PIEDRAS NEGRAS PRELIMININARY PAPERS

No.

STRUCTURE R-3-1ST

A PYRAMID TEMPLE OF THE SOUTH GROUP

AND THE BURIED STRUCTURES R-3-2D, R-3-3D AND R-3-4TH

BY

LINTON SATTERTHWAITE, Jr.

WITH AN APPENDIX ON

POTTERY FROM STRUCTURE R-3

BY

MARY BUTLER

UNIVERSITY MUSEUM

UNIVERSITY OF PENNSYLVANIA

PHILADELPHIA

1934

TABLE OF CONTENTS.

LIST OF PLATES

Plate 1

a. The Pyramid from the North. Shows ruin of main front stairway, cut by our trench, at left; to the right, the left (northeast) half of the front facade of pyramid with loose debris removed. Compare with restoration drawing, Plate

b. Detail of first terrace, right (southwest) side, showing heavy slab or semi-block masonry, and the two front offsets. Note remnants of thick plaster in the angle of the front offset (right in photograph).

c. Detail of first terrace, showing rounded left front (northerly) corner, with Stela 44 in background. Taken from above and to the front.

Plate 2

a. View at top of pyramid, from the east at the front. At left is ruin of right jamb of doorway and, beyond the doorway, eight stones of the lowest course of the left jamb and front wall. At upper center may be seen the floor and rear ledge. The floor in and behind the doorway has been partly removed. Running from lower left to upper right is the retaining wall which forms the plinth and which descends to a remnant of the third terrace floor of Structure R-3-1st. The center trench exposes part of the floor and upper terrace wall of Structure R-3-3d.

b. View of 1932 excavation of temple chamber of Structure R-3-1st, facing Southwest. Note floor and rear ledge at lower right, and scarcity of slabs and slight depth of remaining debris (rear center).

c. A similar view after further clearing (1933), showing floor, rear ledge (right) and remnants of front walls (left). The tree trunk is on the right (southeast) jamb of the doorway.

Plate 3

a. The Column Altar of Structure R-3-1st. The meter-stick at the right is folded to a length of 22 cms.

b. Miscellaneous Sculptured Stone No. 11 -- a fragment from the hearting of Structure R-3-3d.

c. The head of the trench in the fill or hearting of Structure R-3-3d, showing crude interior wall, probably a structural feature (see cross-section, Plate). Note method of shoring, Poles are tied with wire.

d. Finishing plaster of the floor of the third terrace of Structure R-3-3d, with highest remaining course of third terrace wall showing beyond. View is from above and to the rear. Note the straight line along which finishing plaster ends, showing that this was the front of a wall since removed. This plaster shows also in Plate 2, a.

Plate 4

a. Looking down center trench through main stairway, with terrace walls of Structure R-3-1st in position.

b. The crude structural wall immediately behind the wall of the first terrace shown in(a). Note that bottom course only is of heavy slabs. This course may be a remnant of the front wall of Structure R-3-4th.

c. Two cached bowls, one inverted over the other, in position on bedrock before removal. The few sherds to the right have been moved in course of clearing. The vessels lie one meter behind the inner terrace wall shown in (b) and were covered with solid fill, a cut section of which is shown. The pick lies on the floor of Structure R-3-4th, one meter above bedrock.

d. Approximate half-sections of the two vessels shown in (c). They are here set on cardboard stands, the tripod supports being missing. That at the left (Field No.S-2-63) served as the cover for the other (Cat. No. I-39-36) which contained remains of a child's skull.

e. An orange bowl, blackened on the inside and found in the fill of Structure R-3-2 (or possibly R-3-3d) in close proximity to a piece of resinous gum incense. The vessel (Cat. No. I-39-32) was evidently used as an incense burner.

Plate 5

a. The eight recovered fragments of Lintel 11, fitted together, showing the badly eroded carved surface. The seven fragments at the right are those found by the expedition in the doorway.

b. The fragments of Lintel 11 which were found in the doorway, in original position. The large fragment shown in the center in (a) is here on edge at the right, the small fragments lying face down behind a folded meter-stick. To the left of these are stones of the lowest course of the left front wall.

c. The known fragments of Stela 29, as fitted and photographed by Dr.Morley. (By kind permission)

Plate 6

a - g. Objects recovered (See text).

Plate 7

a. Structure R-3-1st, Plan and elevation of doorway showing positions of Lintel 11 fragments, with restored drawing of Lintel 11 showing upper or rear side.

b. Schematic cross-section showing methods of construction, all periods.

Plate 8

a. Plan of pyramid and temple, Structure R-3-1st, with restored portions indicated by broken lines.

b. Structure R-3-1st side Elevation of pyramid as restored (Structure R-3-1st).

c. Front elevation of pyramid as restored (Structure R-3-1st).

d. Cross-section on center axis to show relations of structures of four building periods. There is a possibility that Structures R-3-2nd and R-3-3d are parts of a single structure. See text for reasons believing them separate.

STRUCTURE R-3-1st, A PYRAMID TEMPLE OF THE SOUTH GROUP, AND THE BURIED STRUCTURES R-3-2nd, R-3-3d AND R-3-4th.

GENERAL DESCRIPTION

Position, Orientation and General Remarks.

Structure R-3-1st is an extremely interesting pyramid and surmounting temple. It is placed, together with Structures R-2 and R-4, on a large foundation platform which bounds the southwestern side of the South Group Court. Beneath and within it are the remains of three earlier structures, R-3-2nd to R-3-4th, the whole sequence being numbered from the latest (R-3-1st) to the earliest (R-3-4th). We shall use the simple designation Structure R-3 as a term inclusive of all four units, and to refer to their location.

The foundation platform, which supports three structures, is about 65 m. long at the front and measures about 50 m. from front to rear. It is approximately rectangular. Its height is about 5 m. at the rear and sides, where it overlooks lower areas bordering the river, but at the front, due to the greater elevation of the South Group Court, its surface is only about 1.50 m. above that of the court. The front facades of the structures on this platform would have been more imposing had they been faced southwest towards the river, but they would have then overlooked what are probably residential areas. They actually face northeast onto the South Group Court, also on which face, the structures placed on the other three sides. A ceremonial group about a quadrangular court was evidently the dominant motive when this group, at least in its final form, was laid out.

This large foundation platform, is evidently here dictated by the original topography. Nowhere else in the city does a single basal platform serve more than one pyramid, as is the case here. A trench to bedrock was run by us from the megalithic stairway leading from the platform to the court, back to Structure R-3. Bedrock throughout this distance varies only from 80 to 35 cms. below the platform floor, with the highest bedrock near the center of the platform. In the court at the base of the platform wall bedrock occurs only a few centimeters below the court floor. Near the edge of the platform, then, bedrock rises from a lower level under the court to a higher level under the platform. The platform, then, results from the necessity of leveling off a slight rise of the original surface southwest of the area which was to become the court. This was accomplished by filling, and perhaps by some cutting. The trench in the platform, and test pits in the court, indicate that the maximum depth of fill was nowhere over a meter, and that solid fill of earth and stone, rather than dry rubble, was used for the purpose.

For a complete picture of the arrangement of this court see Preliminary Paper No.1, pages 10 to 13, and the plan of the city issued therewith.

Structure R-3 is placed directly behind the megalithic stairway serving the foundation platform, and (disregarding stairways of pyramid and platform) about 16 meters behind the front of the platform. In the case of this and the adjacent pyramid R-4 this slightly elevated broad area apparently takes the place of the usually much narrower special basal platform or terrace, occurring before all other pyramids of the city. This is the only case where such an area is also to be seen at the rear, except perhaps in the case of Structure R-16. The original topography is probably responsible, though we note the fact that the rear of Structure R-3, and the broad expanse of foundation platform there exposed, faces towards the Sacrificial Rock in the river.

On the immediate right (southeast) of Structure R-3 is the ruin of Structure R-2, a low small platform which apparently supported a building, which was certainly non-vaulted. On the immediate left is Structure R-4, the ruin of a larger and higher pyramid. All three rest on the same large foundation platform and face northeast onto the South Group Court.

Maler[1] incorrectly shows these buildings facing northwest and this fact should be remembered in reading his text.

1. Teobert Maler, Researches in the Central Portion of the Usumacinta Valley; Peabody Museum Memoirs, Vol.2 No.1, Plate 33, Cambridge, 1901.

The front facades of the Structures R-3-1st, R-3-2nd and R-3-3d (we shall see that the lowest terrace was common to all) face 32 degrees 35 minutes east of true north, allowing for a magnetic declination of 8 degrees 10 minutes east, as observed on Polaris in June, 1932, but without meridian correction. They are approximately parallel with the front of the foundation platform.

Our Structure R-3 is placed directly behind the megalithic stairway. The latter is centrally placed with reference to the court as a whole, and the foundation platform which it serves was certainly in existence before the time when Structure R-3-4th, a low platform, was buried by later substructures

of pyramidal character. We may suppose then that the site of R-3 in its various periods was selected as being central with relation to the court, and, perhaps, that this was the first part of the platform to be built upon. The small size of the final R-3 pyramid suggests but is far from proving that it is earlier than the final form of the larger Structure R-4 at the left. Structure R-3-1st, together with Structure R-10, are the earliest pyramids of the group and of the city.

Maler makes brief mention of the Structure R-3-1st in connection with the monument which he numbered Stela 29, and he may have dug slightly in recovering that stone. Morley ~~has~~ visited Piedras Negras several times for

.....

Maler, Op. Cit. p. 69.

.....

the Carnegie Institution of Washington, and moved one of the fragments of Lintel 11 from the top of this building.

The temple building was completely cleared in 1932 by Mr. David Amram, Jr., of the 2nd Johnson Expedition, who also cleared considerable portions of the substructure. Dr. Mason carried the substructure excavations considerably farther in the same year, though they were by no means complete. In 1933 the writer completed the clearing of the stairway and of the left (northwesterly) half of the front facade of the pyramid, and established one or two additional details at the top, but this was incidental to the sinking of a trench through the center. This was intended to give us a cross-section from top to bottom, and from the front of the stairway to a point under the rear wall of the upper and latest temple, but it was not quite completed. The writer visited the 1932 excavations several times, and the notes of Mr. Amram and Dr. Mason have been freely used in writing the present paper. Plans and sections are based on measurements of Mr. Fred P. Parris or of the writer, made, for the most part, during the 1933 season when the structure was more nearly cleared.

- THE PYRAMID -

The general nature of the pyramidal substructure, and its poor state of preservation above the first terrace, appear well enough in Plate 1, a. The plan, front and side elevations in Plate 8 are to a large extent restorations, as indicated by broken lines in the plan, but there were sufficient points in position to assure that they are substantially correct so far as the three principal terraces are concerned. The evidence for the temple is less complete.

The pyramid was evidently intended to be square but the southwest corner is about 1.00 m. out of place. The lengths of the various facades disregarding offsets (that is corner to corner) vary from 19.80 m. to 21.50 m., at the base. About 1.20 m. is to be added to each of these measurements to allow for two offsets on each side, and we may say that the two central axes measured 21.00 m. and 22.70 m. at the base, the maximum axis being from side to side, the minimum from front to rear. The surface of the third terrace - the area available for temple building, measured on the center axes, was about 12.70 from side to side, and about 12.20 from front to rear.

The three principal terraces rise 7.30 m. in equal stages of about 2.43 m. each, sloping back at an angle of about 21 degrees from vertical. The breadth of the first and second terraces is about 85 cm. - they are narrow terraces. These slopes and widths are those theoretically required to carry the facade from a known point at the bottom to an almost certainly known point at the top, the slopes and the widths of the first and second terraces being equal. Actual measurements of the terraces to the left (northwest) of the stairway closely approximate those given above, the slight differences being accounted for by an obvious settling of the second and third terraces (see Plate 1, a). The cut section through the center, where the stairway debris preserved the walls, confirms us in reconstructing the terraces as of equal height and slope.

At each of the sides and at the rear, each terrace is enriched by two mosses, one upon the other, the amount of the offset (distance it projects beyond the adjoining moss) is in each case about 30 cm. The corners, set between the nearest offsets of adjoining facades, are rounded on a radius of about 75 cms., and are further enriched by a sunken horizontal panel effect at the bottom, repeated in the case of each terrace. This sunken panel effect at the base of the terraces is identical with that on Structure A-1 at Uaxactun.[2] The depth of these panels is about 10 cm., and their vertical height 75 cm. The front facade is identical with those of the sides and rear, except that the central exterior stairway occupies the space of the central of the offset masses of the other facades.

[2] H. Ledyard Smith.

The stairway was badly ruined, and we are not sure of the exact position of even the lowest step, but know this within very narrow limits. The slope was very close to 39 degrees 30 minutes, the single flight rising 7.30 m. in a horizontal distance of about 8.50 m. Our restoration shows 29 risers. This is consistent with practice elsewhere at the city, but the dimensions of the steps themselves are purely hypothetical. The same should be said of the balustrades. We know that balustrades, or something like them, were used at the sides of two stairways in the West Group, Structures J-2 and J-3, and something akin to them were used on the adjacent Structure R-2. The total width of the staircase 7.00 m., is certain, since the rear parts of the side retaining walls were preserved at the base (see Plate 1, a).

The whole pyramid was of course plastered, remnants being found in the angle of one of the offsets on the southeasterly side. This plaster was unusually thick, five centimeters. As to color, there was no surviving evidence. Except at the single spot mentioned, all surface plaster had peeled off and disappeared. What little evidence we have accumulated from buried substructures at other parts of the city points towards plain white substructures, as the usual thing at Piedras Negras, though buildings themselves

were certainly in some cases painted. We may hope to get some information on this point by further excavations penetrating the buried third terrace of Structure R-3-3d at points where it was not covered by a stairway, and where the originally exposed surface may still be preserved.

- THE TEMPLE -according to our partial restoration-

In describing the temple we should state that before excavation it was a mere low mound, on the top of the pyramid, and frankly confess that part of the evidence for the ground plan was probably destroyed in excavation. Mr. Amram had the assistance of only one workman, with little experience in digging, and was not able to be personally present at all times. This fact should be remembered when the incompleteness of the definitely known parts of the ground plan is considered. Another factor is to be considered. We believe this temple had no stone vaulted roof. Where such a roof was present, in falling it formed a large mass of debris which covered and protected the lower parts of the walls. Without such a protective covering, the walls of the building are more vulnerable to the destructive forces of the vegetation.

The plan in Plate 8, a, shows clearly enough, by use of solid black as opposed to broken lines, how much of the ground plan, as restored, was actually indicated by stones in position.

According to our restoration, which we believe is fully justified, the temple consisted of a single chamber with one centrally placed front doorway. The front wall was 1.30 m. in thickness, the width of the doorway about 1.55 m. The chamber was narrow - only about 1.40 m. in width. The actual floor was even narrower, since a ledge about 10 cm. high and about 20 cm. wide ran along the base of the back wall, reducing the width of the floor proper to 1.30 m. - no greater than the thickness of the front wall.

The length of the chamber, inside measurement, as we have restored it, is 6.20 m. This is a probable minimum, and probably close to correct. The thickness of end and rear walls we have shown as the same as that of the

front. There is no positive evidence for these thicknesses, but they give a reasonable plan. The end walls had completely fallen. The rear wall had fallen also but there was enough wall debris in semi-position to indicate that it was a thick one.

In the doorway were all but one of eight recovered fragments of a stone lintel, Lintel 11, illustrated in Plate 6,a. In the later section devoted to the monuments of this structure we will discuss the exact position of these fragments, and other reasons for believing that it was the lintel of this doorway. This gives us our only clue as to the original height of the walls. They undoubtedly were high enough to support this lintel over a doorway, and this, it may be surmised, was probably high enough for a Maya to enter comfortably. The total height of the walls was possibly a little less, possibly a little more, than two meters.

The walls stand upon the floor of the temple, which projects beyond the outer face of the front wall a distance of 20 cms. This feature was preserved only at the center of the front facade, but by analogy with many other buildings of the city this projecting ledge almost certainly surrounded the temple on all sides, forming what we have called a plinth. It is characteristic at this city, and at others.

In this case, the plinth is only 20 cms. wide, and about 25 cms. high. It appears to rest on a subsidiary rectangular platform about 40 cms. high, which is vertical-walled and which rests on the third and uppermost terrace of the pyramid proper. The length of this subsidiary platform, in our restoration, is 10.40 m. its width 6.10 m. This platform was ascended at the center, in front of the temple doorway, where it was found intact to full height, being protected by debris of its subsidiary stairway, which probably consisted of but one tread and two risers. The total width of this final step is unknown.

The height of the temple floor, as measured from the large platform supporting the whole pyramid, is 7.95. The height of the large platform on

which the pyramid rests, about 1.50 m, must be added to give the total height above the floor of the South Group Court, or about 9.50 m.

The description of this building, thus far, mught easily be that of a small simple-plan stone-vaulted Maya temple. We are fairly certain, however, that there was no stone-vaulted roof. We have one bit of evidence that the roof was not of thatch, but a flat concrete roof, supported on timbers, such as occurs at the late site of Tuluum. Such an interpretation is consistent with observed facts, but must not be taken as certain. Now, perhaps, are we absolutely sure that it was not vaulted, but our doubt on this point has been reduced almost to the vanishing point. The evidence as to the nature of the roof is set out below, where we have collected the facts which we think justify our restoration in general, and where they may be skipped by the reader who does not want to go into them.

Mr. Amram noted traces of red painted plaster on fallen building stones in the chamber, from which we may conclude that red painting entered into the decoration of the walls, though whether inside or outside, or both, can hardly be said. Outside red painted building walls have been noted at a low buried level in Court 1 of the Acropolis, below Structure J-7.

In each of the three levels of the pyramid, Structure K-5, in the West Group, and on the surface levels of all of the South Group Pyramid temples except one, Structure R-5, but including the temple under discussion, part of the temple furniture was a roughly cylindrical stone column. The largest, on the neighboring Structure R-4, was about 97 cm. long with a maximum diameter of about 56 cms. All the others are quite small. Only three have been found in position. One of these was placed on end in a niche in the back wall of Structure K-5-1st. Two others were found on end with their lower portions let into the temple floor, but some distance to the front of the rear wall in one case (K-5-3d), and in the other, to the front of the rear wall if there was such a wall (K-5-2nd). Each of these three set on the front-rear axis of its building. With one possible exception (Str. R-4) all the columns found in the South Group, while disturbed, had probably been on these axes.

Mr. Amram reports that the column found here was not on end when found, but that it was found on its side, within the temple, in the area behind the doorway. We may safely assume that the column was originally set on end, on the center axis. It may either have been set in the temple floor or in a niche in the rear wall. There was no remaining evidence for such a niche and the first hypothesis is preferable.

The stone in question is shown in Plate 3, a, where it was set on end by us. Unfortunately we failed to measure it accurately, but the folded meter-stick at the right gives the approximate scale. It is about 30 cms. high and about 20 cms. in maximum diameter. One side is more or less flattened, a peculiarity noted in most of the other stones of this type. It is rough-tooled but not particularly well finished, and in this it agrees with the others.

Its function is problematical. So far as our limited knowledge goes, we should call it some sort of an altar. One is tempted to think of it as a stone of sacrifice, but the similar stone in the temple of Structure K-5 as found by Dr. Mason was more or less buried in a deposit of ash; and the two on the lower levels (in Structures K-5-2nd and K-5-3d respectively) were blackened by fire. We shall call these stones "column-altars", without meaning to imply a precise knowledge of their function.

The presence of this stone tends to link our temple with the five other pyramids of the group where similar stones were found, and which did not support stone-vaulted buildings, as opposed to Structure R-5, which was stone-vaulted, but did not contain such a stone.

Mr. Amram reports having found the crumbling remains of what was supposed at the time to be a secondary floor, at a point in the vicinity of the right inner corner of the doorway. At this level, 28 cms. above the floor, he reports finding remains of two incense burners and a number of broken-off stalactites. It is quite possible that there was a low masonry altar or bench in this vicinity.

Evidence for Partial Restoration of the Temple.

The extent to which the right front wall, that is, southeast, from the door jamb, is outlined by stones of the lowest course of the wall found in position, is indicated in solid black on the plan, Plate 8. Flat superimposed stone blocks and slabs within this area, though disturbed by tree roots, rose to a height of 80 cms. above the floor. (See plate 2, a and c).

On the other side of the doorway the wall is represented by the lowest course only, and this is very incomplete. There remained in position after excavation two groups of six and two blocks, respectively. These may be seen in Plates 2, a and c, and four of those nearest the doorway at the left of Plate 6, b. Their locations are shown in solid black on the plan. Beyond these, to the left (northwest) both wall and floor had been destroyed at the front, possibly by the uprooting of a tree, long since rotted away, or possibly by excavations by Maler or by woodcutters, whose jack was found on the adjoining pyramid R-4. It is highly probable that some parts of the lowest course and remnants of higher ones were removed in the course of the expedition's excavation, which was a difficult one and had to be carried on with insufficient and unskilled labor. The condition of the floor about this remnant of the left wall is consistent with our supposition. The larger groups of blocks fortunately gives the position of the left jamb of the doorway. The doorway is thus seen to be almost exactly behind the center of the main stairway. The front of this group of stones lines up with the outer side of the wall on the other side of the doorway. The smaller group of stones lines up with the inside of that wall, giving us the same wall thickness on either side of the doorway.

As shown on the plan, the larger group of stones which survived in place happens to form a fairly regular rectangle, measuring 70 cms. from front to rear. At the time of excavation this was thought to be the remnant of a central pier of that thickness. The presence of the other group of two stones, which are clearly in position, was explained away on the theory that

they were a remnant of an earlier construction, buried by a supposed secondary floor. At that time the writer agreed with Mr. Amram in this interpretation, but it will not hold water, for both groups are at the same level, and six of the fragments of Lintel 11 lay on the floor which is associated with them, at the same level.

The rear ledge was perfectly clear for the distance indicated by the solid line on the plan. It was preserved farther to the left (northwest) than to the right of the center axis of the pyramid. There were no end walls identified in position. We have assumed that the temple was centrally placed on the pyramid, which assumption is justified by the general contours of the debris at the top and by the central position of the doorway, and that the ledge never extended farther to the left than the point where it now stops. Mr. Amram says of this end of the ledge, that it "extended to a certain point and then fell off. The plaster floor corresponding to it continued until the stone line (the ledge) fell off, and then became a cement-like flooring". Here, without any positive evidence, other than the termination of the finishing plaster on the floor, we assume was the inner side of the left end wall, assume that it was of the same thickness as the front wall, and that it rested on a plinth of 20 cm. greater width, as does the front wall. When this is laid out (see plan), the plinth is about 60 cms. from the end of the subsidiary foundation platform, the lower courses of the end wall of the latter being found in position. The right end wall of the plinth is hypothetically restored at the same distance from the center axis, as is the end of the subsidiary platform, though nothing was found in position here.

The outside of the rear wall could not be found in position, nor, as a matter of fact, could the inside. We have assumed its thickness as identical with that of the front wall. That there was a thick rear wall is quite certain. Immediately behind the ledge was a mass of building stone and mortar much more compact than that in the chamber. As may be seen in Plate 2c, much of the rear ledge is tilted up at the front and down at the rear.

It is quite clear that the rear wall fell backward.

That the ledge is actually such, and not the lowest course of the rear wall proper, is proved by the presence of finishing plaster on its upper surface.

The presence of a low rear ledge like this one has been observed in the single-chamber pyramid temples K-5, 1st and 3d, O-12 and R-5, and a test trench through the pyramid temple J-4 suggests its presence there, though this is uncertain. It has not been found anywhere else. The presence of this ledge is in itself strong evidence that a small temple is involved.

That the floor of the temple ran back to the ledge and no further was clearly proved by the finishing plaster on the floor.

The ground plan of this temple - thick heavy walls and a very narrow chamber - is what one would expect in an early stone-vaulted temple. This evidence is however not conclusive. In Structure U-3, partially excavated in 1933, there is no question whatever but that the roof was not a stone vault, but was built wholly or in part of perishable materials. That building has a front and rear chamber, each only 1.25 cm. wide. The medial wall between them is 1.50 m. thick. The rear wall was probably the same. The latter is so badly fallen that we could not measure it accurately, but that it was thick was quite plain. The thickness of the front pier (there are two front doorways in this building) is 1.20 m. The ratio of room to wall area is therefor even less than in our temple. Yet the debris in the rear chamber is only 30 cm. deep, and in the front chamber only 15 cm. deep.

We have collected data from a large number of buildings in an effort to establish criteria which will tell us, in the case of a completely fallen building, such as our temple R-3, whether it had a stone vaulted roof or not. The evidence for our conclusions is given in another paper. Three of the tests there worked out apply to this building.

.....

.....

Two of these are that a completely fallen vault must leave a relatively deep deposit of debris on the floor of the building, as observed by Maler long ago, and that there must be a large quantity of relatively thin slabs

.....

Maler, Teobert: Researches in the Central Portion of the Usumacinta Valley, Peabody Museum Memoirs, Vol.2,No.2, p.120, Cambridge, 1903.

.....

in that debris. These are found at various angles, but, ordinarily, there should be a good many places where several slabs have remained parallel to each other in their fall. The necessity for the presence of slabs arises from the fact that all known vaults at the city are faced, not with specialized stones such as were employed in northern Yucatan and elsewhere, but with relatively thin slabs specially selected.

In every case except two - Structure J-17 and, unfortunately, the temple under consideration, which are border-line cases, examination with only these two criteria in mind has left no doubt about whether or not the building had been stone-vaulted. A third criterion which is useful when found, is the presence of a thick deposit of disintegrated mortar underlying debris which contains building stone as well. Because the entire inside of a vaulted chamber is faced with stone, stones from walls and vaults must fall directly to the floor, and be found in direct contact with it.

The depth of the debris on the floor of this temple was noted as between 70 and 80 cms., the latter being a quite certain maximum over the front and rear walls at the right. Unfortunately, cross sections through the debris were not measured and drawn at the center, where a minimum is to be expected. A definite figure for the minimum depth consistent with a fallen vault cannot be stated, as the depth must also be affected by the extent to which the walls themselves have fallen, and whether they fell in or out. The best we can do

is to compare these figures with the known fallen vault which left the shallowest recorded deposit of debris, and with ruins of buildings which certainly did not have stone vaults. On the nearby pyramid-temple R-5 the maximum of debris in the chamber was 1.10, the average 1.05 meters, depth as opposed to 80 and 75 cms here. Comparable figures for average depth of debris on four pyramids which we are sure supported temples without stone vaults are 90 cms. (Str.R-1), 50 cms. (Str. R-9), 58 cms. (Str.R-10), and 35 cms.(Str.R-16). The depth of debris on our temple therefore points toward a perishable roof, though it approaches that Structure R-5, known to have had a stone vault.

Unfortunately we do not have satisfactory photographs of cut sections through the debris of our temple R-3. There were some slabs in it. The writer examined a section at the time it was being excavated, and satisfied himself that their number was insufficient to fit the fallen vault hypothesis. Mr. Amram was and is of the same opinion. The presence of a few slabs is to be expected in the debris of any building, as they are frequently used, along with blocks, in vertical walls, and were so used to some extent in this temple. Further, they might have been used to some extent in a beam and concrete roof.

The test which, we think, eliminates any doubt in this case is the third mentioned above--the presence of a thick deposit of soft material lying on the floor and under debris containing building stone. Mr. Amram found the floor covered with a thick deposit of crushed stone and lime mortar, which he attributed to a later floor which had covered up the one we have been discussing, and the writer agreed with him at the time, though, as pointed out above, this theory must be abandoned. In a memorandum summarizing his notes he says of this supposed upper floor that such a secondary floor (had it existed) "would account for the loose sandy fill that covered floor No. 1 (the floor of our restored temple) to a depth of about 30 cms." In 1933 the writer found traces of a similar

deposit on the debris of the fallen rear wall, as high as 50 cms above floor level.

This is our only evidence for supposing that the temple had a flat concrete roof, supported by beams, rather than a thatched roof. Such a deposit has been found on the floor of Structure V-2, which without any question did not have a stone vaulted roof. The deposit there was between 20 and 30 cms deep as shown by a measured cross-section, drawn at the time. This is in close agreement with what was observed here.

This deposit on the floor is to be correlated with our first two criteria for fallen vaults and practically settles the matter. While the slabs of a fallen vault are uniformly accompanied by large quantities of disintegrated mortar and some small crushed stone, there is in the debris of no known fallen vault a layer at the bottom which could be described as "loose sandy fill". The fallen vault slabs reach right down to the floor, and are packed tightly together. It is impossible to imagine how a vault faced and capped with slabs could fall without having many of the slabs in contact with the floor.

Further, the former presence of a flat concrete roof of the supposed nature would account for a depth of debris here in excess of that noted on some other pyramids, where, perhaps, the roof was of thatch. Where a concrete roof was constructed on timbers, the depth of imperishable debris would be expected to approach more nearly the depth of fallen vault debris, which seems to be the case here. The depth of the debris here which contained building stone was only 50 cm at the maximum. This is the figure which is truly comparable with total debris depths of known fallen vaults.

We do not consider that the beam-and-mortar nature of this roof has been definitely established, but we do feel that our hypothesis is highly probable, and by far the best interpretation of all the evidence

available. In any case we believe it impossible to reconcile the observed facts with the hypothesis of a fallen vault.

Needless to say, the quantity of debris found, and the rear ledge make it quite certain that there was a building on the summit of this pyramid, and that what we take to be its front walls are not the remains of outdoor masonry altars, raised foundations for stelae, or similar minor constructions. This should be remembered when we come to the discussion of Lintel 11.

It must be frankly admitted that our positive evidence for the given dimensions of the small platform on which the plinth appears to rest are known points at the front and at the left end only. Further, a glance at the plan shows that with a little crowding we might restore a rear chamber of the same dimensions as that at the front. Such a chamber would face the Sacrificial Rock. This rear area was trenched, though not otherwise examined, without giving any useful results. The debris fell off sharply behind our rear wall, a circumstance difficult to reconcile with the existence of a rear chamber. It is practically, though not absolutely certain that there were no rear doorways leading from our chamber to the rear. We do not believe that there was another chamber to the rear, though it is a bare possibility. One wonders whether the wide open area which we assume lay to the rear of the temple may not have supported stelae or altars, now buried or fallen down the rear slope, which faced the Sacrificial Rock. It is quite certain, however, that no stairways ascended the

ASSOCIATED MONUMENTS

Lintel 11

In Plate 6, A is a photograph of eight fragments of what we believe was a carved stone lintel which spanned the temple doorway, and which we designate Lintel 11. They are now removed from the top of the pyramid to the large platform on which the pyramid, with adjoining structures, rests, and are fitted together as shown. They lie a few meters in front of and a little to the left of the pyramid stairway, close to the known part of Stela 29. The photograph shows the carved face of the stone. If a lintel, as we believe, this was the underside when the stone was in position over the doorway, and the edge which is uppermost in the photograph, as we shall see, was the outer edge which lay in the same plane as the surface of the front wall. As may readily be seen, there are missing fragments at one end of the stone.

In Plate 9, A is a sketch of the recovered fragments, and we have indicated in broken lines the probable complete shape of the lintel. In this sketch, the view is reversed - we are looking at the back or upper surface of the lintel, as though it were lying with the face down, as it did when it functioned as a lintel, and as if we were above it. We have numbered the fragments in the sketch for convenience. Because of the different points of view in the two representations, while fragments 1 and 2, which run from side to side of the stone, are in the same relative positions, fragments 3 and 6, uppermost as one looks at Plate 9, are on the ground in the photograph of Plate 6, with fragments 4, 5, 7 and 8 in positions to correspond.

The large end piece, Fragment 1, was found by us close to Stela 29. It was removed from the top of the pyramid by Dr. Morley's Carnegie Institution party in 1924. All the other fragments were found

by Mr. Amram in the doorway of the temple.

Treating our fitted fragments as an incomplete unit, of which pieces at the right (in the photograph) are still missing, the known length (less by an unknown amount than the original length) is 1.63 m. The thickness is 21 cms. The width varies from 65 cm at the left in the photograph to 82 cms at the right.

The face was embellished with four vertical columns of glyphs, running from end to end, divided into at least seven horizontal rows. As here used, "vertical" and "horizontal" refer of course to the position of a person reading the inscription, without reference to the actual position of the stone. The inscription therefore occupied at least 28 glyph-blocks, and possibly more. The blocks are large - about 16 cms to a side. Although almost entirely scaled off, and unreadable, enough was left, together with a few scaled-off pieces which were fitted by Mr. Amram, to show that the bottom of the glyphs was toward the recovered plain end of the stone, shown at the left in the plates. A head with hand as lower jaw, and two cartouches with superfixes, which show in the photograph, establish this with reasonable certainty.

We have seen that the evidence for the temple which we have reconstructed is far from satisfactory, and that it almost certainly did not have a stone vaulted roof. So far as the writer knows, carved stone lintels are surely uncommon, except in association with stone-vaulted buildings, though Maler reports two from a non-vaulted building at Yaxchilan.

.....

Op.cit. p. 119-120.

.....

There are other factors calling for caution in deciding that the stone was a lintel. The recovered plain end is much longer that the plain

ends of other carved stones which have been called lintels at the city. Similarities between these fragments of Lintel 11 and the three known pieces of Maler's Stela 29 tend to confuse us, as we shall see. Did all the fragments from the top of this pyramid belong to one single stone, a stela? On the other hand, if we do have here a stone lintel, that fact justifies us in reconstructing the stone walls of the temple to doorway height. The real function of the stone, though unreadable, is therefore important, and we ask indulgence from the reader while we set all the available evidence before him, necessarily at some length.

It is evident from the photograph that the stone used for Lintel 11 was far from rectangular. If we think of it as standing on end so that we may read the glyphs comfortably, with the tops of the glyphs up, (the left edge uppermost in the photograph, lowest in the sketch) is seen to be approximately straight. Along this is a narrow plain border, and the glyph blocks are lined up with this edge. The right edge is parallel with the left only at the bottom (left in the plates). Here, on the narrowest part of the stone, the three lowest rows of glyphs have been carried partly around the rounded edge of the stone. Beginning with the third row from the bottom, the right edge begins to incline to the right until the stone attains full width. In the fourth row of glyph blocks a border begins on this side of the stone also, and attains full width as soon as the stone has become wide enough to permit it. In laying out the glyph blocks, the sculptor has been thinking of the straight left edge, to which he keeps them lined up, and has let the irregular right edge take care of itself, so to speak.

If we leave the stone in our hypothetical position, standing upright as a stela, an asthetic dilemma at once presents itself. If we lean the relatively straight left edge to the left a little we will indeed get an effect which is suggestive of that characteristic of many stelae

at the city - the width tapering from a maximum at the top to a minimum at the bottom. But in that case, by leaning the left side to the left, the columns of glyphs will be no longer vertical, nor the rows horizontal. If, on the other hand, we make the columns vertical, and the rows horizontal, the stone will present a very ungainly asymmetry, with the right side inclining to the right (as we face the stone), but no corresponding inclination to the left. Further, if both sides were of equal esthetic importance, as they are in a stela why the obvious effort to have the left border complete, even to the point of running glyph-blocks over the right edge at the bottom? This is not a particularly strong point, as even the left edge is not entirely straight. But the importance of these irregularities, so far as they go, is greatly diminished, as soon as we think of the stone as a lintel.

Stela C at Naḳum leans to one side, while a glyph panel on it is vertical. Tozzer, 19 , p 169.

If a lintel, the left and straight edge with the complete border, would be the front edge of the lintel, which was seen as one stood before the temple, while the irregular edge was practically out of sight until one entered the doorway, and then it was so close to the observer that the irregularity would be scarcely noticeable. There was a real need to have the front edge approximately straight, to conform to the flat surface of the facade of which it formed a part. Since the lintel was of less width than the depth of the doorway, the rear edge was not lined up with anything and its irregularities had the maximum chance of not being noticed. The greater attention to one edge becomes at once comprehensible. This straighter edge was toward the front of the doorway when found, as required by our hypothesis. (See fragments 2 and 5 in the plan and elevation of the doorway, Plate 7 a.)

The length of the plain uncarved portion of the end recovered (Fragment 1) is about 30 cms. This is considerably more than the plain surfaces at the ends of the other carved stones of this site which have been called lintels. But none of those stones was found in position. Many have mere narrow end borders. In determining the significance of this plain end, we

should rely primarily on known lintels.

At Piedras Negras the only lintels which have been found in place, or in doorways the widths of which are known, are the plain lintels of Structures J-17, O-4, S-2 and S-4. All of these lintels extended from 20 to 35 cms into the walls on either side. At Yaxchilan there is a great wealth of stone lintels, both plain and carved. In a short visit there in 1933 we managed to measure forty-one stone lintels. Twenty-four were in position above outer doorways, and with one exception, the minimum extension of the lintel into the walls or jambs is 25 cms, and this is well below the average. There was a single case where the extension was only 17 cm. Seventeen fallen stones were measured. The smallest plain end in this group measured 14 cms, but most were much more. The longest plain end observed measured no less than 71 cms. From these examples of known lintels, it follows that a considerable plain extension, which fitted into the jambs of the doorway, is to be expected in a lintel, for an illustration of the typical Yaxchilan lintel see Maler's photograph of Structure 30, in Plate 42 of the work cited. If the stone is complete, we should expect such an extension at both ends, and the very existence of the two plain ends would be the best criterion for recognizing a fallen lintel. Therefore the recovered plain end of Lintel 11, while it might be the plain end of stela, to be let into the ground, may just as resonably be regarded as the plain end of a lintel, to be let into the wall above the jambs.

We must admit a point of weakness in this evidence. The doorways spanned by the Yaxchilan lintels, and those referred to as spanned by plain stone lintels at Piedras Negras, are much narrower than the doorway of Str. R-3. Possibly with wider doorways, the plain extension would be less. But the desirability of such an extension is nevertheless plainly indicated. Several of the Yaxchilan lintels, despite the narrower doorways, are over 2.00 m in length, the longest being 2.10 m. Our restoration of Lintel 11 calls for a total length of only 2.20 m.

We come to a similar conclusion in regard to thickness. Many of the supposed carved lintels at Piedras Negras are much thinner than this stone, which is 21 cms thick. But this is thinner than Lintel 7, for instance, which is 24 cms thick. The four plain lintels at Piedras Negras mentioned above vary from 28 to 40 cms in thickness. Only three of the forty-one lintels measured at Yaxchilan are less than 20 cms in thickness, and the thinnest of those is 15 cms in thickness. Nearly all the Yaxchilan lintels are considerably thicker that Lintel 11. Therefore we should expect a heavy stone as a lintel, such as we have here.

The best interpretation of the evidence at hand indicates a single central doorway in the temple, the width being 1.55 m and the depth (thickness of front walls) about 1.30 m. The length of the recovered portion of the inscription of our stone is about 1.33 m, to which about 4 cm should be added to complete the uppermost row of known glyphs, or a total of 1.37 m. This, subtracted from the doorway width leaves 18 cm. This is just enough to allow room for restoring an additional and eighth horizontal row of glyphs to those represented on our recovered fragments, and still have the inscription exposed in the doorway; or, more likely, to leave an exposed plain border of about 9 cm at either end of the inscription.

155
137
18

The width of the stone, 68 to 82 cms, is less than the front wall thickness. Carved lintels much narrower than the jambs on which they rest are common at Yaxchilan. All known dimensions are therefore consistent with our interpretation of the stone as a lintel, although of course they do not prove it. If a lintel, there was probably a plain extension on the missing end, which is allowed for in our sketch in Plate 9.

The back of the stone is roughly smoothed, while the sides are very nicely tooled. On the straight edge of the large central fragment (Fragment 2), which lay on end in the doorway, with the straight edge to the front, were remains of plaster or stucco, absent elsewhere on the stone. Both the relatively unfinished back and the remains of plaster are easily

understandable if the stone was a lintel, but less so if a stela. If a lintel, the back of ths stone was covered and hidden by super incumbent masonry; the front edge was exposed and plastered along with the rest of the facade.

The lay-out of the glyph blocks, four vertical columns of seven or more to a column, is comparable at Piedras Negras to a stela, No. 36, which has four vertical columns of eight blocks each. But by analogy with Yaxchilan the same arrangement is reasonably probable on a lintel. Lintels 21, 22, and 37 at that site all show this same arrangement, with eight blocks to each of four vertical columns.

.....

Maler Op. Cit. No. 2, Plates 56,67, 64.

.....

The fact that the vertical columns of glyphs on Lintel 11 run the length of the stone, as on Stela 36, is also quite consistent with the alternative lintel hypothesis. The photographs of Lintels 1, 2, 3, 14 and 46 at Yaxchilan as given by Maler all show clearly enough that the tops and bottoms of the designs in those cases adjoin the jambs, and are not at the front and back edges of the stone, when it is in position. There, as with Lintel 11, the observer faced one of the jambs and then looked up to see the design or read the glyphs.

.....

Maler, Op. Cit. No. 2, Plates 46, 47, 48, 53 and 68.

.....

The very best evidence is the position in which the fragments were found. Plate 5, b shows all of them except Morley's end piece, before they were moved, as seen from inside the doorway. Fragment 2 is on edge at the right, and against the right (southeasterly) jamb of the doorway, which

does not show in the picture; the six small fragments lie face down in the center, the folded meter stick resting against Fragment 6. Four stones of the lowest course of the front wall are seen immediately to the left. In Plate 7, A we show by plan and elevation the positions of the seven fragments numbered 2 to 8, as Mr. Amram found them.

In the plan of the doorway, the groups of fragments 3 to 8 are shown a little too far to the rear, as may be seen in the photograph, but this does not affect our reasoning. These small fragments were close together as shown in correct relation one to another, proving that they are parts of a large fragment which fell and was shattered when it struck the floor. If Morley's fragment had been fitted to our large central fragment before we moved it, the former ~~Fragment 1~~ would then also have been upright, the carved face against the right (southeasterly) jamb of the door, the plain end up, and the straight side toward the front. Its hypothetical position is indicated in broken lines, in the elevation. Very probably it was in approximately this position when Morley found it, the end protruding above the surface, which would account for its greater erosion.

Now if a stone lintel breaks in the middle, the two halves are bound to have a tendency to swing down against the jambs, with the undersides (the sides usually carved in this region) against the jambs, the plain ends up. We have caught such a movement half completed in Structure O-4, shown in Plate (32-S-184.) The positions of our fragments are exactly what we should expect if it is a lintel, fallen in its doorway. The right half (left, facing the doorway) was against the right door jamb, face to it, and with the end up. The left end was probably in this instance shattered into small pieces and thrown out by our workmen as being mere wall material. The area where this end should have been was excavated before it was known that a lintel was involved. The stone probably cracked from side to side in

in the middle. The right half swung down against the right jamb, breaking again into our Fragments 1 and 2. The left half probably broke again leaving a stump in the wall, allowing a large fragment to fall to the floor and shatter into our Fragments 3 to 8. With the final ruin of the left jamb, the remaining left end of the lintel might easily have been shattered and become unrecognizable. It might even have fallen forward and down the stairway.

The bottoms of the glyphs on Fragments 3 to 8 were to the right (left of an observer facing the doorway from the outside), and the straightest edge was to the front. Also, on Fragment 2, this edge was to the front, and the bottoms of the glyphs were up. If we had lifted this piece to horizontal, retracing the supposed line of its fall, it would then have been in correct position to fit it to Fragments 3, 4, and 5, which we have done in the photograph, and the bottoms of the glyphs of this piece also would then be to the right. Therefore, one faced the right door jamb (the southeasterly one) and then looked up, in order to read the inscription.

As regards position, everything fits the lintel theory. On the other hand, nothing fits a stela theory. We cannot suppose that by accident human destroyers of the temple placed fragments of a stela in positions so perfectly in accord with the natural positions of a broken and fallen lintel. A stela could not have naturally fallen to these positions either from the front or from a side terrace. The only way the positions could be accounted for under a stela hypothesis would be to abandon the idea that a temple existed, despite the perfectly certain rear ledge, and 70 to 80 cms of debris, and postulate a masonry base for the stela, where we show the right front wall of the temple. This is unjustified. And it would also require the postulate that the stela faced not to the front, but to the left (northwest), or else that it turned ninety degrees to the left in falling, both

highly improbable suppositions.

Stela 29 (Maler's Numeration).

Having come to the almost certain decision that Lintel 11 is not misnamed, attention turns naturally to Maler's Stela 29. He published only three fragments, which belong to the upper part, apparently about half, of the monument. They were rephotographed by Morley, whose excellent view, with his kind permission, is shown in Plate 6, c. This stone is of the same thickness as Lintel 11, and its width almost the same (78 cm) as the maximum width of the Lintel 11 fragments. The glyphs are the same size. Maler says he found the badly eroded lower half, that the total length "may have been two meters", and that the total inscription consisted of four vertical columns of eight glyphs each. He reports that he found the fragments at the top of this pyramid, in front of the temple. In his plan,

.....

Maler, Op. Cit., p. 69.

.....

it is shown as in front of the temple, at the center, ~~and he evidently considered that it came from there~~.

In the 1932 excavations, Mr. Amram and the writer, who made a plan of what was left of the badly ruined temple, were misled by the positions of six stones to the left of Lintel 11, and considered that they outlined a small central pier, beyond which was another and left front doorway. In the ruined state of the pyramid, it was impossible, without a surveyed plan both at top and bottom, to recognize the exact center , and we assumed this supposed pier, instead of the doorway, as being in the center. A surveyed plan was not made until 1933.

It is a necessary inference from what Maler states as a fact that the eroded end of his stela, which he did not photograph, contained four vertical columns of four glyphs each, which, added to his photographed

Since Maler states that his stela contained of eight characters, those on the lower portion, which he did not photograph, being eroded, and since his photograph of the upper portion shows rows of four characters, it is obvious that the lower portion also contained four rows of eroded glyphs. (Marginal note crossed out, then indicated to be included).

fragments, he said, gave a total of eight glyphs to a column. The end fragment of Lintel 11 found by Morley (Fragment 1) could not be Maler's end of Stela 29, since it very clearly has only two glyphs to a vertical column represented on it. Nor can this be added to our large central piece (Fragment 2) and the two together considered as Maler's large eroded piece, which became broken in two, later. First this central piece was found buried and securely tied in with roots. Second, had Maler been considering these two pieces as the lower half of Stela 29 he would have counted nine and not eight glyphs to a vertical column, as a comparison of the photographs will show. Each of these units--Maler's photographed portion of Stela 29, and our Fragments 1 and 2 of Lintel 11, ~~the latter~~ considered as a unit, show four complete glyphs to a vertical column, plus parts of a fifth glyph in one or another of the columns. It is impossible that Fragments 1 and 2 are the lower half of Stela 29 to which Maler refers, unless we assume he miscounted the number of glyphs. And the position in which we found Fragment 2 makes it extremely improbable that he ever saw this fragment. We have not found Maler's large eroded half of his Stela 29, which is very unfortunate. And it must be admitted that it should have turned up. Nevertheless, we believe Maler's end of Stela 29 is missing, and was not part of our supposed Lintel.

Maler's photographed end of Stela 29 shows a 14 cm border instead of a sizeable plain end. Nevertheless, since many stones of the city, certainly not stelae, and supposed in the past to be carved lintels, have even smaller end borders, we did not consider this conclusive evidence against his Stela 29 having been in fact a lintel. Since we thought we had a left doorway which called rather strongly for another stone lintel, and since Maler's Stela 29, so far as we knew, was a twin in design and all comparable dimensions, except the end border, it was, after consultation with Dr. Morley, assigned to the supposed left doorway and re-named Lintel 14.

That conclusion must now be abandoned. We know from a carefully made survey of the pyramid, with transit and tape, that Lintel 11, and its doorway, were only the center axis of the pyramid. We also know beyond any reasonable doubt, that the temple chamber could not have been more than a half meter or so wider, from side to side, than we have shown it in our restoration. With this fact reduced to paper (see the plan, Plate 7, A) it is apparent that there was no room for additional front doorways in the temple. With only one doorway to accommodate a lintel, we must retract our former opinion and agree that Maler found what he said he did--a small stela.

Since he places it at the center, close to where we found our fragments, and since fragments of both his stela and our lintel are so similar, we should recognize and, if we can, dispose of the possibility that there was really only one monument involved, that is a stela larger than Maler supposed.

The widths and thicknesses of the stones and the size of the glyphs all permit the conclusion that all fragments are from one stone. Maler thought his Stela 29 fragments came from a point just in front of where we recovered those of Lintel 11. Of the total of fragments, only two ends are represented. The plain end of our supposed Lintel 11 could have served as the plain base of a stela, and been let into the ground. The plain projection is shorter than that of most stelae at the city, but as long as some, at this city, Stela 12 for instance. And it is below the last row of glyphs. On the other hand, the end of Maler's photographed fragments shows a plain surface of only 14 cm, a mere border above the first row of glyphs. And the end is nicely worked, as it should be if it were the top of a stela. This circumstance was considered when this stone was called a lintel, but was deemed inconclusive as stated above. All these facts are consistent with the hypothesis that only one monument, a fall stela, is involved.

The fragments which we call Lintel 11 cannot be fitted to those of

Stela 29 which Maler photographed (the only ones we have been able to find) but this is inconclusive. There may be missing pieces, which if recovered, would join the two groups of fragments. Failure to fit the two groups of fragments therefore does not settle the matter.

Our reasons for denying the possibility that we are in fact dealing with only one stela, and not a stela and a lintel, are as follows:

1st: The evidence adduced above showing why we think our fragments are those of a lintel, which we think are fairly conclusive. These may be recapitulated as follows:

a. The asymmetrical form of the stone, which would be practically unnoticeable in a lintel, but very prominent and displeasing in a stela.

b. The thickness of the stone and the length of the plain end are what a study of many lintels at Yaxchilan, and the only absolutely certain lintels at Piedras Negras, lead us to expect in a lintel.

c. The length of the recovered part of the inscription, and the probable total length of the stone, and its width, are all consistent with its use in the doorway in question.

d. The back is not well smoothed, while the edges are, and the edge found facing the front is the straightest edge and shows remains of plaster, now absent elsewhere on the stone.

e. The position in which the fragments were found is perfectly explainable in the lintel hypothesis, but inexplicable if they are from a stela. This is the evidence entitled to greatest weight.

2nd: The glyphs of Maler's Stela 29, while of the same size, as those of Lintel 11 are quite flat. Those of our fragments appear to have been rounded up from all sides. This is a weak point and might be

accounted for by the greater erosion of our fragments. But it must be remembered that Fragments 3 to 8 were found face down and buried, and were as well protected as anything on the pyramid. The difference in degree of preservation in itself thus confirms a distinction in the stones. If the glyphs were not originally higher in the center than at the sides, why should they, in a well protected position, erode differently from those of Maler's Stela 29? The glyphs of Stela 29 cannot be supposed to have weathered down to flatness, since their details are so well preserved.

3d: Maler says he found the base of Stela 29; that it gave a total for all fragments of only eight glyphs to a column (his vertical row), one-half of which were on the lower and unphotographed piece. This base is now missing. It cannot be our end of Lintel 11, for reasons stated above. It is therefore highly probable that Maler did recover a large eroded fragment, which was the base of his Stela 29, but which is distinct from our fragments of Lintel 11 and is since lost. If, as he says, counting the lost base, there were four vertical columns with a total of eight glyphs in each, the inscription was identical in lay-out with that of Stela 36, in the same court. Stela 36 assures us that there is nothing improbable in Maler's statement that his Stela 29 was complete, notwithstanding its small size. If Maler's count of glyphs is correct, the question is settled by this alone, since it means that ~~these~~ three end pieces, and therefore more than one monument, have been found at the top of the pyramid, though one is now missing.

4th: While the great majority of stelae at Piedras Negras were placed on a terrace at the foot of the pyramid, at least two, Stelae 12 and 15, and possibly four, were placed on the fifth terrace of

Structure O-13. And two supposed plain stelae Stelae 42 and 44, were probably placed on this same third terrace of Structure R-3, at either side of the temple, as we shall see below. There is therefore nothing improbable in supposing that a third one was placed in the center and at the front of the same third terrace.

As outlined above, the writer, after a careful analysis of the evidence available, which is not as complete as one might wish, is satisfied that the stone designated as Lintel 11 was in fact the lintel of a single central front doorway of the temple, and that Maler's Stela 29, which we had re-designated Lintel 14, was in fact a small stela, probably placed in front of the doorway, on the third terrace. We have accordingly, again with Dr. Morley's approval, vacated the number 14 from our series of supposed lintels, re-assigned the number 29 to Maler's Stela 29. The stone from off the lower terrace of Str. R-5, which Maler called a "Sacrificial Column" without giving it a number, which was to have been called Stela 29 in the revised nomenclature, has been designated Stela 46.

-Stela 42-

Stela 42 is a plain stone, found broken into three pieces, which lay about half-way down the slope and close to the center of the right (southeasterly) side of the pyramid. Mr. Amram measured the fragments. The thickness is 27 cm, the width 68 to 69 cms and the combined lenght 2.43 m. The first fragment was discovered by Dr. Morley's party, the last two by Mr. Amram, who reports that one side is smoother than the other, with traces of smooth white stucco or plaster upon the smooth face. That side was down. Considered as a mere stone, this might well be a lintel. But the probable simple plan of our temple does not allow for side doorways. Accepting Dr. Morley's designation of it as Stela 42, it almost certainly stood at the center of the right (southeasterly) side of the third and highest terrace of the pyramid.

Stela 44.

This is a second large plain stone, found by Mr. Amram on the opposite (northwesterly) slope of the pyramid, somewhat to the front of the center of this side. Mr. Amram reports that this also had traces of plaster on it. It is still smaller than Stela 42. Length given is 156 cm, thickness 21 cms, width, 62 to 66 cms., the narrowest measurement being at the top, which is somewhat rounded. This stone also is reported to be somewhat rough on one side. Dr. Mason examined it and noted that the base was not cut at a true right angle to the side. ~~If we had any evidence of side doorways in the temple, the writer would consider both Stela 42 and this one, Stela 44, as lintels fallen from those doorways.~~ They are the only plain stelae known at the city. (??)

In this connection it is only fair to state that Mr. Amram, who excavated the temple almost completely, thought at the time that there were side doorways, though he never considered assigning these stones to them as lintels. But he was not able to find any positive evidence of such doorways in position. And that belief arose in the first place from the misconception that the rear ledge in the temple was the lowest course of the rear wall proper. This was disproved in 1933 by finding finishing plaster in position on the upper surface of the ledge. The fact that two such divergent reconstructions are possible arises, the writer believes, from the complete collapse of both end walls, including the very lowest courses. Since they are entirely gone, naturally we are not in a position to say positively that there were not end doorways. Lacking evidence, we have reconstructed a simple temple plan such as we know existed here and elsewhere, which is consistent with all the known evidence.

Having made this assumption, we are bound to consider Stela 44 as properly designated as a stela, despite its small size, though we could wish for more positive proof.

PERIODS OF BUILDING--STRUCTURAL DETAILS.

The writer's principal concern with this pyramid was the sinking of a test trench which should give the front half of a cross-section on the front-to-rear axis. It will not be completed until another season, but it is nearly done and gives satisfactory results which are illustrated in general in Plate 8, but in more detail in Plate 7. We number our building periods from the top down--late to early--but it will be easier in this description to take them up in reverse order. The superposition of these building units is represented without detail in Plate 8, D, and with details schematically represented in Plate 7, B.

-Structure R-3-4th.-

Four distinct building periods were encountered. Structure R-3-4th is thus far represented by nothing more than about two meters of floor, marked (Z) in Plate 7, B, which gives a schematic representation of the cross-section exposed by our trench. There is no doubt but that this one served as an exposed platform or terrace, as finishing plaster is well preserved on on its surface. It was broken off at the front before or at the time of the erection of R-3-3rd. How far it extends to the rear is as yet unknown. Excavations at a higher level indicate clearly that this substructure was never very high. It is either the very broad lower terrace of a low platform, similar to one found under Structure J-7 in Court 1 of The Acropolis, or it is itself the upper surface of a low platform. No evidence of the type of building which it supported has been encountered as yet, and, of course, it may not have supported a building at all.

As one may see in our cross-section, Plate 7 B, there is a floor (but without finishing plaster) running from a point below the outer wall of the first terrace of Structure R-3-3d (which is common to Structures

R-3-2nd and R-3-1st to a point 4.15 m to the front, where it terminates in a low stone wall or step. This step seemed to be below the level of the surface on which the pyramid is built. Furthermore, there seems no reason for building this floor under the fill of the stairway of the pyramid. A buried floor at about the same level was found beyond the stairway, at the northwest side. There must have been an artificial floor in front of our platform R-3-4th. We therefore assign the floor to the platform, which gives a height for the latter of 50 cms. We have positive though inconclusive evidence to support this assumption. The inner wall of the first terrace of R-3-3d is built of very irregular stones, except for the lowest course, which is of good blocks of the same character as the outer walls. (Plate 4, b). This course was probably originally laid as the lowest course of the retaining wall of R-3-4th, all but this lowest course being subsequently torn out. The floor stops at this point. On this evidence, we have suggested this point as the front of R-3-4th in the section in Plate 8 D.

There are two available explanations for finding the front of the platform destroyed and cut off from the floor to the front. One is that the missing front wall of the platform, and part of the platform behind it, was dug out to make way for the inner constructional wall of the pyramid terrace; the other is that these were dug out in order to place two cache bowls found on the bed rock, the position of the bowls being indicated on the section in Plate 9, 8 D. If the first hypothesis is accepted, the bowls were cached before or at the time of the building of Structure R-3-4th; if the latter, after that time but before or at the time of the construction of R-3-3d. The latter is the probable guess. Under the first hypothesis, it would have been natural to use the supposed wall of R-3-4th as found, building from its top and not tearing it out to the lowest course. These bowls may be dated as

probably contemporary with, possibly prior to, the erection of Structure R-3-3d, the earliest pyramid but the second structure found at this spot.

The floor of R-3-4th is of good crushed stone and mortar concrete, surfaced with good white finishing plaster. It rests, so far as examined, on a solid fill of earth and stone (Plate 7 B).

Structure R-3-3d.

The next building erected here was a pyramid. It must be remembered that this excavation meets the pyramid at the front center, which was originally covered by its stairway. The fact that its three terraces (See Plate 7B) are plain is therefore of no evidential value in picturing the exposed parts of its facade. As a matter of fact, we have reason to suppose that the first terrace of this first pyramid remained unchanged and exposed through the two later periods of building. Therefore, the general appearance of the first pyramid was probably the same as that of Structure R-3-1st with off-sets and round and horizontally paneled corners.

However, while its first terrace was of the same width as the latter modified structures,--about 90 cms, the second was about 1.25 m wide. While the first terrace was 2.40 high, and remained so, the second and third terraces of this period were lower than the first, approximately 1.90 high. The total height was measured as 6.17 m, which, to avoid an appearance of greater accuracy than this type of building warrants, we will call 6.20 m.

The top of the upper terrace had been knocked off somewhat in later operations. Restoring its position from the known slope of the wall, and measuring it from this point, we followed the floor of the third terrace for a distance of 5.25 m, where our excavations stopped. The front part of this floor is of good lime concrete, covered with smooth white finishing plaster back to a point 1.55 from the restored edge of the terrace. Here the finishing plaster breaks off on a straight line, the edges of the plaster distinctly turning up, proving that there was formerly a wall at this point, rising from the third terrace. (See Plates 2 A and 3 D).

The good hard whitish concrete of the floor itself continues back for about one meter further, after which it gives place to gray-brown soft earth and small stone. If there was any mortar in this part of the floor, it was scanty or of poor quality. This was followed back to a total 5.25 from the front edge of the terrace.

From the above evidence it is clear that the missing wall was not that of a temple, but presumably the front retaining wall of a low subsidiary platform, all evidence of its nature was removed during the next building period.

This latter circumstance raises a disturbing thought in our interpretation of the conditions met with. It is readily understandable that the front wall of the subsidiary platform may have been ripped out, to provide building stone for construction in the next later period. But why remove the whole floor? May not the floor actually found 80 cms above, which is destroyed at the front, be the floor of the subsidiary platform of Structure R-3-3d, rather than that of a later period, which we have called R-3-2nd? We believe the answer is no, for the following reason.

The position of the base of the missing wall of R-3-3d is definitely known. The perfectly preserved white cement floor above (though not the finishing plaster on it) extends forward to a point directly over the outer (front) side of the missing wall where it had been broken off. Even if that wall was vertical, if it had joined our two floors, the concrete of the upper one would have stopped short of the outer face of the wall by the thickness of the wall, which we can say with assurance was 25 or 30 cms. At this point there is no reason to suspect significant errors in our measurements.

Further, the solid fill which supported the front portion of the upper floor (that of Structure R-3-2nd) and lay on that of R-3-3d, has every appearance of being one continuous homogeneous mass from a point

well to the front to a point well to the rear of the former position of the missing wall. Plate 2A shows this fill. The meter stick stands just behind the edge of the finishing plaster, and rests against a projection of the broken edge of the upper floor, confirming our cross-section as drawn.

We thus feel quite safe in treating the floor above the third terrace of our first pyramid as a later construction, though we have no reason at hand to account for the total obliteration of the subsidiary platform which probably first rested on the pyramid. It is quite possible, indeed likely, that part of the fill of that platform, but without any remaining floor surface to prove the point, was incorporated in the next structure. Therefore objects (a few sherds) found under the latter may be attributed either to its period or that of Structure R-3-3d, below.

To sum up our knowledge of the form of Structure R-3-3d so far as may be surmised from our admittedly slight excavation, we may say that at the base it probably measured the same as Structure R-3-1st of the latest period, or about 21 meters on a side. The slopes of the three terrace walls were about the same as those of the later building. The heights of the two upper terraces, while about equal to each other, are each less than that of the lowest terrace. And the width of the second is greater than the width of the first terrace. The two maximum diameters of the building area provided by the third terrace were probably about 11.70 m in length, about 1.00 less than the minimum (front to rear) center axis of the latest pyramid on its third terrace. The temple which probably crowned R-3-3d was thus probably no longer, though it may have been wider (front to rear dimension) than that which finally rose above it. Its subsidiary platform was set about 1.50 m back from the edge of the third terrace but its height is unknown.

No plaster was found on the pyramid walls at the points seen, and this

confirms our natural assumption that this temple, like the latest, faced northeast on the South Group Court. The stairway which presumably rose on this side (making plaster on this part of the terrace superfluous) was apparently completely removed, though possibly some of its fill was left in place and incorporated in the fill of the later stairway.

The construction of this pyramid is not without interest. On the floor of the low mutilated platform, Structure R-3-4th, is a solid deposit of broken rock mixed with poor mortar and soft limy material, the latter being described in the notes as "old floor material". This rises sharply from front to rear, reaching a depth of one meter at the rear of our excavation (Plate). Whether this is an integral part of the construction of the pyramid, or is simply an old pile of building refuse can hardly be stated. Taking this as a starting point, the core of the first terrace was apparently built as a unit. As indicated by the small excavated portion at the front, it is formed of broken rock (lime stone) of medium size, with some quite large pieces and with some pockets of earth, possibly poor mortar. It is not a solid fill. Essentially it consists of nothing but artificially broken rock thrown or laid without binding material. There are no flat faces on the stones, which means that they have been broken off from deposits of bed rock, the strata of which are quite thick, or represent broken-up boulders and talus from the river or the surrounding hills.

The hearting is faced at the front with a very crude dry wall except for the lowest course which as we have seen probably is all that is left of the wall of R-3-4th. This crude wall was faced with an outer shell formed by a good wall of well selected stone blocks of medium size, placed 50 cms

to the front. The blocks of the outer wall are split off from stratified limestone beds, so that upper and lower surfaces are parallel, in strong contrast to the inner wall which, with a few exceptions, is of rough broken rock (Plate 4, b). The stones of the final wall are laid horizontally, the terrace slope being obtained by stepping one stone behind that below it. This is the style of surface masonry employed on all exposed portions of the terraces of Structure R-3-1st. Where exposed, the stepped effect was undoubtedly obliterated with thick plaster. The surface of this final wall is only 50 cms in front of that of the original crude wall. A solid fill of small stone and earth, probably with some admixture of mortar, fills the narrow space between the two walls, which varies between ten and thirty centimeters. As found, the upper courses of the finishing wall were not in place, while those of the crude wall behind were, giving a stepped effect to the terrace.

The reason we believe the whole first terrace was built first appears plainly enough in the cross section, Plate 7 b. At a distance of about two meters in from the top of the crude wall, and at that level, we encountered a sort of floor, consisting of crushed stone and earth, perhaps remains of poor concrete. This extended five meters to the rear, where our excavation ceased. There is no sign of finishing plaster on it, it is inferior in every way, and it definitely does not extend to the front edge of the terrace. It is a constructional feature, and marks a stage in the building of one pyramid, not a separate building period. Perhaps it may be compared with the layers of concrete which pass through rubble and mortar fills in northern Yucatan.

The second terrace is built in the same way--with the same crude inner and superior outer wall at the front. But there is no stratum or "floor" separating the interior part of its surface from the fill of the third terrace above. At a distance of about 6.75 m in from the base of

this second terrace we encountered a crude wall, built however, of blocks, that is, stones with parallel upper and lower surfaces, apparently laid in an insufficient quantity of very poor mortar. It has a slight batter or slope to the rear. Its base is about 60 cm above the constructional "floor" on the first terrace, and it is about 1.20 high, with no well defined top. No floors are associated with it and it was not finished with a plaster surface. It simply "hangs" in the surrounding fill, and must be considered a constructional feature. (See Plate 3, C and Plate 7, B.)

The third terrace differs from those below in having only a single facing wall at the front, of the same character as the outer walls of the two lower terraces. The interior is built of pure broken rock fill, like that of the second terrace back to the constructional wall above mentioned, and back to this point the hearting of the second and third terraces is one continuous mass of broken rock of medium size. To the rear of this point, however, pockets of very poor mortar are scattered through the fill, and there is also a well marked stratum of brown earth and small stone, about 25 cms thick, lying about 75 cms below the top surface of the third terrace, (marked X in the cross section, Plate 7 B). There is thus a more complex treatment of the hearting or fill at the center of the pyramid, but its significance can only be determined by further digging.

In our center section, the first and second terraces were not provided with plaster floors. Indeed, in the first terrace the outer wall failed to reach the full height of the crude inner wall by about 40 cm, though it may have been partly destroyed during rebuilding operations. But on the second terrace the outer wall was carried still higher at a later date, and should have preserved a terrace floor if there had been one. Floors here were unnecessary, as this was all covered by the stairway.

The floor on the top or third terrace has already been described. The

concrete part of it, at the front, which supported the front wall of the supposed subsidiary platform, is of excellent mortar and crushed stone concrete, about 10 cms thick, and where exposed was surfaced with excellent white finishing plaster. It does not differ materially from concrete floors in other and presumably later buildings of the city.

Structure R-3-2nd.

As stated before, this is represented by a floor 80 cms above the third terrace of R-3-3d, and the bare possibility remains that it is part of that period. Our reasons for thinking otherwise have been set out above. Whether it was or not, it seems fairly clear that it made use of all three terraces of the pyramid which we assume to have preceded it. That is, if it is a new structure, it seems to be merely a new building and subsidiary platform on an old pyramid. But again we must hedge our conclusions about with possible alternatives. The level of this floor coincides so closely with the top of the wall of the third terrace of the later Structure R-3-1st, as it was found, that the remodeling of the pyramid, described below, which we associate with the latest temple, may have pertained to this one. In that case it would be the latest, or Period 1 temple, instead of the earlier Period 2 temple, which was a mere replacement of the temple.

In either case we have on this level probable evidence of a former temple, almost completely dismantled, presumably for its building stone. At the rear, our trench passed through a deposit of building blocks, resting on the floor, the lowest of which are almost surely in position. The finishing plaster does not extend under them. From a point a few centimeters in front of these stones, the floor is covered with good white finishing plaster for a distance of 3.30 m to the front, where the finishing plaster breaks off irregularly. The concrete floor itself continues to the front for 80 cms more, where it breaks off completely, but irregularly.

It is very probable that the floor is that of a temple with a rear stone wall, at least, and presumably stone walls all around. If the whole of the uncovered portion of this floor had been found finished with plaster, we would have no basis for speculating on the temple dimensions, since it might be that our trench passed through a wide central doorway, without encountering traces of the front wall--that is, the door jambs--on either side. But this is not the case. The concrete floor extends four meters to the front of the remnant of the rear wall, at which point it had been broken off, but the last 80 cms of this (to the front) presented a rough surface. If we were passing through a doorway, the finishing plaster should have extended clear to the front. It seems probable that the unfinished portion of the floor, beginning 3.30 from the rear wall, marks the former position of the front wall, and that the width of the chamber (front to rear) was 3.30 m. If our reasoning is correct there was no center doorway, this point being occupied by a central pier between two doorways on either side. The need for building stone presents a ready reason for the complete removal of the supposed pier.

If the width of this chamber was really 3.30 m, as we suppose, that fact makes it extremely likely that this temple was not roofed with a stone vault. If it was so roofed, the vault presented the widest span thus covered in the city. Our reasons for not expecting a vaulted temple buried here, particularly one of a wide span, are set forth in another paper and cannot be expounded in detail here, though we may summarize them briefly.

We have reason to believe that the South group was laid out and most of its pyramids built to final form before the stone vault was used at the city at all; and that after vaults were introduced in the palaces at least, their spans became greater, as time went on. We have reliable information on twenty vaulted buildings. Of these the widest span is 2.88 m--42 cms less than the supposed width of the chamber in question--while all but that and one other are under 2.50 m in width. On the other hand, we have non-vaulted chambers with greater and with smaller spans, so that the indicated width

here is a reasonable one. Structure K-5-3d, buried like this under later construction, has a span of 5.00 m, and also has two doorways on either side of a central pier. Structure J-20, a surface building, has a span of 3.20 m, less than, though very close to, R-3-2nd. Str. J-12 presented spans of about 2.30 m.

That the temple was in fact non-vaulted is at present a speculation resting on scanty evidence, which ought to be augmented by lateral trenching. But the interpretation gains probability by being consistent with data from many other excavations at the city. In particular, if our tentative conclusion turns out to be correct, this will be the third non-vaulted structure thus far found buried within a pyramid. The first is Str. K-5-3d, a stone walled temple below the vaulted temple K-5-1st, and the second is Str. O-13-2nd, below the vaulted temple O-13-1st.

The floor on which we have been speculating at such length is of excellent white concrete, the finishing surface coat of plaster being also white. Like the finished portions of all the other floors buried beneath the latest structure, it showed no signs of having been colored. Had it originally been colored, traces could hardly have failed to be preserved.

It rests for the most part on a fill of large and small broken rock, mingled with sizable pockets of concrete. This cannot be classed as solid, though it approaches that condition. Toward the front it gives way to a solid fill of large and small broken rock, and apparently, concrete. As indicated before, the fact that this solid deposit extends under the floor in question (R-3-2nd) makes it contemporary with that floor. The fact that it covers and rests on the floor of R-3-3d, both in front of and behind the line marking the former position of the platform wall of the latter and earlier structure, goes far toward proving that R-3-2nd and what is left of R-3-3d represent two distinct building periods.

In the cross section of Plate 8, D, we indicate our belief that the pyramid supporting the temple of a later period, R-3-2nd was the same as that of the preceding period--that is, that Structure R-3-2nd is merely a new temple with a new subsidiary foundation terrace or platform, placed on the old and unchanged pyramid. However, the level of this temple floor is only a little below the restored level of the top of the third pyramid terrace as finally rebuilt, and almost exactly the same as this top as found. There are two reasons for believing that the pyramid did not reach its final form until the next and last building period.

The first is that if we extend our temple floor of R-3-2nd out to meet the top of the third terrace wall as found, the temple would then of necessity have rested directly on the top surface of the pyramid, instead of being raised slightly above it by a low subsidiary platform, and would have been without the outer ledge or plinth, at floor level, which is present on all known temples of the city.

The second reason is that our floor does in fact break off irregularly about two meters behind the terrace wall as found. No ceremonial deposit was found in the fill below this area to account for the removal of the floor in front of the point where it now breaks off. The best interpretation is that there was formerly a low fourth terrace, or more likely a vertically walled subsidiary platform which rested on the top of the pyramid in its original form. We may suppose that the wall of this was torn out for the sake of building stone, leaving the termination of the floor ragged, as found. That this actually happened is confirmed by an irregular line in our field drawings running forward and downward from the broken off edge of the R-3-2nd floor, through the solid fill. (See Plate 7, B). This indicated that while the mass of solid fill found above

the third terrace of the pyramid in its early form functioned as a unit, it was laid down in two masses, the first of which we may assign to R-3-2nd, the line of demarcation indicating the surface after the stone walls were torn out. This was then raised by a new fill of the same type to support an entirely new and higher third terrace for the final building.

-Structure R-3-1st.-

This temple and pyramid, as a finished product, has already been described. Our cross section yields some information as to its construction. For its lowest terrace it uses that of the earliest pyramid, apparently without change. The outer and surface wall of the original early pyramid is also retained, but raised a few courses to make the second equal in height to the first. The width of this terrace was also made equal to the first, and thus less than that of the earlier second terrace. As a consequence an entirely new third terrace had to be constructed. Under the stairway, where appearance mattered not at all, a compound rough but strong wall retains the third terrace. The fill which supports it, burying the earlier third terrace, is solid stone and earth, possibly with some mortar. The lower part curves in at the top. From this point the upper part is straight, sloping back at a slight angle, and is built of better selected stone. The top of this as found reached a height of 6.90 m above the base of the pyramid. One would expect the top courses to fall off, as the building fell to ruin, and we restore it the height of the third terrace floor, 7.20 m, the floor being preserved farther in. If this restoration of only two or three courses is correct, it follows that the rebuilding of the upper terraces of the pyramid did not occur until the latest temple, R-3-1st, was being provided for. Other reasons for this interpretation were set forth under the discussion of Str. R-3-2nd. As one may see by the section ~~that~~, the concrete floor of the third terrace was carried in only to a point about a meter behind the front wall of a subsidiary platform which was erected on it, this wall forming the front plinth

of the temple. The floor overlaps the earlier floor of R-3-2nd in reaching this point. It extends to the front a distance of 1.75 to the front of this plinth wall, where it peters out into humus and debris. Sofar as it goes, this circumstance confirms our assumption that it formerly extended at this level to the top of the third terrace wall, the upper 30 cms of which have fallen. It is the level of this floor, preserved only here at the center where it was buried, that gives us the original height of the third terrace, and which makes it equal to the others. The floor is about 25 cms thick, and white at the rear where it was thoroughly protected. To the front of the temple plinth it is gray, doubtless the result of weathering. The plinth of the temple descends to this floor, within the subsidiary foundation platform shown on our plan. The latter therefore has no structural function, and may be a late ornamental modification. The fill behind the plinth--structurally the real subsidiary foundation platform--is not homogeneous. The lowest 40 cms or so is a solid mass of large and small broken rock, packed in yellow mortar which, at the front, rises to the under side of the floor, forming a solid backing for the plinth, and foundation for the front wall of the temple. The solid portion does not rise in this manner under the rear wall, however. Above this is a thin stratum of more or less pure broken rock fill of large and medium sized stones, supporting the good concrete floor. The fill as a whole is a combination of solid and pure rock portions. The reason for this complexity is not known to the writer.

The walls of the temple were built of fair-sized well-selected blocks, laid in mortar, with some admixture of small slabs. They are so far gone that nothing more can be said of them.

The stairway was retained by vertical walls at the sides. No steps were in position, but enough blocks were sliding down the surface of the debris to show that blocks of medium size were used for the treads. The construction of

the steps was probably similar to that on Structure J-3. The fill which supported the steps was of pure broken rock, mostly medium size, with some

.....

....

large stones toward the bottom. However, in the angles of the terraces, and over the whole floor at the bottom, this pure rock fill was placed on nondescript soft but solid deposits of small stone, earth, and perhaps some mortar. These are to be compared with the similar deposit on Structure R-3-4th, within the pyramid. They look very much like refuse which accumulated in the process of removing the earlier stairway. These deposits nowhere showed any sign of decayed vegetation.

Date

We believe that this structure, in its final form, was completed not much later than 9.6.0.0.0 in the Maya Long Count, though this is a deduction from uncertain evidence. If this date is granted, the earliest platform (Structure R-3-4th) probably goes back into Cycle Eight, though there is of course no satisfactory evidence bearing on the interval of time between the various building periods. As we have seen, there were certainly three and almost certainly four such periods.

We can do no more than summarize our line of reasoning as to the date here, since in large part it depends on Dr. Morley's work on the inscriptions of the city, as yet unpublished. He has very kindly given us a list of his readings, which is our point of departure.

First: Stela 29 was undoubtedly placed on the top of the pyramid in its final form (i. e. on Structure R-3-1st). Its initial series very plainly reads 9.5.5.??. Unfortunately at least half of the inscription is missing, as we have seen, and there are no calendar-round dates preserved. Morley assigns

9.5.5.0.0 4 Ahau 13 Zotz as a contemporary Initial Series date, the variable element in the Introducing Glyph agreeing with such a reading, though it is

.....

Beyer has shown that an alternative reading of 9.5.15.0.0 3 Ahau 3 Uo, originally suggested as an alternative Initial Series date, should be rejected because of the Zotz indicator in the Introducing Glyph.
See Hermann Beyer in Anthropos, Band XXVI, p. 101, 1931.

9.5.15.0.0

.....

admitted that if the missing uinal coefficient was as high as 17, the initial series date might be odd, non-period-ending date in the following month Zotz, from which of course, missing secondary series might have led forward to the later period-ending date, or to a non-period-ending date.

Second: Dr. Morley considers the glyph style of Stela 29 as very similar to that of Lintel 11 and that this style early in the known series at this site, which begins at 9.4.0.0.0, with Lintel 12. We are, therefore, probably safe in assuming that the 9.5.5.0.0 reading is correct and contemporary, or that the contemporary date was probably not more than a hotun or two later.

Third: It has been suggested that dates on stelae are not trustworty guides to the dates of buildings with which they are associated, as it is known that they were sometimes moved and set up again. This objection loses most

.....

A. Ledyard Smith in Carnegie Institution of Washington Year Book No. 28, (1928-29) p. 325.

.....

of its weight here, by reason of the peculiar situation at Piedras Negras. Morley has assigned contemporary dates to no less than fifty-four monuments of all descriptions at Piedras Negras. He considers only thirteen of these questionable readings. All but one (and that a questionable reading) are period-ending dates, the kind which may be most safely considered as contemporary with the dedication of the monument. As Morley has pointed out,

there is a definite correlation between the supposed contemporary dates of the monuments and their positions in the city. All but four of the twenty-two dated monuments deciphered or for other reasons considered by him as prior to 9.12.5.0.0 are in the small South Group, which is definitely cut off from the West and East groups by the topography.

Three of the exceptions are monuments which without question had been moved from their original positions. Two of these are Lintel 12 (9.4.0.0.0) and Miscellaneous Sculptured Stone No. 9, a probable fragment of a Throne (9.11.10.0.0), both of which were broken up and used as wall stones in the East and West Groups respectively. The third is Miscellaneous Sculptured Stone No. 1, (9.10.6.5.9) apparently a very small round altar which was found in or under a floor of a temple in the East Group. The fourth is Lintel 2, from Temple O-13 1st in the East Group. This lintel disagrees in style from Lintels 1 and 3 from the same temple, but agrees in style with Lintel 4 from the South Group, and probably was moved from there, as suggested by Morley.

If we make a further elimination of seven monuments found on the surface in the South Group, the readings of which are marked questionable by Morley (including our Stela 29), we have still eleven readings left in the South Group which Morley considers certain. Each is a hotun or Katun ending, there are no duplications, and the series of Hotuns is complete from 9.10.10.0.0 to 9.12.0.0.0. With 9.12.5.0.0 the series of hotun markers moves to the West Group, and is thereafter confined to the West and East Groups.

This is pretty strong evidence that the passing of the periods was regularly marked with stone monuments which are approximately contemporary, in each case, with the end of the hotun recorded; and that even if there was any moving of individual monuments within the South Group, which there is no particular reason to suspect here, all those dating before 9.12.5.0.0

were originally intended for use within that group. We cannot suppose that there was a wholesale moving of monuments from other parts of the city which produced the observed segregation of dates. Early dates of structures then, are to be expected here.

Fourth: All dated monuments found in the South Group were found either on or in definite relationship to the pyramids of the Group. Most of the stelae were placed on low terraces at the front base of the pyramids. The pyramids themselves, or their buried predecessors, are either approximately contemporary with, or precede, the placing of the monuments, the contemporary dates of which, are as a group, the earliest in the city.

Fifth: If we grant that periods were marked by the contemporaneous erection of monuments in this group, and that every hotun was marked from the beginning (surely the case after 9.10.5.0.0) we can calculate how many monuments would be necessary to carry us back from 9.12.0.0.0, the latest date in the group, to 9.4.0.0.0, the clear date of Lintel 12. The required number is 33. Nineteen stelae and lintels have been found in the South Group. Disregarding the doubtfully dated and very small altar M.S.S No.1, and M.S.S No. 9, the date of which appears to duplicate that of one of our seven readable stelae (Stela 35, 9,11.10.0.0) there are two early monuments, Lintels 2 (9.11.15.0.0) and 5, which were very probably moved from this group, and we may say that we have more or less satisfactorily accounted for nineteen of the theoretically required thirty-three monuments.

But the earliest unquestionable Hotun-ending reading which is not also a Katun-ending date is, according to Morley, 9.8.15.0.0, on Stela 25. The only unquestionable readings earlier than this are Lintel 12 (9.4.0.0.0) and Stela 30, (9.5.0.0.0) both Katun endings. This suggests the possibility that at the beginning only Katuns were marked, the custom of marking each Hotun beginning after 9.8.0.0.0. This would allow for the presence of the

Hotun ending 9.8.15.0.0 as reported by Morley, and help a great deal to account for the large number of monuments heretofore considered as missing. In such a case, the theoretically required number of period markers in or from the South Group would be reduced to twenty-one, and nineteen have been found. There would then be only two missing stones, which might have been removed, or which may be still hidden under the debris of the six pyramids, the slopes of which have not been cleared. It seems improbable that twelve as yet undiscovered monuments have been removed or are still hidden from view.

This assumption of early marking of katuns but not hotuns requires a further one, namely that the Initial Series of Stela 29, which may be 9.5.5.0.0 as read by Morley, or a non-period-ending date slightly less than a tun after this which falls in the same month, Zotz, was carried forward by missing secondary series to a Katun-ending date. We can be reasonably sure that such a katun date was not later than 9.10.0.0.0, since every katun thereafter is accounted for by other monuments dated by Morley as certain. In the present state of our knowledge the best guess would be 9.7.0.0.0 rather than a later katun ending, since Morley considers the glyph style as early. Since the glyphs of the unreadable Lintel 11 seem to be in the same style, that lintel could be provisionally placed at 9.6.0.0.0, allowing for the probability that the temple was built before the erection of the stela which was apparently placed in relation to it.

There are too many unknown factors in this line of thought for definite conclusions to be drawn. The point merely is that an approximate dating of the temple of Str. R-3, and its remodeled pyramid, at 9.6.0.0.0 or earlier does no violence to what we know of the monuments of the group and of the city, both in respect to their readings and their positions.

Sixth: That 9.6.0.0.0 is the proper date to assign to one or the other if not to both of the two carved monuments on Str. R-3 is to a slight extent confirmed by the position of the marker of the preceding Katun, 9.5.0.0.0.

This is Stela 30, associated with the adjoining pyramid, Str. R-4. In later times the placing of stelae so that groups of dates are found on groups of monuments is well established, notably before Str. R-S of this same court.

Seventh: That the pyramids of the South Group, taken as a whole, are earlier than the surface structures of the West and East Groups seems almost proved by the segregation of dates. This is confirmed by evidence of other kinds.

.....

Preliminary Paper No.

.....

In particular, we believe that the absence of stone vaulting and the use of column-altars were early in the dated period of the occupation. Both of these criteria are present in six of the seven pyramids of the group, Str. R-3 being one of the six. Such criteria indicate a date for R-3 prior to 9.10.10.0.0, since Morley reads without question a marker for this date and for each succeeding hotun until the series jumps to the West Group, all these being associated with Structure R-5. Our only basis for selecting particular dates prior to this rests on the monuments of R-3 themselves. The evidence apart from monuments is, naturally, less precise than that from the inscriptions, but is entirely consistent with them.

Perhaps when pottery sequences are better known the few ceramic specimens from the interior of the structures can be brought to bear on the dating problem. With increasing knowledge of pyramid design, here and elsewhere, still another approach may be possible. The most striking feature seems to be the use of a recessed panel, at the base of the terrace corners. This probably will not be of great chronological value, however. Something like it occurs at Uaxactun on the famous stucco pyramid E-VII-sub, surely very early,

---

Carnegie Institution of Washington, Year Book #27 (1927-28),

Plate opp. p. 287.

---

and again on (~~Temple of the Swell~~) from which came beautiful polychrome pottery which the writer understands is late rather than early Old

---

C. Ledyard Smith: "Two Ceramic Finds".

Empire. Again, something like it occurs on Building B, Group III at Holmul, which was built after a deposit of Holmul pottery was made and before a

---

R. A. Merwin and G. C. Vaillant, The Ruins of Holmul, Peabody Museum Memoirs, Vol. 3, No. 2, p. 25, 1932.

---

deposit of Holmul pottery. Still other instances of a more or less similar concept occur on the Castillo and on the substructure of the Temple of the Chac Mool at Chichen Itza, both attributable to the latter part of the city's history. Another "New Empire" analogy is the Temple of the

---

A. P. Maudsley, Biologia Centrali Americana, Vol. B. of Plates, p. 55, 1889-1902.

Frescoes at Tuluum. Returning to the Old Empire, a similar design element

---

S. K. Lothrop, Tuluum, Pl. 20, Carnegie Institution of Washington, 1924.

---

may be observed at Tikal, on all the great pyramids numbered 1 to V. Here

---

A. M. Tozzer,--Ruins of Tikal, Peabody Museum Memoirs, Vol 5, p. 118 and Plate 2; p. 30; p. 128; p. 130; and p. 34.

---

the recessed panel does not extend all the way to the bottom of the terrace, but forms a narrow band near the bottom. In these buildings as in Structure R-3, the corners are slightly inset, though they are not round.

Inset round corners are shown by Pollock on

at Coba, though the proportions are very different from those of Str. R-3.

Though no exhaustive search of the literature has been made by us, it appears probable that existing published material on Old Empire pyramid design is too scanty, and the observed features of Structure R-3 too general, to permit chronological conclusions based on the design itself. But the design is no obstacle to a relatively early dating based on other factors.

- Conclusions -

The other factors pointing to 9.6.0.0.0 as a reasonably probable date for R-3-1st have been set forth, and so that is the date which we shall assume in planning later work to confirm or correct it, and in seeking for a complete architectural and ceramic history of the city. We have seen that the first terrace, which includes all the design elements of the upper ones, was in use at least one and almost certainly two building periods prior to the modification which resulted in the structure which we tentatively date at 9.6.0.0.0. As a consequence, if we have come even close to the correct date for the last structure, we must consider that the general design of the pyramid was in use in the first quarter of Cycle 9. If rebuilding during the earlier history of the city was at infrequent intervals, which would be a not unnatural assumption, it might even go back into Cycle 8. The same remarks apply to the tripod vessels cached with, or prior to, Structure R-3-3d.

Human Bones and Burials.

Mr. Amram, in collaboration with Dr. Mason, excavated a very interesting burial (Burial No. 8) at the base of the pyramid. Summarizing their notes we may say that an extended burial was made in or immediately under the concrete floor of the large foundation platform on which the pyramid was built, and very close to the front wall of the first terrace. The bones were badly crushed and the skeleton was not complete. The head was represented by skull fragments and seventeen teeth, and was placed a few centimeters from the angle formed by the right (southeasterly) retaining wall of the main stairway and the wall of the first terrace. Enough of long bones and pelvis remained to show that the body had been laid parallel and close to the terrace wall.

Traces of mortar were noted on the bones, and there was no protective cist or vault. If it was a secondary burial, suggested by the mortar on the bones, the latter had been laid out at least roughly to correspond to the positions they occupied during life. But the lime deposits on the bones may easily have been made during the centuries of weathering to which the floor was exposed. In all probability the burial was made at the time the floor was laid. An effort to distinguish two floor levels here, such as we found in 1933 on the other side of the stairway, failed. But a similar burial (Bur. 7) along the closely adjoining Structure R-2 was clearly under the earlier of two floors, one superimposed directly on the other.

Under the earlier of the two floors on the other side of the stairway, not far from the corner of the pyramid, remains of a skull were encountered in 1933. This was not removed because, before the careful excavation of the skeleton to which it probably belongs could be undertaken, an unexpectedly early rainy season began, and the area became a pool of water. It seems probable that these burials are to be associated with the pyramid, though with which building period is uncertain. The first is briefly described elsewhere.

Preliminary Paper No.

Just under the hard concrete part of the floor of the third terrace of Structure R-3-3d, about 1.80 back from the front edge of the terrace as restored, were the incomplete and badly crushed remains of a skull. Its position is marked X in the cross section Plate 8, D. It lay in the part of the fill which is more or less pure broken rock, but with pockets of mortar introduced here and there. We recovered parts of the skull pan and other head bones, but nothing of the jaws or teeth. This find was in the south-easterly side of our trench, and it was impracticable to widen it, so that other fragments may have been missed. We were fairly sure, though not quite certain, that the skull was isolated and not part of a complete skeleton. It had every appearance of having been merely thrown into the fill. At least as found, the fragments were jammed between the rocks of the fill, without any apparent effort to protect them. Their position was under, and just behind, the front of the temple foundation platform which the termination of finishing plaster so plainly shows was placed on this terrace. Without question, this a human skull, or the major part of one, got to the position found during the last stages of building the pyramid which we call Structure R-3-3d. Isolated small fragments of long bones, probably human, were encountered in the floor under the stairway and also farther out in the large supporting platform.

Badly decomposed and very thin fragments of a skull pan, together with teeth of a child were found in the earth which filled the lower of the two bowls cached on bed rock, and referred to above. In this case there is very little doubt that a human skull was part of a foundation offering. As stated, this probably should be associated with the building of Structure R-3-3d, the earliest pyramid on this spot.

Our comparatively meagre excavations have thus revealed two human skeletons, and two human skulls and one femur. One of the skulls and the femur were treated exactly like the usual foundation deposit at the city, and there arises a certain probability that the other remains served a similar purpose, with possible implications of human sacrifice.

In 1932 Dr. Mason found a human femur projecting under the lowest rounded stone of the rear right (southern) corner of the pyramid. It was fragmentary when found, the upper part with the head, which was excavated from under the stone, being recovered; the lower part which projected beyond the stone, was missing and may have been destroyed during excavation. The bone was in the small stones forming the floor which extended both under and beyond (outside of) the rounded corner stone and which was laid over rock fill. The bone may have been laid in this floor at the time that the latter was made; that is, it may belong with one of the structures earlier than K-3-1st. But since it lay exactly at the corner, with the bottom of the corner stone almost touching it, it is more likely that a slight excavation was made in this floor and the bone interred in this. Due to its position, no further excavations were made under the stone, but no more bones seemed to be articulated with it, and no skeletal fragments were found in the excavation debris thrown out. It seems likely, therefore, that it was not a complete interment, but a single bone ceremonially placed in this position.

From Mason's note, '32, bk. 5, p. 17.

OBJECTS

Where in the following pages objects are designated by catalogue numbers, they are now at Philadelphia; when a field number is given, they have been sent directly to Guatemala.

-Objects Found in Situ--Ceremonial Caches and Deposits-

We have already had occasion to mention a foundation deposit on bedrock, which must have been made before or at the time of the erection of the low platform of the earliest building period, or more probably, at the time of the erection of the first pyramid, R-3-3d, which comes next in time.

As indicated by the letter (x) on the section of Plate 8, D, this was made directly on bedrock, on the central axis of the pyramid, in a little hollow of the rock which may be artificial. It was then covered with solid fill, which also extends over the stump of the floor of R-3-4th, a circumstance which further suggests that the cache belongs to the pyramid.

It consisted of two large bowls, identical in ware, form and size, and their contents. A field photograph of approximately half of each bowl, before mending is shown in Plate 4, B. That to the left, Field No. S-2-63, was the covering bowl, now in Guatemala; that to the right, was the lower bowl, now in Philadelphia. They are described in some detail by Miss Mary Butler in the appendix. They were originally tripods, but the feet in each case had been carefully removed so that the only traces of the feet which was left were circular rough areas, about 5 cms in diameter, on the bottoms of the bowls. The apparent ring bases in the photograph are merely supports for photographic purposes.

The bowls as found were broken, one inverted over the other but telescoped upon it. When mended, the diameters were so nearly identical that there can be little doubt that the covering bowl had been placed rim to rim upon the

lower one. We may suppose that the weight of the superimposed fill cracked the bowls and forced the upper one down over the lower as found, with the bottom of the covering vessel just a littl higher than the rim of the lower one. This is confirmed by the fact that the lower bowl was nearly full of earth, which had probably worked in after the breaking of the vessels.

Within this earth, close to the bottom of the lower bowl, were found a few rotted bone fragments, apparently of a very thin skull. To these must be added ——— teeth of a human child, and a tiny bit of polished jade, which was lost in the field and so not catalogued. Immediately to the front of the bowls, a few centimeters above bedrock, were two unworked pieces of green stone, probably very impure and poor-quality jade. These may have been placed just in front of the cache, but very probably had worked out from the broken lower bowl.

There is little doubt than that a bowl was placed here as the container for a child's skull and precious stones, with another bowl inverted above it as a cover. This is the first instance out of many at the city where human remains have formed part of such a cache. It may be compared with an isolated child's skull found a few days before in Burial No. 10, as yet unreported. That "burial" consisted of a large stone chamber below the floor of the nearby plaza of Structure R-1, on the bottom of which the expected skeleton was conspicuous by its absence. It contained two niches on either of the long sides, and in one was a child's skull, and the remains of one small long-bone, both beside a tripod plate, but not on it. Chamber and niche had been filled with soft disintegrated limestone, and there was no roof, except over the niches.

The ceremonial use of isolated skulls may thus be considered as established at Piedras Negras, and may be dated as probably in vogue not later than close to the opening of Cycle 9. Moreover, at this time the purpose of the ceremonies seems to have been essentially the same as (that of) those which

made extensive use of vessels containing "eccentric flints", engraved jade and shell, sting-ray spines, and so forth, many of which were probably much later. An early practice of human sacrifice is hardly proven, but is strongly suggested. It is practically certain that this cache was made during ceremonies incident to the beginning of a building operation, perhaps analogous to our "breaking ground" for a building, as opposed to laying a corner stone.

This use of human remains, apparently as a preliminary to the erection of a building, lends considerable plausibility to the supposition that the complete human bodies, and the skull fragments, and the femur mentioned above, also played a part in the proper sanctification or dedication of Structure R-3-3d, after it began to take shape.

The care with which the feet of the bowls in question were removed calls for explanation. It seems fairly certain, from the many caches recovered at the city, many under floors and stairways of buildings, others under open pavements and still others under or at the base of monuments, that special types of jars and bowls were specially manufactured for cache purposes. In some cases vessels probably intended for other purposes were pressed into service. But in no case thus far observed have the vessels used for caches been tripods. It therefore seems probable that tripod vessels were considered unsuitable for such a purpose, and that in this case the feet were removed to make our cached bowls more nearly approach what was considered as proper and fitting for the purpose to which they were finally put.

A bowl of a ware and form frequently found in true caches elsewhere was found in the fill under the floor of Structure R-3-2nd, slightly to the right (southeast) of the central axis, about 50 cms to the front of the rear wall of this temple, and about 60 cms below the surface of the floor. This was badly broken, though nearly all the pieces were recovered, and it presumably reached this general location complete. It is shown in Plate 4, E, and described in the appendix. The fragments were wedged between the stones of a semi-solid mortar-and-stone fill which occured at this point. The inside

is blackened by smoke, and fragments of an aromatic gum, giving off a strong odor when burned, were found immediately beneath several sherds. Most of the latter were found in inverted positions.

The fill at this point was quite firm and semi-solid, and showed no evidence of having settled. At any rate, there was no indication of a sufficient movement of the fill to cause the inversion of the bowl after it had been placed therein.

Our best interpretation of the evidence, therefore, is that this bowl, of the same type as those often used for caches, had been used for burning copal incense, but that it was placed in, or more likely thrown into, the fill as Structure R-3-2nd was being brought to completion. It is improbable that the bowl was used as a censer at this particular spot. Its completeness, when mended, suggests however that it was so used during the building operations. It may have been thrown into the fill as a ceremonial act, or may have been accidentally broken in the course of ceremonies in connection with the building operations and merely discarded. The position in which it was found requires the supposition that it was intentionally brought to the top of the pyramid while the latter was in course of modification.

However, as we have seen, there is no way of being sure that part of this fill may not actually be a remaining part of the otherwise missing temple foundation platform of Structure R-3-3d, and we must date the bowl as belonging to either the second or third period of building.

Either of these periods, according to our dating of the latest phase, must be placed as early in Cycle 9, and the burning of copal incense may be provisionally dated as a fairly ancient one in Maya history. This, of course, is to be expected. In addition, there is a strong probability that the incense burning formed part of ceremonies which followed the commencement of building operations, and preceded their completion.

The discovery of sherds apparently remains of complete vessels, above

the floor of the latest temple, R-3-1st, suggests strongly that pottery vessels were used ceremonially in the temple, and left there on its abandonment. It is, therefore, extremely unfortunate that these were destroyed, with the exception of a sherd or two, in the fire which destroyed our laboratory in 1932.

Mr. Amram reported finding a small broken black dish, upright on the floor. Miss Butler describes this in the appendix, from her field notes. The position given places it, on our temple reconstruction, within the chamber, to the right of the doorway and close to the front wall. Nearby, 28 cms above the floor, but, as suggested before, possibly on a bench or altar of this height, Mr. Amram reported two incense burners. These also were destroyed in the fire at the camp, except for a single fragment. This fragment indicates a censer of the ladle type. Nearby were several broken-off stalactites, which must have been brought here with a purpose.

The vessels just mentioned appear to have been in use at the very end of the history of the city, and their destruction is therefore very much to be regretted.

-Chance Finds-

A detailed resume of pottery found in the course of this investigation is appended at the end of this paper, and we have already mentioned the three complete bowls found in Situ. For purposes of pottery study we have divided the sherds into four time-periods. The periods are numbered to correspond with the building sequences, which form the basis for them. That is, No. 1 is the latest, No. 4 the earliest. They indicate sequences at this particular structure only, and may or may not be the equivalents of sequences at other excavations. Period 1 is the latest at this spot, but the beginning of this period may be early in the city's history as a whole. The third period, that of Structure R-3-3d, has been divided into three

constructional phases, the latest (a) representing the outer shell on the first two terraces, the next (b) representing the hearting of the two upper terraces, and the earliest (c) the hearting of the first terrace. Such fine distinctions are of course not chronologically significant from a ceramic point of view. They are made on the theory that, in some instance, reconstruction of a vessel from sherds of different phases of the same building period might give a clue as to how and why they came to the positions found.

By far the greatest amount of sherds were recovered by Mr. Amram during the 1932 excavations, some above the floor of the Period 1 Temple, many in the debris on its slopes and around its base, and especially in the narrow passage between the pyramid and the adjoining platform Structure R-2. These and others found in 1933 in similar positions, have been assigned to Period 1, qualified excepting those actually found above the temple floor, by the word "probably". If this period is taken to include sherds deposited at the time of the remodeling for Structure R-3-1st, and any time thereafter, most assignments are probably correct, as Mr. Amram's excavations at no point penetrated to Structure R-3-2nd. But there remains the possibility that crumbling lower terraces, which go back to Period 3, may have contributed to sherds found in surface debris. In addition, sherds from the early large foundation platform may have been deposited in the very earliest period. The relatively large number of sherds found by Mr. Amram in the debris of the slopes is interesting in itself, and becomes more so from the fact that many appeared to be the result of breakage of complete vessels on the spot, presumably as they descended with the debris. From the sherds between the pyramid and the adjoining platform R-2, Miss Butler has reconstructed practically complete vessels.

Others found by us under the stairway may belong to Period 1, or may have originated in the supposed Period 4 floor below it, or theoretically in intermediate periods. We can, however, be fairly sure that sherds found in passing

through the stairway fill are as old as the latest temple--that is the beginning of our Period 4.

Apart, then, from the three whole vessels mentioned as ceremonially placed, we have only a dozen or so sherds which definitely can be dated as deposited during a certain building period--Period 3. From the point of view of determining ceramic sequences, then, the results of the excavation are meagre. They should, however, prove valuable in checking results at other points in the city, and have a certain immediate value.

In Miss Butler's analysis of the sherds recovered during 1933, which she has reduced to tabular form, it will be seen that even if we disregard the doubtful assignments to Period 1, a number of wares and other features have been established as in use before the latest temple was constructed. We have outlined our non-ceramic reasons for thinking that this temple is to be dated, provisionally at least, in the early portion of the dated history at the city.

- Figurines-

A total of twenty-one figurines is composed of heads, torsos, or other fragments which turned up in the excavations. Thirteen of these were found by Mr. Amram and eight by the writer. None came from the temple floors and none were found in situ within the structure fills. The majority occurred on the floor of the large foundation platform on which the pyramid rests, and in the debris upon it, though a few were in debris at higher levels. For the same reason that assignment of sherds in these positions to a building period is questionable, the date of these objects is uncertain, but they probably post-date the construction of Structure R-3-1st. They are to be described by Miss Butler in a paper on figurines. Their number is sufficient to justify the tentative belief that figurines played a part either in the construction or use of the temples on this site, more probably the former. Of especial interest was a mould for making figurines. (Cat. No. L-28-152).

-Miscellaneous Clay Objects-

A spindle-whorl was reported by Mr. Amram, from the passage between the pyramid and the closely adjoining Structure R-2. This was sent to Guatemala. The catalogue fails to specify the material, which was doubtless clay.

From the large foundation platform came a clay object catalogued as an ear-plug.

-Stone Objects-

Of special interest is a very small fragment of sculptured stone, designated Miscellaneous Sculptured Stone No. 11, Cat. No. L-39-241, (Plate 3, b). It is impossible to say from what sort of design this has broken off, or very much about its syle. The carving does not appear to be particularly crude since in one portion it involves the successful drawing of nearly parallel lines placed close together. The maximum relief on this fragment is about 4 mm. The carving is mostly on a flat surface but at one edge seems to have followed irregularities of the slab. At the other edge is a narrow band. However, the stone is fractured on all faces and the recovered piece may not be from one edge. A portion of the back shows a flat and probably tooled surface, which is by no means parallel with the flat portion of the carving. This tends to confirm our impression that the preliminary dressing of the stone was carelessly done.

Minimum and maximum thickness of the recovered piece are 6 and 8.5 cms, the thicker portion being toward the in the photograph. The fragment can hardly come from a stela, but beyond this we can hardly go.

This stone was found as part of the fill of Structure R-3-3d. It was about 1.00 m below the upper and third terrace floor. It is a pity that more of this piece was not thrown here so that we could judge of its style. It is nevertheless interesting as proving that stone carving had been in vogue before the pyramid in its earliest form was erected, and a carving had been broken, perhaps intentionally.

The polished Stone pendant shown in Plate 6 (Cat. No.) was found in surface debris at the bottom of the pyramid. It is rectangular in cross-section, with a plain band near the top. Two conical holes were drilled in the upper end, at such angles that they meet and permit passage of a cord running in one and out of the other hole. The material is a hard mottled gray stone taking a high polish, but has not as yet been identified. It is cm in length, and measures about cm, and cms to a side.

This piece shown in Plate 6 , (Cat. No. L-27-177), is a head crudely fashioned from pumice. This soft and light material occurs in the river bed in the form of rounded water-worn pieces about the size of a fist or less, and similar lumps have been found a number of times in the debris of the ruins.

Our head is flattened at top and bottom. The eyes are formed by relatively large circular depressions and nostrils are indicated by similar small depressions. A horizontal groove marks the mouth, and another, above the eyes, is carried with some interruption around the back, presumably to represent the bottom of a head covering of some kind. Below this, at the back, are vertical grooves which crudely indicate the hair. The piece is 2.7 cms high. The whole thing could have been made by rubbing a lump taken from the river, and by cutting and drilling with a pointed stick. Lothrop describes his surprise at finding this soft and porous material used for a similar purpose at

---

This head was not entered in the field catalogue but certainly came from the R-3 excavations.

The little stone shown in Plate 6 (Cat. No. L-39-246) is ground to a very smooth finish on its flat face, the curved hemispherical back showing evidence of less careful rubbing, and, near the edge, of pecking.

The diameter is 2 cm. The material is some very fine-grained but not hard pink stone. The shape and unusual color suggest that this was intended as an element of an inlay, perhaps in the eye of some figure, though this is at present pure speculation. It was reported by the workmen as coming from the floor of Structure R-3-2nd.

Another object of problematical purpose is a limestone ball, reduced almost to true spherical form. There are no localized abrasions to indicate that it was a hammer stone. The diameter is about 5 cm. This object (Cat. No. S-2-45) came from the debris northwest of the main stairway and, therefore, probably dates from the time of building R-3-1st, or after.

We have in Cat. No. L-39-220 the broken-off end of a probable limestone mano stone or corn-grinder, much worn by use. The fragment is a flattened ovoid in cross-section, one side being more flattened than the other. If our hypothesis is correct, this was originally a typical cylindrical grinder. The maximum width of the recovered fragment is 9 cm, the maximum thickness being now reduced to 4 cm. If really a grinder, it was shorter than the width of the metate, since the supposed wearing down has not left a knob at the end. The knobbed type has not been found at the city. This came from the fill under the main stairway, and is at least as old as the latest building, Str. R-3-1st.

An unquestionable corn-grinder of the cylindrical type was sent to Guatemala. It also was shorter than the metate. It was ovoid in cross-section, with one side much more flattened than the other, doubtless by use. The material was not limestone, but a stone so hard that the more convex side had taken a polish. Since the only local bed rock is limestone, this piece was either imported, or, less probably, washed down from above by the river. The length is 16.5 cms, the maximum diameters 5 and 7 cms. This was found in the surface debris at the base of the pyramid.

An entirely different type of grinder seems to be represented by Cat. No. L-39-222 which is rectangular, with rounded edges at the back so that it fits one hand nicely. The working surface is worn perfectly flat. The back and edges have been smoothed with some care by grinding or rubbing. The material is limestone. It measures about 10 by 12 cms, with a maximum thickness of about 5 cms. It also was found in the fill under the main stairway, and is at least as old as the latest structure. This piece was hardly suitable for grinding corn and may have been used for other foods, or perhaps for polishing plastered floors or some such purpose.

The worked fragment shown in Plate 6 (Cat. No. L-39-247) is puzzling. Although limestone, it is very nicely worked to shape by pecking and chipping. It is oval in cross-section at the break, but at the end comes down to a dull edge. The whole form is not unlike the cutting end of a very thick celt, though the soft nature of the stone precluded its use as a cutting tool, and there is not evidence of wear. On both sides are the remains of stucco, and we are inclined to believe that it was shaped to form some part of the supporting skeleton of a modeled stucco design. The maximum width is about 7 cm, the maximum thickness about 4.5 cm. This came from the fill between the floors of the latest Structure R-3-1st and that of R-3-2nd and was, therefore, deposited during the latest building period.

We have still another piece of worked limestone of uncertain function. This is rectangular in cross-section, with slightly rounded edges, about 8 cms wide and 6 cms thick. It is broken from a longer piece, the length of the recovered fragment being 14 cms. This might possibly have been intended for a corn-grinder, but if so was never cylindrical and there are no convincing signs of use. Remains of stucco are absent, but it also may have been used in building up stucco designs. It comes from the fill under the main stairway.

The piece shown in Plate 6 (Cat. No. L-39-209) may have been a crude chert tool. It is roughly celtiform. If it ever had a good edge, it was on the end, which is broken off. The stone is of very poor quality, and perhaps broke in course of manufacture. Approximate maximum dimensions are: width 5 cm, thickness 2.8 cm, present length 9 cm. This was found in surface debris at the base of the pyramid.

A worked spheroidal stone (Field No. S-2-48) may have been hafted as a hammer or mawl, since it was encircled by a shallow groove. This was apparently of sandstone, better suited for striking purposes than the native limestone, which shatters readily. This was unfortunately sent to Guatemala without being measured. It was not large.

Two obsidian flakes and two obsidian flake knives were found in the debris at the base of the pyramid. These may be counted on to appear in small quantity in every excavation of any size.

Summary and Conclusions.

This excavation illustrates a number of interesting features at Piedras Negras, and if our deductions as to date are correct, proves them to have been in use in or before the earliest part of Cycle 9. They include the following:

A distinctive and dignified, but somewhat elaborated pyramid design, combined with a single-chamber temple of probably simple ground-plan.

The use of an inscribed stone lintel, the glyphs carved in relief, and the inscription probably consisting of four vertical columns of eight blocks each, an arrangement also occuring at Yaxchilan.

The placement of stelae, both inscribed and plain, on the top of the pyramid, the glyphs of the former conforming in number and arrangement to those of the lintel and to Stela 36 from the same court. Such a placement is unusual at Piedras Negras but occurs again on Structure O-13, almost certainly very much later. (Stelae 12 and 15).

Probably non-glyphic stone carving (Miscl. Sculptured Stone MS. 11).

The breaking up of early stone carvings.

The use of a low ledge running along the base of the rear wall of the temple, a feature found or probably existent in all known single-chamber temples except the buried Structure K-5-3d, where a full-sized bench occupies this position.

The use of a column altar in the temple.

The burning of copal incense in a pottery vessel not of well-known censer types but of ware and type usually associated at Piedras Negras with foundation deposits.

The making of a foundation deposit in a pottery vessel covered by another in inverted position, the deposit probably including a child's skull.

The use of an isolated child's head or skull in ceremonial connections is definitely established elsewhere (Burial 10, as yet unreported).

Certain pottery types must have been known before the date of the upper structure, and others, together with certain figurines, probably were in use close to the end of the city's occupation.

The burial of adults in or just under the pavement floor and along the pyramid base probably dates from one of the later periods, but certainly was after the earliest. There remains the possibility that these burials are very much later.

The use of pottery vessels and figurines in and about the temple and pyramid close to the time of its abandonment is strongly indicated.

The excavations supplement the evidence of the city plan itself showing that natural elevations were used as the basis for artificial ones, and that the orientation of the South Group Court probably was determined by the original topography.

The use of solid or semi-solid fill for building up shallow architectural masses such as the additions to the pyramid to form the latest structure, the large foundation platform on which it stands, and the court itself. However pure rock fill (dry rubble) was used for similar purposes elsewhere at the city.

The use of pure rock (dry rubble) fill for building up deep masses. This type of fill appears to be exclusively used at the city for this purpose, except that here, towards the center, disconnected pockets of mortar were introduced, the purpose of which are as yet not understood.

The use of a structural "floor" running through the hearting.

We have a bare hint that the dry rubble fill was laid in units, bounded by crude walls laid in very poor mortar. Dry laid interior walls

have been found in several other substructures, both platforms and pyramids.

The use of double terrace walls, possibly resulting from a specialization of labor under which cores were built up with dry-laid masonry, before masons skilled in the use of lime-mortar began their work. These double walls occur on a buried (but not particularly early) horizon, in Court 1 of the Acropolis, under Structure J-9.

Semi-slab terrace walls, the stone well bedded in plentiful lime-mortar. These are common enough at the city, but a special feature of them is not. This is the practice of laying the stone horizontally, obtaining the desired terrace slope or batter by stepping each course back a few centimeters, depending on thick plaster to smooth over the tiny steps thus formed. On the probably much later pyramid of Structure O-13 the stones are tiled so that their faces were in real the desired sloping plane of the finished wall. This may have been a technical advance, since it permitted a final smooth plaster finish with less mortar, and the burning of lime was undoubtedly a very laborious process, since it involved cutting and hauling a great deal of firewood. It is not impossible, then, that the step-back battered wall may become an indicator of relatively early date at Piedras Negras. This is a constructional detail, with no analogy to the stepped walls of Lubaantun, where the steps are much greater in depth, are regular, and a part of the final design.

Use of a non-vaulted roof on a pyramid temple. This is practically certain, but our belief that the particular type was beam-and-mortar rests on uncertain evidence, and should be confirmed if possible by excavations elsewhere.

Removal of old walls, presumably as buildingsmaterial for new ones.

The above observations, together with those developed in the text, permit a few general remarks.

We are very much in need of a dated ceramic sequence, and still lack a satisfactory basis for one. One custom, the caching of deposits in pottery vessels under floors, under dated monuments and elsewhere, would have provided us with a great deal of evidence but for the fact that special types of orange bowls and unslipped jars were without question manufactured for this purpose. Unfortunately these are plain monochrome or unslipped wares. They have been recovered in comparative abundance, and, despite differences in age, Miss Butler reports no significant variations in the vessels themselves. Most of these are probably from middle or late horizons, but not all.

In 1932, polychrome bowls were found cached under the pavement of the South Group Ball Court, used both as containers and as covers, along with the usual cache types. This was the first certain instance observed of cached vessels not of the usual special types and the implications of the deposit were that it was fairly early. In this R-3 excavation, almost certainly fairly early, we have a second case of vessels which may become valuable for dating purposes, buried complete, with a known relation to architectural features. Also, in this case for the first time, we have one of the votive types which had been definitely used for purposes other than cache-container or cover. There seems some reason to hope that in the earliest period of occupation there was not the rigid distinction which seems to have been obtained later, which caused the builders to place vessels exactly where they would be of great use to the archeologist, but to cheat him of that benefit by conservatism as to types used. As most of the earliest structures are still slightly investigated, there is still a fair chance that, with later excavations, cached vessels representative of pottery types in general, and definitely assignable to building sequences, may be found complete.

This is the third pyramid at the city the interior of which has been investigated to considerable depth. It is, as we have seen, probably early. The second (Structure K-5-1st) probably attained final form in a middle period, the third (Structure O-13-1st) perhaps in a late period. In none of these have tombs occurred at the center. The hope of obtaining relatively datable whole vessels from this source, as at Holmul and Uaxactun, is, therefore, somewhat dim.

There is nothing primitive about the pyramid, either in structure (within Maya limits) or in design, and it presupposes a considerable prior period of experience in substructure building. If this is one of the earliest pyramids still in use when the city was abandoned, either the evidence of such a prior period lies buried under other pyramids of the city, or pyramids were first built here after being developed elsewhere. The semi-peripheral location of the city with reference to the Maya area as a whole suggests the probability of the latter hypothesis. So does the probable introduction of stone vaulting to the city after the building of this pyramid, the reasons for believing which are stated elsewhere.

? Preliminary Paper No.

On the other hand we cannot assume, in the absence of evidence, that the building of the earliest pyramid marks the foundation of the city. In fact, the low platform which preceded the first pyramid on this spot suggests the possibility that Piedras Negras may, in its earliest existence, have been a small (or large) city using low stone and lime platforms, before the priests had the idea of true pyramids, or had the accumulated wealth to build them.

Whether the city had a pre-pyramid phase of nor can only be determined by further excavations in other pyramids. We have penetrated to the bottom of only one other high substructure, the platform forming Court 2 of the Acropolis, and have found low platforms there. But two cases are insufficient, especially as the Acropolis hill was probably at one time a domiciliary area, peripheral to the South Group.

APPENDIX

POTTERY FROM STRUCTURE R-3.

by

MARY BUTLER

--1932 Excavations--

The clay objects taken from Structure R-3 in 1932 consist of vessels and potsherds, figurines, one figurine mould, (L-28-152) one spindle-whorl, and one probable earplug, shaped like a tiny dish.

The pottery taken from Structure R-3 in 1932 came from the debris on and around the pyramid. A certain amount of that found in the space between Structures R-3 and R-2 may have come from the latter low platform, but presumably belongs to the same period. This can tentatively be correlated to Period I of the 1933 digging.

Polychrome, red and orange dichrome, orange, orange 3, yellow, red, brown, black, mottled and unslipped wares are represented.

Inside the building were found a small straight sided, flat-bottomed bowl, and two ladle censers, all of the same coarse, unslipped ware. One of these censers had a crude snake, and a man or monkey applied at the end of the handle.

The fact that these vessels were left undisturbed inside the building implies that they were placed there not long before the abandonment of the city, since they would probably have been removed or broken if left in a temple abandoned while the city was still occupied. We can, therefore, assign them with a fair degree of certainty to the latest period of the city's occupation.

Polychrome is scarce. Dark-on-light red, represented by one bowl, and dark-on-light orange, represented by swelling jars with constricted necks, suggest in style of decoration and crudeness of execution, a degeneration of polychrome. It might be argued that they are an introductory step, but their relatively late appearance, with almost no polychrome associations, and the apparent prevalence of polychrome early in the city's occupation, as shown by test pits imply the reverse.

Dark-on-light orange uses a design that is found also on the outside of dishes that have polychrome decoration inside. This consists of pairs of vertical bars, extending from the base to within 2 or 3 cms. of the rim. Two dark-on-light flat-bottomed tripod bowls from Structure R-3 have this design on the outside; one of them (Cat. N0. L-28-67) has a shape that recalls Holmul V tripods, and is found again, with the same decoration, in British Honduras. This again suggests relatively late connections for the type. The other has a slight basal flange that is duplicated in a Black 3 tripod. This is an uncommon bevel form at Piedras Negras, and may tentatively be called late by association with the first. The other occurrence of Black 3 is in a square-shouldered jar recalling an aberrant shape from Cahal Cunil, associated there with Holmul I material. The shape occurs at Piedras Negras also in orange ware, but there is no evidence of an early date for it. Two small Black 3 jars with constricted necks have an incised decoration of bands and cross-bones.

In yellow ware occur high, slightly pear-shaped tripod legs for a flat-bottomed dish; in orange ware, a cylinder jars and jars with constricted necks. There is a relatively large amount of Orange 3 ware here, in bowls carved in low relief with human figures, white-slipped rims with the design incised or in champ-levé, greater bowls and gadrooned bowls. This is a ware which on comparative grounds seems to be late.

The apparent late position of this pottery checks with what typological deductions can be drawn. Reconstruction from sherds of the 1932 season permit us to give the following dimensions of four vessels.

Dark-on-light red bowl, Cat. No. L-28-64, diameter 20 cms., height 6.5 cms.

Dark-on-light orange jar, Cat. No. L-28-71, " neck 14 cms., height 33.5 cms., " shoulder 34.5 cms.

Dark-on-light Orange ~~dichrome~~ tripod, Cat. No. L-28-67 " 27.8 cms, height 10.8 cms,

Black 3 tripod, Cat. No. L-28-67 " 25 cms., height 10.7 cms.

The figurines and other clay objects came from the debris which probably all belonged to Period I, after 9.6.0.0.0, and are discussed in a paper now in preparation.

-1933-

A consideration of the pottery taken in 1933 from Structure R-3-1st and the structures beneath it shows the occurrence of sherds from building periods 1, 2(?), 3-b, and of three whole vessels from periods 2 (possibly 3-b) and 3-c (possibly 4). The vessels were presumably used ceremonially, and were not associated with the sherds, the majority of which come from the fills beneath the floors. The sherds are representative of Piedras Negras pottery, as revealed in other excavations of the city, including three out of six classes of polychrome, and all the monochrome wares but yellow, and white and unslipped wares.

-Building Periods-

Following is a table showing occurrence of various wares, shapes and decorations in the various periods

		4 or 3c	3b	2	1
Ware	Polychrome A				X ?
	" C				X ?
	" D		X		
	Dark-on-light Orange				X ?
	Orange		X	X ?	X ?
	" 2			X	
	" 3				X ?
	Red				X ?
	Brown		X		
	Black				X ?
	Mottled	X	X	X ?	X ?
	Unslipped		X		X ?
Shape	Tripod bowl	X	X		X ?
	Ring base bowl		X		X ?
	Slab foot				X ?
	Rimmed lid		X		
Decoration	Carving				X ?
	Incising		X		
	Relief censer				X ?
	Horizontal band		X		
	Ring base flange		X		
	Basal flange		X		
	Triangular flange		X		
	Pointed flange		X		

Following the tentative dating proposed by Mr. Satterthwaite, and assigning 9.6.0.0.0 as a possible date for Structure R-3-1st, objects definitely from Period 3-b may be tentatively put at the beginning of Cycle 9. This would put the mottled bowls originally tripod, from Period 3-c, and the possible sherds from Period 4, no later in time than the end of Cycle 8.

We can say, then, that orange polychrome D, orange, brown, mottled and unslipped wares appear early in the life of the pyramid, presumably at the beginning of Cycle 9, along with incised decoration and rimmed lids for

mottled ware, a horizontal raised band decoration for brown ware, ring bases, and four types of horizontal flange, three medial, and one basal. Two of the medial flanges have triangular sections, one approximately isosceles, the other with the outside angle very acute. The third resembles a ring base.

The only appearance of Orange 2 ware, apparently confined to bowls for ceremonial use, is in Period 2, probably during the first quarter of Cycle 9.

Stylistically as well as by prominence, the sherds from Period 1 seem to be later. The fact that their position in the debris may have allowed some mixture from an earlier period introduces an element of doubt. We may say, however that probably in the latest stage of use of the pyramid, presumably no earlier than the beginning of the second quarter of Cycle 9, we find the first appearance of Polychrome A and C, of dark-on-light orange and of Orange 3 wares, and of slab feet.

Worthy of comment is the almost complete absence at R-3 of the Polychrome groups A, B, C and E which form the bulk of this ware.

At Structures J-2 and J-6 in the West Group, later to be discussed in detail, brown and black wares, incised decoration and relief censers appear in the early periods, red ware in the later periods, and mottled throughout. Fluted and banded bowls, characteristic of the early periods at those palaces, are lacking in Structure R-3 and the structures below it.

-Descriptions of Complete Vessels-

Cat. No. L-39-32, (diameter 26 cms, height 11.5 cms, Plate 4 E). This is one of the whole vessels, from Period 2 (or possibly 3-b). It is a straight-sided, flat-bottomed bowl of Orange 2 ware and marks the second occurrence of a vessel of this ware in the South Group, a rounded bowl and lid having come from the Ball Court in 1932. The flat-bottomed bowl under discussion had apparently contained copal, and was found 60 cms. below the floor of

R-3-2nd. It does not correspond to any recognized type of censer, but to one of the pottery types very commonly used for sub-floor deposits.

Cat. No. L-39-36, (diameter 26 cms., height 16.5); and Field No. S-2-63, (diameter 27 cms, height 15.9; (Plate 4,E). These are vessels from Period 3-c or 4, a pair of large bowls, of mottled ware with rounded bases, high, slightly concave sides, and tripod feet, which were broken off before the vessels were deposited. The first is in Philadelphia, the second in Guatemala. One was inverted over the other, to protect the cache, of which there remained only bone fragments, teeth, a tiny piece of polished and two large pieces of unworked jade. The vessels are almost identical in dimensions, and must have rested edge to edge rather than one inside the other. Such a use of a bowl as lid instead of a lid constructed as such is not at all unusual in the Maya area. These vessels are important in tying in of mottled ware, a distinctive shape, and tripod feet to what seems to be one of the earliest buildings yet found at this site.

Oversized item not scanned

Oversized item not scanned

Map 58 - "Objects".

S-2-63 ; Cached boards

-2nd n 3rd b. 61 · L-39-32 board under floor of R-3-2nd (resinous gum near).

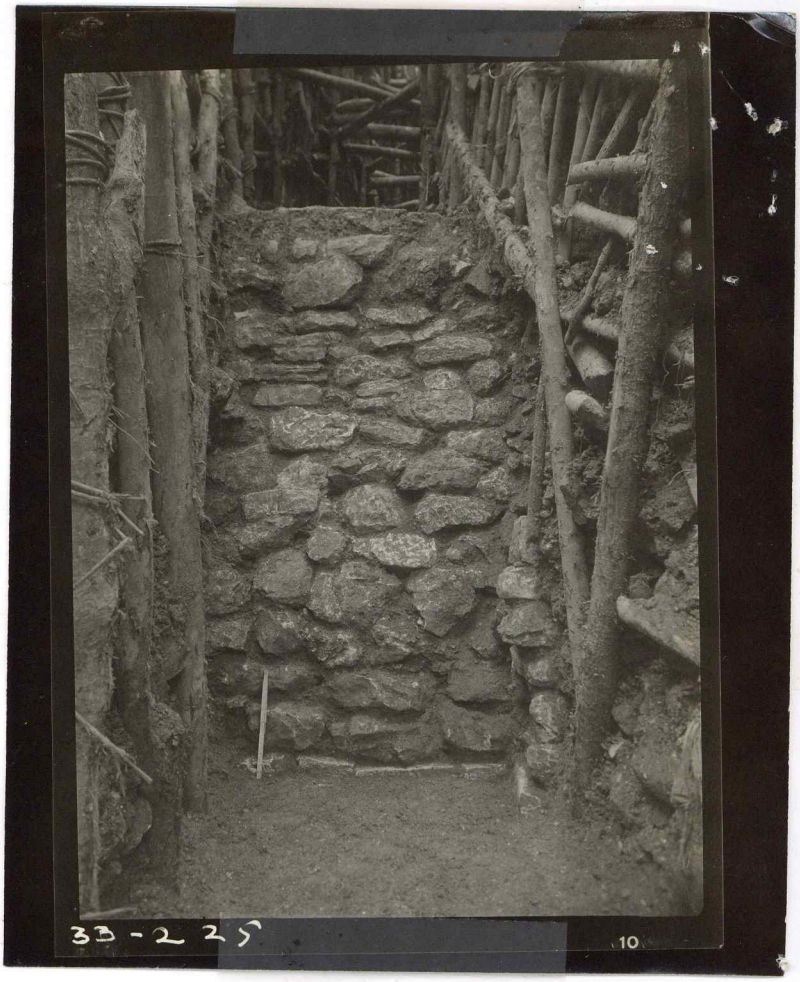

33-206-A


33-217
5


33-214
4

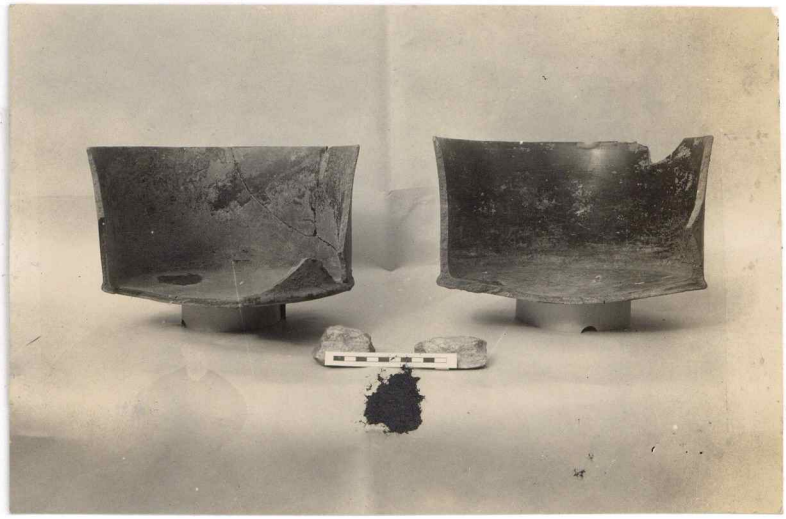
33 - 203

33 - 200



32-5-53

(4)



33 -228


33-226


33-2-22

R-3 objects.

1932

S-2-13 - granite? pendant. Base of SE terrace wall.

S-2-15 - obsidian flake knives ("playa") (platform)

S-2-17 - spindlewhorl. " " (fill?)

Stone

L-39-209.  flint Probably Period 1 - old floor base (or 4?)

S-2-37 - Mano stone. L. .165 W. .07 th. .05 rounded rectangular. One side more convex & this polished (hardstone - g.) (at base, found) P. 1 or 4?)

S-2-41 - Worked spheroidal stone, with groove. a hafted hammerstone? Under stairway 1 & 4.

L-39-227 Painted stucco fragments
3 small fragments - dark ~~reddish~~ and light reddish orange.
One a "cornerpiece". - fill under stairway - Period 1, 2 or 3.

L-39-228 - Stucco fragment (wall plaster? - flat but thick - dull red - finish marks coarse & relatively fine. Period 3, probably.

L-39-245 Stone ball. Period 1 (debris left of stairway dia. ~~.5cm~~ .05.

L-39-221 Worked limestone - mano?

L-39-247 " " stucco above. Period 1, sealed (interior) in fill.

L-39-272 - flat square mano?

M SS #1.

L-39-246 - small hammerstone - ~~Period~~ reported ~~as~~ probably Period 2.

L-39-32 (S-2-55) (sohal bowl.

L-39-36 (S-2-62)

(~~S-2-18~~)

Top

~~Sides~~ Sides

~~Botta~~ Bottom (?)

Figurines

Figure 1

sh

Figurines ||||||||||

13 ||| 3? (S.2-13

1   1? -LS: ||||||||

Sherds (dish?) on top floor with burned bone. S-2-1 (lead in jewelry (?))

sherds - (incl. whole dish ...

✓ Spindle whorl.

Handle of censer. S-21-18

2 obsidian flake knives
2 " "

~~an~~

~~Figurine~~ Pendant.

LS:

Stone: S-2-36 - Flint or chert tool. ✓
S-2-37 - Mano stone ✓
S-2-41 - hammer stone? (grind.- ✓
(probably sandstone, 1 groove)

Eyes - 2 large circular depressions
mouth by groove
Nostrils by 2 small depressions.
hair (?) by vertical grooves
Band or fillet (?) by horiz. groove above eyes.
Top + bott flattened.

No obliterated - certainly from S. group, probably S-2.13 (no on hand) though not mention in field catalogue.

H. 2.7 cm

Mi dia 2.5 cm.

8 am - S-2-13 (bead). Pumice head ?   d.s. ✓ Dec. 12-27-177

Shin. S-2-39 (check up)

Bones. - 2 fragments. 1 - under stairway ✓
1 - platform trench.

- Skull (S-2-50) ✓
Part of cranium + head bones?