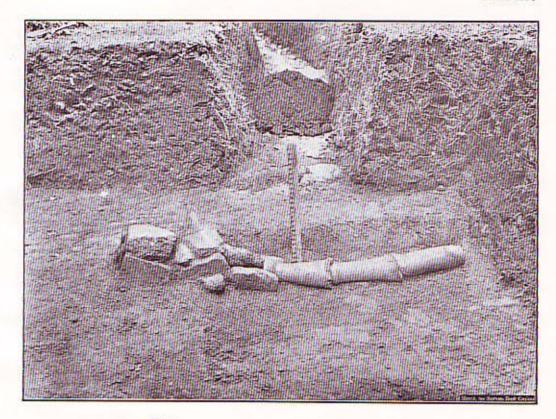
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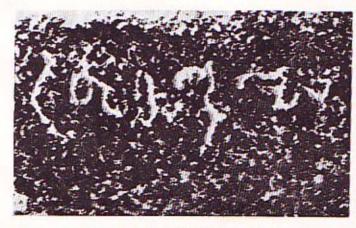
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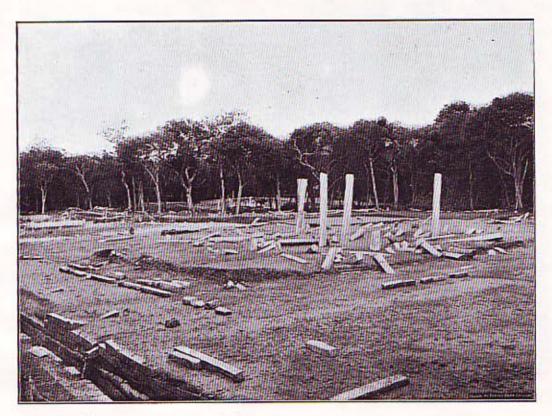


(a), (b), and (c) pottery from the site between the mahápáli and the daladágé.

(d) Earthern crucibles.

(e) potsherds inscribed with bráhmi letters.

(f) and (g) copper objects.



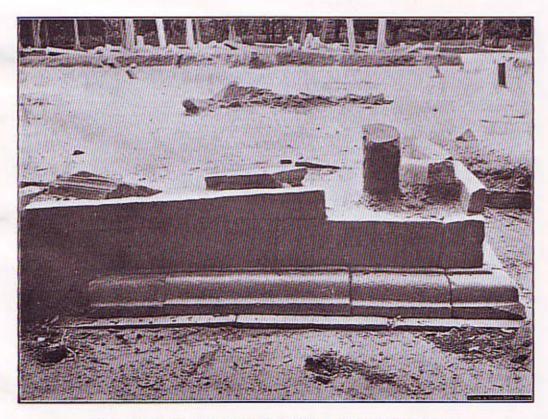
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(b) REMAINS OF SUBSIDIARY BUILDING TO THE NORTH-WEST OF THE DALADÁGÉ.



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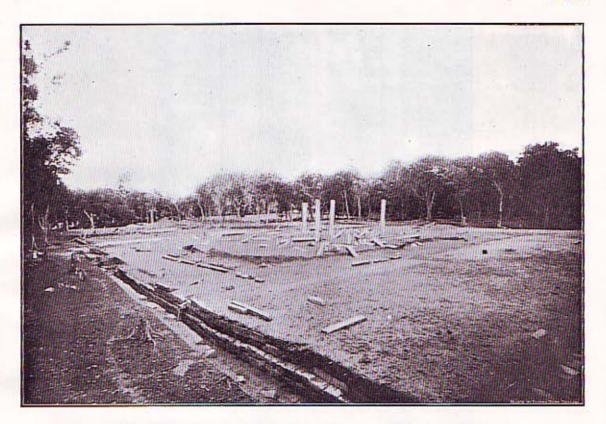
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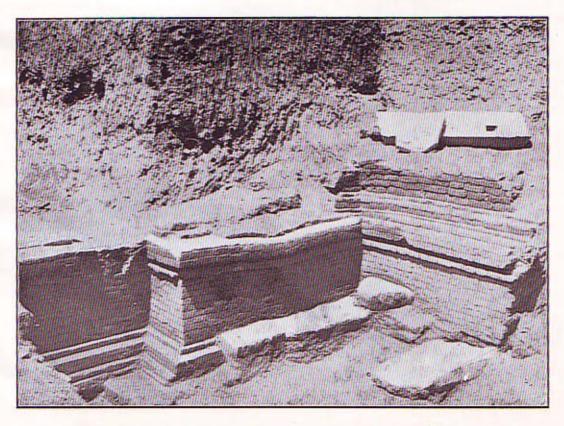
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(b) PORTION OF THE RETAINING WALL ON THE SOUTHERN SIDE OF THE DALADÁGÉ QUADRANGLE, SHOWING DRAIN.



(a) DRAIN ALONG THE SOUTHERN SIDE OF THE DALADÁGÉ QUADRANGLE.



(b) remains of cistern at the north-western corner of the daļadāgé quadrangle,



(a) FIGURE OF A LION FOUND AT THE DALADAGE.



(c) FRAGMENT OF A PORCELAIN BOX.



(d) TERRA-COTTA OBJECT.

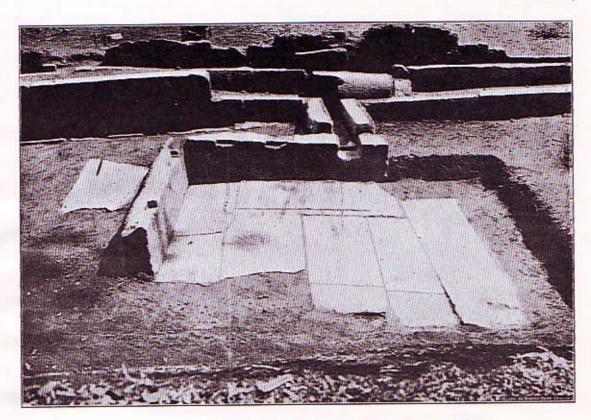
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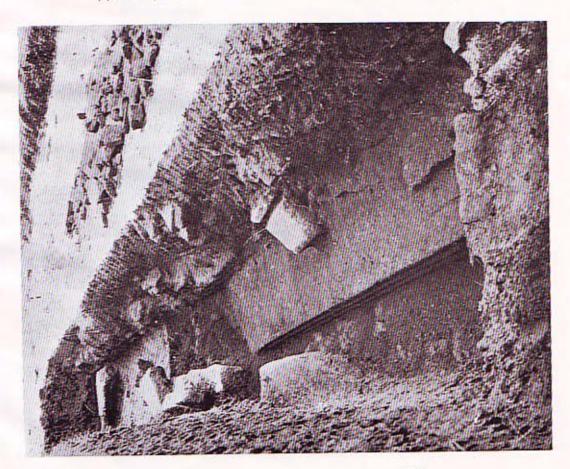
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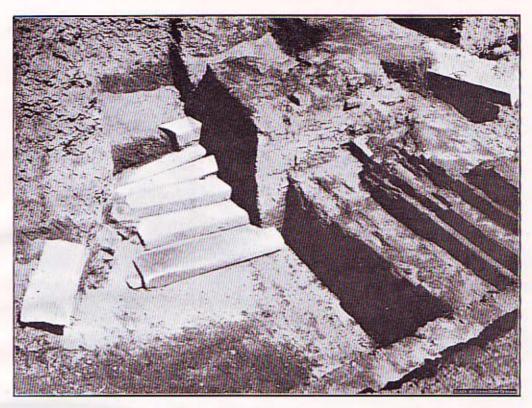
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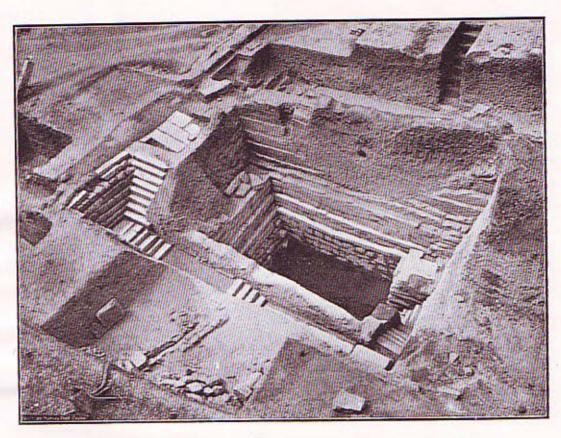
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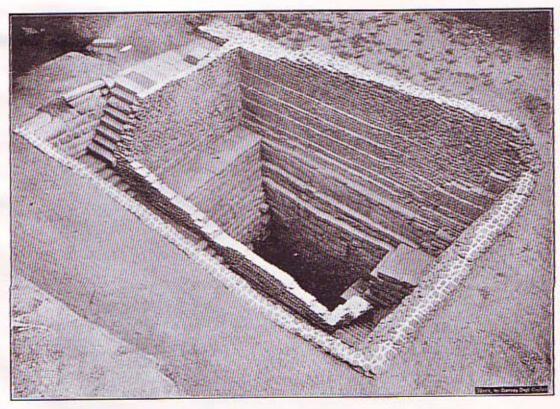
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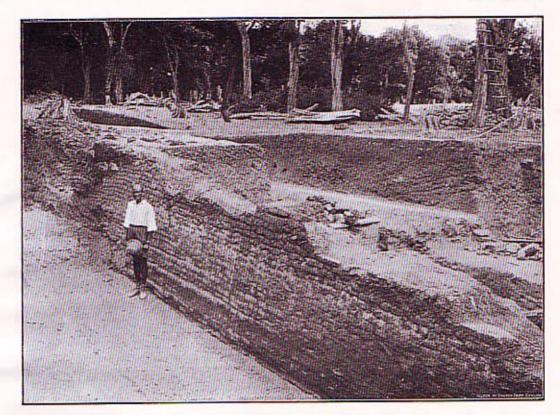
(b) THE WELL AT THE MARÁPÁLĪ, EXCAVATION IN PROGRESS.



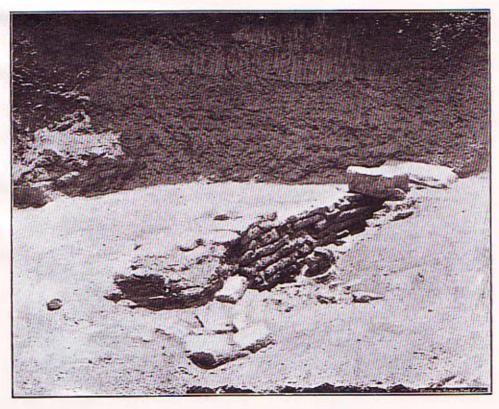
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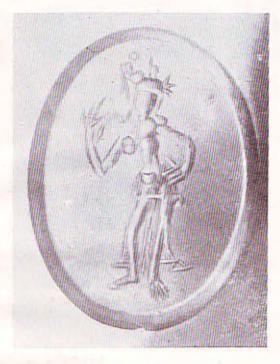
(b) the well at the mahápálí, after conservation, view from above.



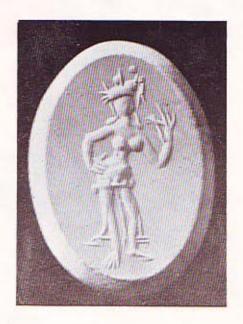
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(b) COVERED DRAIN AT THE MAHAPALI WELL.



(a) CRYSTAL SEAL FOUND AT THE MAHÁPÁLĪ, NEARLY SIX TIMES THE ACTUAL SIZE.



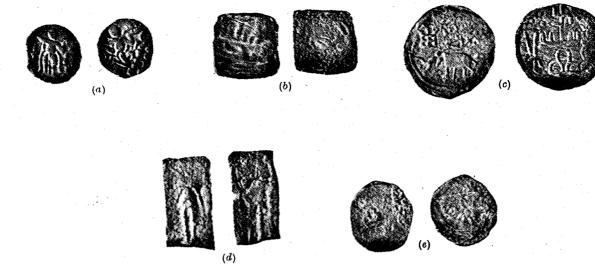
(b) impression of crystal seal, nearly five times the actual size,



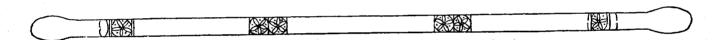
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(d) Potsmerds with Bráhmī letters found at the Mahápálī.

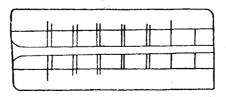


(a)-(e) COINS FROM THE EXCAVATIONS IN THE CITADEL.



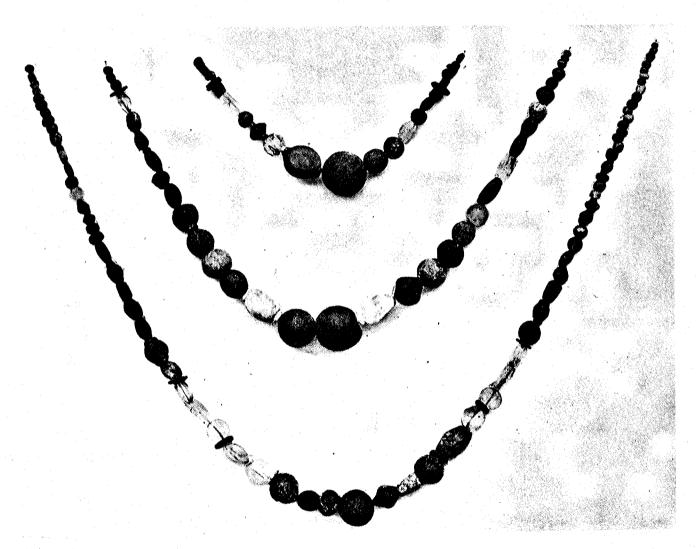
SCALE :- HALF OF ACTUAL SIZE.

(f) copper rod found at the mahápálí.



SCALE:-FULL SIZE.

(g) STONE OBJECT FOUND AT THE MAHÁPÁLĪ.



BEADS FROM THE EXCAVATIONS IN THE CITADEL.

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