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STRUCTURE A-XVIII, UAXACTUN

By A. LEDYARD SMITH

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PREFACE

In the northern part of the Department of Peten, Guatemala, lies the ancient Maya city of Uaxactun.¹ As one rides into this Old Empire site and arrives at Carnegie Institution's camp he will be repaid for a long and weary journey if he looks to the southwest. There, framed by the branches of a towering mahogany, he will see a high hill crowned by a ruined temple, its white walls standing boldly forth above the trees (p1. 1, *a*). This acropolis-like hill rises 38 m. above the *aguada*, or water hole, of Uaxactun. Its top was leveled off and covered with the systematic arrangement of buildings, courts, and plazas which has been called Group A. With the exception of Group G, an isolated cluster of small mounds, Group A is the highest at Uaxactun; and it is the most impressive of the eight assemblages that go to make up this site.

The above-mentioned temple, Structure A-XVIII, is located in the northeast corner of the acropolis and faces south on the East Plaza (p1. 24). The building, one of the highest at Uaxactun, rests on a steep, rectangular platform-mound which rises in two narrow terraces with nearly vertical sides. It has two stories, the upper one reached by an interior stairway. The lower story consists of three parallel galleries running east and west, of which the front, or southernmost, has largely fallen. The middle gallery is intact except for the doorway and the vault directly above it; the northern gallery is complete. At either end of these galleries are small rooms, several of which have a north-south axis. Entrance to the lower rooms was gained by three doorways on the south and one on the east. The upper story consisted of two galleries over the two northernmost lower galleries. Over the southern lower gallery was a broad terrace. This, as well as all the construction above the spring of the arch of the upper rooms, has fallen. With the exception of the terrace, the upper story conformed almost exactly in plan to the lower. The outer walls below the medial molding of the lower story are plain, though broken into vertical coigns. Between the medial molding and the cornice the façade was decorated with large stucco masks. Parts of only seven masks remain, but there is little doubt that originally there were fourteen, five on the north and south sides and two at either end. Of the façades of the upper story little can be said save that the lower part was vertically grooved and followed the same plan as the lower part of the first story. The upper portion of the second story is believed to have sloped back to form a mansard roof. In plan and in the nature of its substructure, the building belongs to the palace type as defined by Pollock.²

Structure A-XVIII, although one of the oldest standing buildings at Uaxactun, is the best preserved. Its age relative to other buildings can roughly be gauged by compar-

¹ The geographical position of Uaxactun as determined by Mr. W. A. Love of the Department of Terrestrial Magnetism in 1923 is Lat. N. 17° 23.8', Long. W. 89° 38.4', magnetic declination 7° 00.0' E., altitude over sea level at Main Aguada 210 m. For further references to Uaxactun, see Carnegie Inst. Wash. Year Book Nos. 27-34.

² Thompson, Pollock, and Charlot, "A preliminary study of the ruins of Coba." *Carnegie Inst. Wash.*, Pub. no. 424, p.112. Washington, 1932.

ing its masonry to a similar type in Structure A-V, where there is an architectural sequence in addition to dated stelae. From the evidence found in this building, Structure A-XVIII is of the earliest type of vaulted structure at Uaxactun and was probably built no later than 9.8.0.0.0. The excavation of A-XVIII was desirable not only because of its age, but also on account of its good state of preservation, the fact that it had an interior stairway leading to a possible second story or onto the roof, a wish to get evidence for or against a residential function for this type of building, and the fact that the superstructure could easily be uncovered. Another important fact about Structure A-XVIII is that, owing to its position and height, it commanded the best view at Uaxactun. The temples of Tikal on the south were visible from the trees growing at the top of this building before it was bushed. To the west the line of vision is obstructed by a range of high hills about a mile away. However, from the upper terrace of the superstructure one looks out over the jungle to the northeast; and to the east as far as the range of hills forming the skyline, including the Dos Arroyos hill, about 40 km. away (p1. I, *b*). There is little doubt that without the surrounding bush Tikal would also be visible from the same terrace.

The first work on Structure A-XVIII was done by Frans Blom in 1924.³ Since Carnegie Institution did not have permission to excavate at that time, Blom was limited to describing and mapping the building as it stood—a very difficult undertaking as the whole upper part and the front had fallen. Nothing more was done until 1927, when further observations were made and Mrs. O. G. Ricketson, Jr., dug out a burial located under the floor of Room 10. After 1928, when H. E. D. Pollock made a very instructive study of some of the details of architecture and construction found in this building, work on Structure A-XVIII was again discontinued until 1934 and 1935. During these two seasons, by employing only one workman, the entire superstructure was cleared. No excavation was done on the substructure as it was sufficiently exposed in several places to permit fairly accurate reconstruction without undertaking the long and expensive task of removing the tons of fallen stone which cumbered it.

The author wishes gratefully to acknowledge the assistance of the following persons who have contributed to the investigation of Structure A-XVIII: Frans Blom, who prepared the preliminary report and plans, which have been a great aid; Mrs. O. G. Ricketson, Jr., who undertook the excavation of Burial I; H. E. D. Pollock, who made the very helpful analysis of certain structural features; Francis B. Richardson, who, in the capacity of assistant archaeologist, studied the two façades and made the isometric drawing used in this publication; Arthur Richardson, who kindly rendered the isometric drawing; and Edwin M. Shook, cartographer, who is responsible for all the mapping and whose suggestions and ready co-operation have proved invaluable to the writer.

³ Blom's manuscript report is on file at the office of the Division of Historical Research, Carnegie Institution of Washington.

STRUCTURAL DETAILS

Very little had to be done to prepare Structure A-XVIII for excavation.¹ The first task was to remove the débris from the standing rooms and dump it down the sides of the building. The mound was then cleared of the trees and other growths, the trees so cut as to fall clear of any construction (p1. 2, *a*). Their stumps were in most cases left in place as they added to the support of the walls. The investigation being a minor one, no attempt was made to remove the dirt once it had been thrown down the sides of the substructure. In this way the whole superstructure was laid bare with a minimum amount of effort.

SUBSTRUCTURE

The substructure (p1. 16), which is of platform-mound rather than of pyramidal type, consists of a lower platform with one level and an upper platform with four levels.

At its base, the lower platform measures, as reconstructed, 36.37 m. east and west, 22.50 m. north and south; and rises to a height of 6.19 m. The only part of the lower platform exposed was the floor of the first terrace (*a*, p1. 5, *b*). This was of great importance, however, as it gave the exact height of the first terrace.

The walls, judging from the very slight extent of the fall and from the position of the walls of the upper terrace, must have risen with a batter at least as steep as the .237 m. per meter shown in the cross sections. At the base, the platform was given a molding in the reconstruction to correspond to that found in the upper terrace. The wall rises vertically from the plaza floor to a height of 30 cm., then extends out 25.4 cm.; from this point it rises on the batter mentioned above, forming a basal apron molding. It was not difficult to infer fairly accurately from the débris the position and extent of the stairway, which was on the south side of the building. Its sides were given a slight batter, and treads and risers of 38 and 30 cm., respectively, were used to bring it to the top of the first terrace. This required a stairway of 20 steps, which is laid against the face of the platform, extending outward 6.7 m. from the base. Its probable breadth was 14.5 m. On the south side, the breadth of the first terrace was estimated at 3.25 m., on the other three sides at between 1 and 2.5 m.

The upper platform of the substructure is reached by a stairway of five steps, 13.41 m. broad at the base. This flight is on the south side and centered on the lower flight. As described above, the upper terrace has a basal apron molding from which the walls rise on a batter of .277 m. to the meter, making them less nearly vertical than those of the lower platform. The south half of the upper platform extends further east and west than does the north half, leaving a projecting wall at either end facing north. These two walls rise vertically and have no molding. The north side of the upper platform is 29.26 m. long at its base. Six meters from either end it breaks out 46 cm. This area, which projects beyond the rest of the wall, is 17.07 m. long and its surface is broken by three panels projecting 30 cm. These are symmetrically placed, the two outer panels being 61 cm. from either end. The two sunken areas between these panels are 2.36 m. wide. The sides of the pan-

¹ The map of the main part of Group A (p1. 24) shows the position of Structure A-XVIII in relation to the buildings in its vicinity. Straight lines denote construction in place; dashed lines indicate reconstruction; dotted lines show extent of fall. In the cross sections, ground plans, and elevations the symbols are the same, except that in the cross sections (pls. 21, 22, and 23) the extent of fall is indicated by a thin wavy line instead of a dotted line. The datum plane of the cross sections is 46.64 m. above the level of the aguada, which is 210 m. above sea level. The rod shown in several of the photographs is 1 m. long. The isometric drawing (p1. 18) is on the same scale as the ground plan. The model, made by the writer, was constructed on a scale of 60 to 1.

els and the sides of the projection against which the panels are placed are vertical and have no basal molding.

The upper terrace has four levels, the lowest being on the south side. This level forms the terrace outside the southern rooms of the superstructure. The second level is 36 cm. higher and is the level of the floor of the south rooms. The third level is 51 cm. higher than the second and forms the floor of Room 6. The fourth and highest level is 41 cm. above the third and forms the floor of the northern rooms as well as of the upper terrace on the north side. It is 3 m. above the level of the first terrace. The difference in height between the upper level on the north side and the lowest level on the south side of the top platform is 1.27 m. As the floor level of Room 6 does not extend to the terrace on the east and west sides, an extra step, 41 cm. high, was introduced between the second and top level at either end. The substructure was built as a separate unit and its floors, which extend under the walls of the rooms built upon it, evince a preconceived plan to which the rooms were made to conform.

The walls of the substructure are built of limestone blocks averaging 81 by 46 by 36 cm., bedded in mortar. They were laid flat in courses, their inner ends in most instances being deeply set into a hearting of large stones and dirt. The courses were leveled by abundant use of spalls. In several places plaster about 6 mm. thick still adhered to the outer surface of the stones.

SUPERSTRUCTURE

The superstructure faced south and consisted of a two-story building containing eighteen rooms and an interior stairway (pls. 17, 18).

The lower story was entered by three broad doorways on its south side, each being 2.5 m. in width and 2.13 m. high, and one doorway on its east end measuring 1.22 m. across and 2.13 m. high. The upper parts of these exterior doorways had fallen, but their height could be judged from the depth of the holes left by the wooden lintels in the masonry of the south jamb of the doorway in the east end. The eleven rooms of the lower story and the space occupied by the interior stairway conform to the arrangement of the floors on the top of the substructure (pl. 16). They form three rows of parallel vaults with their long axes east and west and two transverse vaults across either end of the central and northern vaults. The southern range is divided into five chambers, Rooms 1-5. Room 6 occupies the whole of the central vault and Rooms 8 and 9, the northern vaults. The two transverse vaults at the east end form Rooms 10 and 11; those at the west end form Room 7 and the space taken up by the interior stairway. These transverse rooms are on the same level as Rooms 8 and 9 and extend across the east and west ends of the northern and central vaults. Room 6 is on a lower level, and the rooms forming the southern vaults are on a still lower level, so that from the front rooms one steps up twice to get to the back rooms. They are all connected by interior doorways so that access to all parts of the building could be had without going outside.

The outer walls of the lower story rise vertically 2.87 m. to the medial molding. All but a small section of this molding had fallen on the south side, but enough remained to show that it coincided with the molding on the north. The only basal molding was on the south side. Here the floor upon which the rooms are built runs under the walls and protrudes to form a plinth 20 cm. wide and 36 cm. high. The medial molding is rectangular

with an average height of 36 cm., extending out from 18 to 25 cm. beyond the lower and upper wall zones. It changes level in accordance with the floors (p1. 19, *b*) except on the north side where it drops from 36 to 43 cm. in the five coigns of the lower façade (p1. 19, *a*).

The lower façade of the lower story is plain on the south side. The north section of the west end has a surface 2.64 m. broad, protruding 15 cm. and framing the doorway. The north section of the east end probably had a similar protruding surface. The nearly intact north side is divided into five projecting surfaces separated by more or less vertical coigns (pls. 19, *a*, 4, *c*).

The upper façade of the lower story rises on a slight batter from the medial molding to the cornice. Its height averages 2.13 m. The cornice changes its level with the medial molding, maintaining a constant height above it. The cornice is a rectangular molding of the same dimensions as the medial molding and extends out the same distance from the walls. The zone between medial molding and cornice was evidently once decorated with fourteen large stucco masks in the form of grotesque human faces. Portions of only seven remain, five on the north side and one each on the east and west ends. The masks are 91 cm. in breadth, except for the central one on the north side which is 1.22 m. across (it is probable that a mask of equal width once occupied the center of the south side). Each is set in a square frame and protrudes 18 cm. beyond the medial molding, going back on a batter to the cornice. On the north side the frames are separated by coigns, which are directly over those in the lower façade. On the east end only part of the southern mask remains, but there is no doubt that there was another over the doorway in this end of the building corresponding to one on the west end in the same respective position. The west end retains only its northern mask, but undoubtedly there was a southern mask similar to that on the east end. As the upper façade on the south side had fallen, the masks placed over the three doorways and at either end in the reconstruction are hypothetical.

The outer walls of the lower story, with the exception of that at the west end, are at almost exactly right angles to each other. The west wall forms an angle of 95° with the north wall. The lower walls are made of roughly shaped, flat stones averaging from 25 to 38 cm. in length and breadth and from 10 to 15 cm. in thickness. They were laid horizontally in good mortar with abundant spalls for chinking. No attempt was made at coursing. The walls were then covered with a coat of plaster from 6 to 19 mm. thick. From evidence on the west side, the plaster was once painted red.

The upper story contains seven rooms and a covered passage for the top flight of steps of the interior stairway. These rooms form two rows of parallel vaults, their long axes east and west, and two transverse vaults across either end. The position of the two ranges directly over the lower northern and central chambers (p1. 23) is contrary to the general Maya practice of building upper rooms over solid masonry cores. The rooms of the upper story are all on the same floor level, which is continuous with the top of the cornice on the north side of the lower story, except where the cornice drops lower in the coigns. The northern vault is divided into Rooms 15 and 16. Room 12 and the passage containing the top flight of steps of the interior stairway form the southern row. The two transverse vaults at the east end form Rooms 17 and 18; those at the west end form Rooms 13 and 14. The interior stairway leads up into the west end of Room 12. From this room one can gain entrance to Rooms 16, 17, and 18 without going outside, but as there is no

doorway from Room 16 into Room 15, access to the latter can be gained only by way of the outside doorway in Room 13. There were four outside doorways in the south side of the upper story. Three of these, the lower parts of their jambs still in place, lead into Room 12; the fourth has fallen but must once have existed, as in no other way could Rooms 13, 14, and 15 have been entered. From Room 12 there are two steps down to the broad terrace provided by the roof of the southern row of lower rooms. The steps extended the whole length of the upper rooms. The terrace is probably correctly shown in reconstruction, as the lower southern vault is too wide to have supported upper rooms. Furthermore, the three doorways in the south wall of Room 12 indicate that it was an exterior room. Finally, the uppermost of the two steps leading down to the terrace was intact and was too broad to have been a basal molding inside a room.

The whole upper part of the upper story, including the medial molding, had fallen, except on the west end of the north side. Here part of the medial molding remained. It was rectangular and had the same dimensions as the medial molding and cornice of the lower story but projected 18 cm. beyond the lower and upper façades. The distance between the cornice of the lower story and this molding was 2 m. Enough of the lower façade of the north wall was left to prove that it followed the pattern of the lower façade of the lower story. The north wall is set back 18 cm. from the edge of the cornice of the lower story and rises on a batter of 3 cm. in 2 m. to the medial molding. On the south side very little remainder of the lower façade rises vertically. It is very probable that this wall originally had the same batter as that of the north wall but was pushed slightly outward when the vault fell. Though less massive, the walls of the upper story are built in the same manner as those of the lower.

Nothing remained of the upper façade of the second story. In the restored drawings it was made to rise from the medial molding with a batter greater than that of the lower façade. As no evidence of a roof-comb or of decoration could be found in the débris in the upper rooms, the upper façade and the roof have been reconstructed without ornament.

ROOMS

In the following detailed descriptions of the rooms each one will be considered separately, except in the few cases where an originally single room was later subdivided. Problems of construction, here only briefly touched upon, will be discussed more fully in a later section. As many of the rooms are not exactly rectangular it has seemed best to give only mean lengths and breadths. Exact measurements can, if desired, be scaled from the ground plans.

Room 1 lies in the southwest corner of the lower story. It is a small, irregular cell 2.29 m. east and west, by 2.44 m. north and south (p1. 20, *b*; C-C, p1. 21). The vault had completely caved in, and only the bottom courses of the south and west walls remained. The north wall had fallen to below the spring of the arch. The east wall is nearly intact and has a doorway 66 cm. wide and 2.03 m. high leading into Room 2. The wooden lintels over the doorway are gone, but the depressions in which they rested are visible, and a course of stones 30 cm. above is in place. These stones are 1.09 m. long and average 41 by 41 cm. in breadth and thickness. They extend into Room 2 where they form an offset of 25 cm. (p1. 6, *c*). The east wall is vertical and has no offset. It is undoubtedly an end wall, indicating that the vault ran east and west. Room 1 has two levels; the upper, 46 cm.

above the lower, occupies practically the whole room, only a small area of the lower level being left in front of the doorway. The upper level was dug through in the hope of finding a burial. None was there, but it was found that the lower floor continued under the upper level and that a pure rock fill occupied the space between them. This fairly loose fill was held in place by large, flat stones forming the edge of the upper floor level. The lower floor of the room was also excavated to a depth of about a meter. Here the fill consisted of large stones and dirt. Sunk through the lower floor in the northeast corner of the room, and nicely plastered inside, is a round hole 15 cm. in diameter and 30 cm. deep (a, p1. 20, *b*).

Rooms 2, 3, and 4 occupy the space between the two end rooms of the southern range. They were made by cutting what was formerly one long chamber into three parts. Before discussing this later arrangement it will be best to describe the room in its original state. At that time it measured 19.43 m. long by 3.05 m. wide. Although the vault had caved in and a great part of the south and west walls had fallen, enough remained to permit accurate reconstruction (p1. 20, *b*; C-C, p1. 21; D-D, p1. 22). In one place on the exterior of the south side the medial molding is intact. It consists of a course of stones 36 cm. high and 1.47 m. long, extending through the wall to form a 23-cm. offset at the spring of the arch inside the room (p1. 23). The south wall was pierced by three doorways each measuring 2.49 m. from jamb to jamb (p1. 3, *a*). Their exact heights could not be measured but may be inferred (on the evidence of the doorway in the west end of the room) to have been 2.03 m. The west wall was practically intact (p1. 6, *c*). Its doorway leading into Room 1 has already been described.

The wall rises vertically to a 25-cm. offset formed by a protruding course of stones 2.59 m. above the floor. There is no inward slope to the western end wall; it continues to rise vertically above the offset (p1. 7, *a*). The east wall is fallen to below the height of the offset of the west wall. A doorway 66 cm. wide through the east wall leads into Room 5. The north wall is in the best state of preservation. Here the offset at the spring of the arch is intact and enough of the arch remains to provide data for reconstruction of the vault. The arch was low and broad and as the standing part extends to within 46 cm. of the center of the room, the height of the capstones could fairly accurately be placed at 4.5 m. above the floor. Only five beam holes remained in the north wall, as much of the arch had fallen. They were at three levels (p1. 7, *a*; C-C, p1. 21): at the spring of the arch, 30 cm. above the spring, and 30 cm. below the capstones. Indication that the room had been painted was found under the spring of the arch, where some of the plaster still bore traces of red paint. In the center of the south wall is a doorway, 2.51 m. wide, into Room 6 (p1. 8, *a*). Its upper part had fallen. The floor level of Room 6 is 51 cm. higher than that of the front room and extends under its north wall to turn down flush with the wall to the floor. This forms a step in the doorway.

At some later period an extra thickness was added to the north wall of the long room just described (g, pl. 23). Two courses of stones with a total height of 51 cm. were laid on the floor against the wall extending the whole length of the room. These stones projected 61 cm. from the base of the wall, rising on a batter of 1 in 2. The secondary, or lining, wall was then erected on the double course of stones, being set back 10 cm. from its edge, and thus producing a sort of basal molding (a, b, p1. 9, *a*). The wall was 25 cm. thick, and was built up as high as the shoulder at the spring of the arch with which it fitted flush (p1. 7, *a*). The primary wall was made of rough, uncut, flat stones averaging

from 25 to 38 cm. in length and breadth and from 10 to 15 cm. in thickness, laid horizontally in lime and mud mortar. This uneven surface was then covered with a thick coat of plaster. The secondary wall differed in the fact that the stones were smaller, averaging 20 cm. in length and breadth and 10 cm. in height. They were laid horizontally in fine lime mortar, which was also used as a rough surfacing upon which a thick coat of plaster was applied. Both walls were freely spalled. The secondary wall, as well as the floor under it, showed signs of red paint. There is little doubt that the extra thickness was added for the purpose of reinforcing the arch, but whether it accomplished this end is questionable.

The width of the southern room is greater than is usual at Uaxactun and the distance between the spring of the arch and the capstones is extremely short for such a wide vault. It was probably because of these two factors that the arch was considered still unstable even after the lining of the north wall, and a further attempt was made to strengthen it. This was done by putting in two partition walls, 91 cm. thick, across the short axis of the room, dividing it into Rooms 2, 3, and 4 (p1. 20, *b*; h, p1. 23). Rooms 2 and 4 are 6.25 m. long and Room 3 is 5.10 m. long. There is a doorway in each of the new cross-walls, the upper parts of which (over the doorways) have fallen, but enough remains against the north wall to prove that they rose perpendicularly to the top of the vault (p1. 6, *d*). Room 3, the central room, was narrowed to a width of 1.83 m. by placing an extra thickness against its north and south walls (p1. 7, *b*). These supporting walls rise vertically to meet the slope of the arch. The arrows in plate 8, *b*, indicate the above addition to the south wall of Room 3. On the north side of the room a basal molding was added to take the place of the one covered by the tertiary construction. It is similar to one beneath it but does not extend across the doorway in the north wall. This serves to inset the step into Room 6.

The tertiary walls just discussed differ from the rest of the walls in Structure A-XVIII in that the outer stones are faced and laid up, some vertically, some horizontally, against a hearting of rough stones, dirt, and lime. This approaches a veneer, although the horizontally laid stones are set well back into the hearting (h, p1. 23). Such walls offered a much smoother surface for plastering than did the earlier types.

Room 5 lies east of Room 4. It is a small, roughly square chamber, 2.87 by 2.74 m., the long axis east and west (p1. 9, *b*). A doorway in its west wall leads into Room 4. The vault ran the long axis of the room. The end walls are vertical and have a shoulder, 2.90 m. above the primary floor level, formed by a course of stones 1.22 m. long, 41 cm. wide, and 25 cm. high, extending through the wall and forming the medial molding outside. The north and east walls are almost intact, but the vault and the south and west walls are badly fallen. In the northeast corner there is a drain 30 cm. wide by 15 cm. high extending through the east wall at the level of the primary floor. The grave of Burial 2 had been cut through this floor and a secondary floor was laid over it. The latter was 10 cm. above the lower floor on the west side of the room and 15 cm. above it on the east side, blocking up the drain mentioned above. The upper floor covered the whole of Room 5, extending through the doorway to cover the entire floor of Room 4. The fact that it was built after the tertiary construction in Room 4 would indicate a fairly late date for Burial 2. In the east wall of Room 5, 1.22 m. above the upper floor, is a ventilator 30 cm. square, which was partially blocked up to form a niche. Just 30 cm. from the north wall and 20 cm. below the spring of the arch was part of a sapote beam 20 cm. in diameter, which once extended from the east to the west wall (p1. 9, *b*). This is the only case in Structure A-

XVIII of a beam's running the long axis of a room.

Room 6, the central chamber of the lower story, is entered from the south by a broad doorway opening out of Room 3. Its floor level is 51 cm. above that of Room 3 and 41 cm. below the floor of the northern rooms. With the exception of the area over the doorway in the south wall and a section of the vault in line with this doorway, the room is intact (p1. 8, *a*). It is a narrow chamber, 15.39 m. long by 1.67 m. wide. Its original width was 1.93 m. but, as in the case of the room to the south, it was made narrower by building on the south side a secondary wall from the floor to the offset spring of the arch (g, p1. 23). This offset is 2.87 m. above floor level and projects 25 cm. The offset at the spring on the north side is 46 cm. higher and projects 46 cm. The capstones of the vault are 5.43 m. above the floor, and the vault rises with a double curve which gives it a bottle-shaped cross section (p1. 10, *b*). It was strengthened by four rows of sapote beams, of which only a few stumps remain. The holes in which they rested are shown in the cross section B-B, plate 21. In some cases the beams penetrated the north wall and crossed the vault of the room behind.

The end walls of Room 6 are vertical, the only difference between them being that the one at the west is plain, whereas the one at the east end has an offset of 10 cm., just 3.33 m. above the floor. At 91 cm. above the floor in the center of the wall (p1. 10, *b*) there is a vent 53 cm. high and 30 cm. across, which opens into Room 7, where there is a vent directly opposite the one just mentioned. Light coming through these two openings helps to illuminate this end of Room 6. Along the wall at the east end is a basal molding 41 cm. high with a batter of 8 cm. and projecting 18 cm. from the wall. This molding is formed by the floor of Room 10 which continues under the wall. At either end of the north wall is a doorway, the one at the east end leading into Room 9, that at the west end into Room 8. The western doorway has a secondary wall 20 cm. wide built against its west jamb (*a*, cross section B-B, p1. 21), either to diminish the width of the door and thereby make it equal to the one at the east end, or to reinforce the construction. Each doorway has three sapote lintels 25 cm. in width and breadth extending 1.02 m. into the wall on either side. They are flattened on the under or exposed surface only. Here the marks of the original hewing or adzing are still visible. A considerable amount of red paint still remains on the north wall. It was applied in seven vertical panels between the two doorways, the central panel being much broader than the rest and directly opposite the doorway in the south wall. These panels extend from the floor to within about a meter of the spring of the arch. Their exact positions and dimensions are recorded as *c*, cross section B-B, plate 21.

Room 7 is a small, lateral room, west of Rooms 6 and 8. It measures 3.56 m. by 1.17 m., its long axis north and south. It is intact save for some of the beams which have fallen from the vault. Its floor is level with that of the northern rooms. Opposite a doorway in the north end of the east wall giving access to Room 8, is the entrance to the stairway leading to the second story. Both doorways, spanned by double sapote lintels, are 2.29 m. high; the eastern is 66 cm. wide, the western 81 cm. (p1. 20, *b*). The end walls are vertical, rising 3.89 m. from the floor to the capstones. The north wall has two openings, a drain at floor level, 23 by 15 cm., and a vent 55 cm. above floor level, 28 by 36 cm. In the west wall is a 38 by 28-cm. vent, 63 cm. above the floor level, running under the stairway and through the west wall of the building, a distance of 3.43 m. Opposite this vent is the one leading into Room 6, which has already been described. The east and west walls

are vertical as high as the offset at the spring of the arch, 2.90 m. above the floor. The offset on the west side protrudes 25 cm., above which the wall rises vertically to the capstones. On the east side the offset is 15 cm., the wall extending upward in a half-vault. This was necessary to make room for the stairway which passes close above Room 7 (B-B, p1. 21). The half-vault provides good evidence that the stairway and second story were planned at the same time as the lower story and were not a later addition. Cross section D-D in plate 22 shows the position of the beams that helped support the vault.

Room 8, long and narrow (7.47 m. by 1.65 m.) with its long axis east and west, is the western room of the two that form the north range. There are three doorways, one at the west end into Room 7, one in the south wall into Room 6, and one in the east wall into Room 9. The first two have already been described. The doorway into Room 9 is of great interest as it differs from all others in the building. Originally there was no communication between Rooms 8 and 9, the two having been separated by a partition wall built at the same time as their other walls. Later this wall was broken through to form a doorway (p1. 11, *a*) 91 cm. across and 1.88 m. high to the center. It had no lintel and the top was in the form of an arch. All that held the stones in place was the mortar, which, before the doorway was cut through, had hardened and bound the masonry into a monolithic mass. The south jamb was partially fallen; the north jamb, however, was intact and shows that small stones were laid up vertically between the projecting ends of the original wall-stone construction to form a fairly even surface for the finishing plaster. This patchwork jamb, together with the absence of a lintel, renders it practically certain that the doorway was not part of the original plan of the building.

Room 8 was intact with the exception of a large hole in the north wall where some of the masonry had fallen or been knocked out by chicleros. The west wall (p1. 10, *c*) rises vertically 2.90 m. to a 10-cm. offset, above which it continues upward on a very slight negative batter to the capstones 5.03 m. above the floor. Although the floor is 41 cm. higher than that of Room 6, the capstones of the two chambers are on the same level. The east wall of Room 8 is practically vertical, having only a slight negative batter from the top of the doorway to the capstones, but there is no offset. The north and south walls are also without offset at the spring of the arch, which starts about 3.35 m. from the floor. As in the case of Room 6, the vault rises with a double curve. Although most of the cross beams have fallen, the holes in both walls show that there were four rows, the lowest row being below the spring of the vault (see A-A, p1. 21, which also shows the position of the six vents and the drain in the north wall). On either side of the doorway into Room 6, and 61 cm. from the jambs, are two cord holders, the lower pair 41 cm., the upper 1.93 m. from the floor. They are depressions in the wall, 18 cm. in diameter and 13 cm. deep. Across each hole a stone 5 cm. in diameter was set into the masonry at 45° from the horizontal. In the floor of this room was a circular perforation 30 cm. deep and 30 cm. in diameter containing charcoal and a few sherds.

Room 9 is practically identical with Room 8 except that it is a trifle shorter. Both rooms have the same floor level, their vaults run in the same direction, and the beams across the vaults hold comparable positions (p1. 20, *b*; A-A, p1. 21). Three doorways lead out of Room 9: one in the west wall into Room 8, one in the south wall into Room 6, and one in the east wall into Room 10. The first two have been described; the third, leading into Room 10, is 2.29 m. high and 91 cm. across. Its two wooden lintels are still in place (p1. 11, *b*). The opening in the north wall seen in plate 11, *a* is probably due to destruc-

tion by chicleros rather than to decay, although it may have been started by the crack which appears above it. The north wall bears many traces of red paint, but there is not enough to make out any definite design. This wall is perforated by four vents and two drains (A-A, pl. 21). On either side of the doorway into Room 6 are two cord holders similar to those in Room 8. At the east end of the room the floor was perforated by a circular hole 25 cm. deep and 30 cm. across (p1. 11, *b*) containing charcoal and sherds.

Room 10 is one of the two small lateral rooms lying east of the central and northern ranges. It is 1.42 m. wide by 3.76 m. long, the long axis north and south. This room was intact and traces of red paint were still visible on the walls. The floor, which is on the same level as that of Room 9, was pierced by two holes: an oblong depression at its north end, which will be described with Burial 1; and a circular hole 30 cm. in diameter and 20 cm. deep. The latter contained charcoal and a few potsherds (p1. 20, *b*; A-A, p1. 21). The end walls are vertical from the floor to the capstones, the side walls are offset 10 cm. at the spring of the arch, 2.90 m. above the floor. From the spring, the sides of the vault rise with a concave curve, the vertical distance between spring and capstones being 1.47 m. Across the vault there were originally three rows of beams, two above the spring of the arch and the other below. In the north wall (pl. 13, *a*) are two vents, one directly above the other. Of the two doorways, one stands in the west side from Room 9, and the other (2.03 m. high by 1.68 m. wide) in the east from Room 11. The three wooden lintels of the latter are still in place. In either jamb are two cord holders (indicated by arrows in pl. 11, *b*), differing from the ones already described in the fact that the crossbar is horizontal. In the south end of the east wall is a vent 71 cm. above the floor, extending 3.05 m. through the south wall of Room 11.

Room 11 forms the northeast corner of the lower story. It is 3.05 m. long by only 1.07 m. wide, its long axis north and south. All the northeast corner was fallen, but the capstones, the entire south and west walls, and part of the north and east walls, are still in position. The end walls and vault are similar to those in Room 10 (p1. 20, *b*; A-A, p1. 21). Three rows of beams helped support the vault, two above the spring of the arch and one below. None of them remain, but the holes in which they once rested are preserved in the west wall. In the north wall there is half of a vent 1.02 m. above the floor level. The other half was destroyed when the northeast corner fell (p1. 15, *b*). The doorways are in the west and east walls, the former leading into Room 10, the latter opening onto the east terrace. Of the east doorway there is still standing only part of the south jamb with the holes left by the lintels in the masonry of the room wall.

Room 12 is a long and narrow room in the second story, 15.24 m. by 1.88 m., its long axis east and west. It lies directly over Room 6 (p1. 20, *a*; B-B, p1. 21). All the upper part of the room had fallen and most of the south wall. Fortunately, on the north side the offset at the spring of the arch is in place (p1. 12, *a*). It is 1.98 m. above the floor and extends 8 cm. from the wall. This is a much lower spring than was used in the lower story, consequently the vaults of the upper story were made correspondingly lower in the reconstruction. The offset is at the same height wherever found in the second story. The end walls of Room 12 are also offset. They rise with a slight negative batter from the offset, formed by stones which pass through the wall to make the offset of the room on the other side. There are five doorways in Room 12: one in the west end, 91 cm. wide, leading to the stairway (p1. 12, *a*); one in the north wall at the east end of the room, 1.22 m. wide, leading into Room 16; and three in the south side opening onto the terrace overlooking the

plaza. Only the breadth of the most westerly of these last three could be measured (91 cm.). The floor of Room 12 is on the same level as that of the other rooms of the upper story. On either side of the doorway in the west end it is pierced by a hole 25 cm. in diameter and 15 cm. deep (p1. 12, *a*; c, p1. 20, *a*). In the center of the room resting against the north wall is an altar (p1. 6, *a*; a, p1. 8, *a*), 74 cm. high, 3.05 m. long, and 1.50 m. deep, consisting of dry rubble fill contained by walls of two courses of well-cut stones, the whole plastered over. This was probably a secondary construction as the wall behind it was plastered. Along its front edge is a molding 10 cm. wide projecting 8 cm. (b, cross section E-E, p1. 22). Originally the altar had apparently been a plain block of masonry, but subsequently walls were built upon its east and west edges to a height of 1.55 m. and running from the front or southern edge back to the north wall of the room (a, p1. 20, *a*; b, cross section B-B, p1. 21). The outer surfaces of these two walls rise 53 cm. with a batter of 10 cm., and then continue up vertically. At their bases the walls are 43 cm. thick. The above-described altar occupied the most impressive position in the building, being framed by the doorway in the center of the upper story, and so being plainly visible from the plaza. The plastered floor of the altar and the fill below were dug through as far as the floor of the room, but nothing was found. Over the altar is a vent through the wall into Room 16 (B-B, p1. 21).

Room 13 is at the west end of the upper story directly over the two lower flights of steps of the interior stairway (A-A, B-B, p1. 21). As can be seen from the ground plan (p1. 20, *a*), most of its walls had fallen. The long axis of the room is north and south. The east wall is intact at its north end and has a doorway 84 cm. wide and 1.68 m. high to the former bottom of the wooden lintels. The lintels have disappeared, but some of the large rectangular stones they supported are still in place. These were not placed with their long axis across the doorway but parallel to the jambs, one stone extending the width of the jamb. Room 13 is the only room in the upper story that yielded definite evidence of having had no offset at the spring of the arch. Its south end had fallen; there must almost certainly, however, have been a doorway giving access to the terrace. Otherwise there would have been no means of entering it or Rooms 14 or 15.

Room 14 is the smallest in Structure A-XVIII (1.68 m. by 1.22 m.). It lies directly over the north end of Room 7, its long axis north and south (p1. 20, *a*; A-A, p1. 21). It is little more than a passage with doorways in its west and east walls. The former, leading into Room 13, has already been described; the latter, leading into Room 15 is 76 cm. wide and 1.68 m. high. Several of the rectangular stones which were once supported by the wooden lintels were still in place. They were set crosswise to the lintels, extended through the wall, and formed part of the course of stones constituting the offset at the spring of the arch. Unfortunately, those stones over the doorway, no longer having their sapote supports, fell during excavation (p1. 12, *b*). In the north wall of the room are a drain and a vent (A-A, pl. 21).

Rooms 15 and 16 were originally one long, narrow chamber (16.31 m. by 1.47 m.), its long axis east and west, lying directly over Rooms 8 and 9 of the lower story (p1. 20, *a*). The north wall was pierced by eight drains and one vent (A-A, p1. 21). Of the three doorways, one in the west end into Room 14 (p1. 12, *b*), one in the east end into Room 17, and one in the south side into Room 12, only that into Room 17 has not been described. This doorway is peculiar in that its north jamb did not bear the lintel beams which were supported by the south and north walls of the room. The north jamb is the

north wall of Room 17 which is 61 cm. south of the north wall of Room 16. The lintels supported the upper part of the east end of the room, the wall below the spring of the arch being farther east (pls. 20, *a*, 12, *d*). This was undoubtedly done because there was no lower story wall directly below where the north jamb would normally have been, and in order to bring the weight over a lower story wall the lintels had to be extended to the north wall of the room. At some later period a partition wall 46 cm. thick was built across the room 4.88 m. from its west end, dividing it into Rooms 15 and 16 (pl. 12, *c*). There being no doorway in this wall, it was necessary to go outside and pass through Rooms 13 and 14 to reach Room 15.

Room 17, directly over Room 2, measures 3.51 m. by 1.68 m., its long axis north and south (pl. 20, *a*). The vault has fallen, with the exception of a small section on the west side which still stands to a height about a meter above the spring of the arch. There are two doorways: one in the west wall into Room 16, already described, and one in the east wall leading into Room 18. Only the jambs, 1.68 m. apart, remain. In the northeast corner of the room a drain passes through the north wall.

Room 18, east of Room 17 and directly over Room 1, had completely fallen save for the west wall, a small fragment of the north wall, and a portion of the floor.

INTERIOR STAIRWAY

The interior stairway from the lower to the upper story is at the west end of the building and occupies a position corresponding to that of Room 11 at the east end (pl. 20, *a*, *b*). Its three flights are set at right angles to each other. The risers of the steps average 41 cm., the treads 25 cm.; they are covered with a heavy coating of smooth, highly polished plaster. The first flight of three steps starts in the doorway in the west wall of Room 7 and rises westward to a landing 1.22 m. wide by 1.37 m. long (A-A, pl. 21; pl. 10, *c*). From here the second flight, also of three steps, rises to a second landing (1.02 m. by 1.17 m.), from which the third flight mounts in eight steps to the level of the upper story. At the top of the third flight is a doorway leading into Room 12 (pl. 15, *c*). The stairway was covered by two vaults: one running north and south, roofing the first and second landings and the second flight of steps; the other running east and west, covering the third or upper flight. The capstones of the north-south vault extended as far as the northern edge of the second landing. The distance between these capstones and the floor of the upper story is 46 cm. This vault was reinforced by four crossbeams placed in two rows. The west side has no offset at the spring of the arch. The east side has two offsets over the first landing (A-A, pl. 21) but rises vertically to the capstones south of this point, forming a half arch with the west wall. The fact that the overhead construction above the second landing had fallen brought up the problem of how the rest of the stairway was covered. In the fallen material lying on the second landing were three well-cut stones 1.17 m. by 46 cm. by 20 cm. These were probably placed at the same level as the capstones of the north-south vault with their long axes north and south, their north ends being supported by a sapote beam extending across the vault, their south ends by the south wall. These three stones were of sufficient size to have roofed the second platform. From here up, covering the third flight, the vault was evidently at the same height as the vault of Room 12 except where the east wall of Room 13 crosses the stairway. Here this wall would have had to have been supported by wooden beams (B-B, pl. 21). As the third flight is not as wide as the vault cov-

ering it, a narrow platform remains along its south side (pls. 15, c, 20, a). This platform is at the same level as the floor of Room 12. The stairway was lighted by a vent in the west wall, and three vents and a drain in the north wall.

BURIALS

BURIAL 1

Location: Under the floor, in the southwest corner of Room 10 (pl. 20, b, B.1).

Remarks: An oblong depression in Room 10 was reported by Frans Blom in 1924, but as he was under instructions not to excavate, it was left as found. It was excavated by Mrs. O. G. Ricketson Jr. in 1927, and was discovered to be a shallow grave 1.17 m. long, 46 cm. wide, and about 53 cm. deep. It contained the fragmentary remains (none recoverable) of a young individual buried on the right side, head to the north, face to the west, the forearms flexed at the elbows so that the hands lay near the face, and the legs closely flexed in front of the abdomen. An area on the left parietal above the mastoid, roughly quadrilateral and measuring 2.5 by 2.0 cm., showed necrosis extending halfway through the bone.

Sex: Not determined.

Age: Youth.

Bones: None recovered.

Dentition: Six incisors, two showing the crenelated borders of youth, four canines, four premolars, four molars. None showed wear.

BURIAL 2

Location: Under the lower of the two floors in the southwest corner of Room 5 (pl. 20, b, B.2).

Remarks: Room 5 has two floors, the upper being 10 cm. above the lower. The cist in which the skeleton lay, 79 cm. long, 30 cm. wide, and 28 cm. deep, was cut through the lower floor. The stones capping the cist were laid on this floor and were covered by the upper floor (pl. 13, b, d; fig. 1). The burial was fairly late as the upper floor was laid subsequent to the erection of the tertiary construction in Room 4 (see p. 11) and the pottery vessel found in the grave is of comparatively late type. The cist contained the skeleton of a baby extended at full length on the back, head north (fig. 1). The bones were in fair condition with the exception of the skull which was broken by roots.

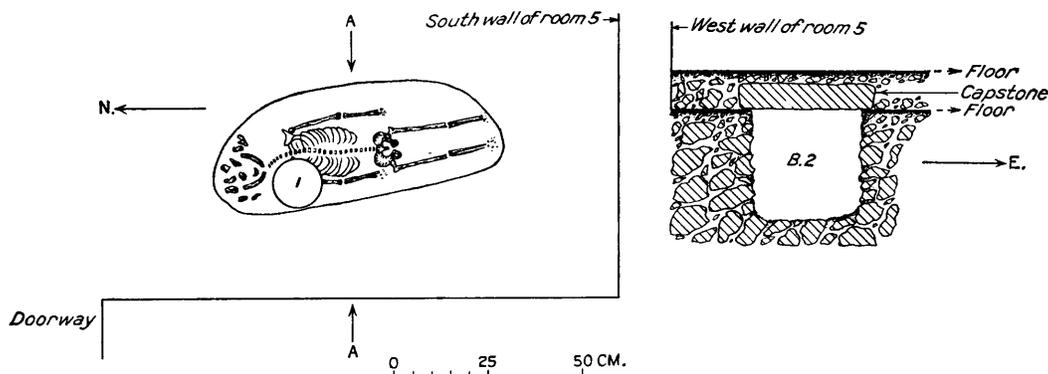


FIG. 1—Burial 2.

Sex: Not determined.

Age: Infant.

Furniture: With the burial were a few potsherds and flint chips, some charcoal, two shrew skulls, one iguana mandible, and one whole pottery vessel. The last, a bowl with a modeled and incised human face on either side (fig. 2), was resting on the right shoulder of the skeleton

Bones: Mandible; twenty seven pieces of skull; eleven vertebrae; right and left scapulae; right and left ulnae; upper and lower extremities of the right and left humeri; upper extremities of the right and left femora; right and left ilia; pubes, ischia and calcanea; and fragment of right fibula.

Dentition: Three incisors, one canine, and two molars

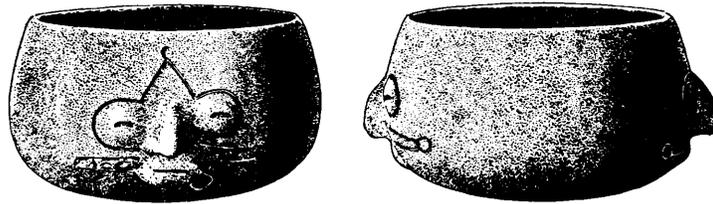


FIG. 2.—Vessel from Burial 2.

ARTIFACTS AND POTTERY

Almost all the pottery and artifacts found in A-XVIII are from the surface and are consequently late. Aside from some very well-made obsidian lancets from behind the secondary wall on the north side of Room 4, and the bowl from Burial 2, nothing came from below the floors, although several pits were dug through them. The lack of potsherds in the fill under the floors of rooms is characteristic of the earliest architectural periods at Uaxactun and is another proof of the antiquity of Structure A-XVIII. Among the artifacts are shell ornaments, flint spear-heads and fragments of other flint implements, polishing stones, and fragments of manos and metates. While removing the débris from Room 15 a piece of unburned copal was found on the floor. The most interesting object that came to light was a wooden bow, of which two-thirds remained. It was discovered under 2.5 m. of débris on the floor of Room 6. The piece is 1.02 m. long, 12 mm. thick, 35 mm. wide in the center and 23 mm. wide at the unbroken end. Its original length was probably about 1.37 m. The edges are slightly rounded and the notch to which the string was attached is still intact (p1. 13, c). The front of the bow is covered with short parallel lines scratched into the wood at right angles to its length. The wood is very hard, heavy, and spotted with a black gummy substance. According to Señor Mariano Pacheco Herrarte, Director-General of Agriculture in Guatemala, it is Guayacan (*Febebuia chrysanta*), a wood used today by the Lacandone Indians in making their bows.

ARCHITECTURAL DETAILS

MATERIALS AND MASONRY

As Uaxactun lies in a limestone country, its ancient architects had abundant material for building stone and for lime mortar. The latter was used plentifully, often with an admixture of dirt to bind the roughly cut stones used in the walls. Purer lime was employed for binding, for plastering floor and wall surfaces, and for decorating with stucco such as in the large masks of the upper façade of the lower story.

The stonework varies in quality, some of the stones being cut and their exposed surfaces well faced, others merely unworked slabs with their exposed surfaces slightly evened up. The large, well-cut stones were used in the walls of the substructure and for the medial moldings of the upper and lower stories. In the substructure the masonry is coursed, the courses being leveled with spalls (p1. 5, *b*); the mortar, a mixture of lime and dirt, is good. Such a wall presented a fairly smooth surface for the plaster finish. The core of the substructure was a dry random rubble of large, unworked stones and dirt into which the stones of the outer facing were deeply tailed. The stones in the tertiary walls in Rooms 2, 3, and 4 were also cut and faced, and are in some cases laid up vertically against a hearting of large stones, dirt, and lime (p1. 7, *b*). The rough slabs were used in the walls of the superstructure, laid horizontally in heavy mortar with much spalling (pls. 14, *a, b*, 15, *b*). This is what Roys calls "Old Empire flat stone work."¹ The wall and vault stones are deeply tailed into the hearting with no attempt at coursing. The roughness of these stones left large chinks between them, which necessitated the application of a very heavy coat of plaster. A slightly different technique was used in the construction of the secondary walls in Rooms 2, 3, 4, and 6. Here small stones were laid closely in pure lime mortar. This was also spread over the face of the wall to form a fairly smooth surface which was then plastered over (p1. 9, *a*). Only in one instance is there any significant variation from the usual in method of wall construction. This occurs in the tertiary walls of Rooms 2, 3, and 4. Here the stones are squared and faced, some are laid horizontally and are tailed into the hearting, while others are placed vertically against the hearting. This would appear to be an early stage of what later developed into veneering.

Wood was the only material other than limestone employed in the construction of this building. Heavy wooden lintels spanned most of the doorways, and vaults were strengthened by many transverse beams. The wood used for these purposes was sapote, which grows in great quantity in the surrounding jungle.

It is interesting to note the small amount of room space in comparison to the amount of material used in the construction of such a building as Structure A-XVIII. The total estimated room space is 778 cubic m. The total volume of masonry in substructure and superstructure is 7,862 cubic m. The substructure contained 6,234 cubic m., the superstructure 1,628 cubic m. This gives a ratio of 10.1 cubic m. of material to 1 cubic m. of room space in the whole building, and of 2.1 cubic m. of material to 1 cubic m. of room space for the superstructure. The ratio of material in the substructure to that in the superstructure is 3.8 to 1.

¹ Lawrence Roys, "The Engineering Knowledge of the Maya." *Carnegie Inst. Wash.*, Pub. no. 436, pp. 29-105. Washington, 1934.

FLOORS

The floors of Structure A-XVIII were made by the usual Maya method, which consisted in leveling off the basic fill with a layer of small stones; this in turn was covered with a layer of smaller stones and mortar, upon which the final surfacing of pure lime was applied and given a high polish. In many places where the floor has been protected by debris or by later additions, it still retains its original polish and often bears traces of red paint.

Before the superstructure was erected, the substructure was covered by a floor. This had four levels, which constituted the levels of the terraces and the various rooms (p1. 16). As mentioned above, this indicates systematic planning of the superstructure before building began. The floor was so well laid out that after the superstructure was built every room had perfect drainage. The floor level of the rear chambers is higher than that of the front rooms, so that, with the exception of the back row of rooms which drained to the north through a series of openings through the back wall, the drainage is toward the front of the building. The upper story was built in much the same manner as the lower; the floor was laid first and the walls were then built upon it.

In several places the floor had been patched, either where it had been worn out or to cover the hole produced in making an interment (Burial 1). In the case of Burial 2, instead of merely patching, a whole new floor was laid 10 cm. above the other.

WALLS

Walls vary in thickness from 76 cm. to 1.52 m. There are a few much heavier walls such as that separating Rooms 5 and 11, which is 4.11 m. thick. This and other similar constructions were probably made to effect symmetry of room plan rather than to gain additional strength. After a certain amount of ageing the walls became monolithic in character. In the lower story interior walls tend to be thicker than exterior walls. This tendency is reversed in the upper story where all the walls are considerably thinner than those of the lower.

Contrary to the usual Maya practice of placing upper rooms over solid masonry cores, the rooms of the second story in Structure A-XVIII are built over the central and northern chambers of the first story, their walls being directly over, and supported by, those of the rooms below (p1. 23). The exterior walls rise vertically to the medial molding of the lower story. The upper zone of the façade slopes back from the medial molding to the cornice. The lower zone of the façade of the upper story in some places has a slight negative batter and in others a slight positive batter. The walls forming this façade were probably originally vertical up to the medial molding of the upper story and were later pushed in or out by the falling of the vault and the action of roots. None of the upper façade of the second story was standing.

In almost all cases the inner walls rise vertically from the floor to the offset at the spring of the arch. Any variation from this is a very slight negative batter. Four types of end walls were used: those rising vertically from floor to capstones; those with an offset at the spring of the arch and thence continuing vertically to the capstones; those with a negative batter from the offset to the capstone; and those without any offset but with a negative batter starting from the point where the offset normally would occur.

VAULTS

The vaults in Structure A-XVIII vary greatly in proportions, but the type of stones used and the method of laying them up are similar in all cases. The masonry in the sides of the vaults is of rough, unfaced, flat stones laid in mortar and chinked with spalls. These stones are set at an angle, the edges forming the face of the vault being higher than the inner ends which are deeply tailed into the hearting. As in walls, the stones and mortar bond together, in this type of construction, to form a monolithic mass (pls. 15, *a*, 23). Masonry of this sort has a very uneven surface upon which to apply the plaster. The spaces between the edges of the vault stones were accordingly filled with spalls and mortar, producing a somewhat less irregular surface, which was then plastered over (p1. 10, *c*). Roughly shaped, rectangular capstones, averaging 91 cm. by 36 cm. by 15 cm., spanned the 25- to 30-cm. space between the tops of the two half vaults.

In some cases there is an offset at the spring of the vault at about two-thirds the height of the room (p1. 10, *b*). The stones forming the offset extend through the wall to form a similar offset in the next room, or a medial molding on the exterior of the building (p1. 23). In the vault of the stairway there is a double offset (A-A, p1. 21). The lower rooms in the northern row have no offset at the spring (p1. 23). Their vaults are bottle shaped. The southern lower rooms have slightly arched vaults. In some instances the end walls of the vaults have an inward slope which may or may not rise from an offset; in others the end walls rise vertically from the floor or from the offset to the capstones. The south end of Room 7 and the middle part of the interior stairway are roofed with half vaults.

The height of the vaults from floor to capstones varies from 3.66 m. to 5.33 m., the vaults of the second story being lower than those of the first. The breadth of the vaults is from 1.14 m. to 3.05 m. All vaults still standing or partially standing were spanned by transverse wooden beams, their butts let into the masonry on their side sometimes as much as 56 cm. These vary from room to room in arrangement and number. In some cases there are four tiers (A-A, p1. 21), in others only two. The highest tier, which is normally only about 30 cm. below the capstones, is composed of beams about 8 cm. in diameter; those of the lower tiers from 12 to 15 cm. in diameter. Where there are four tiers, the lowest is a little below the offset at the spring of the arch. None is flattened or worked (p1. 11, *a*). Only in Room 5 did a beam run lengthwise of the room (p1. 9, *b*). Another unusual feature is presented by the beam which extends from the south wall of Room 6 through its north wall and across to the north wall of Room 8 (p1. 23).

There is no doubt that the crossbeams greatly strengthened the arch by aiding stability, distributing weight, and acting as ties and supports to keep the walls from being pushed outward by the thrust of the vault, or from falling inward. Throughout Structure A-XVIII the center of gravity of the vault mass is vertically over the solid masonry of the wall below, giving the half vaults stability. In most cases this point is over the approximate center of the supporting wall, but in the vault of Rooms 2, 3, and 4, as originally constructed, the center of gravity was very near the inner edge of the wall. The span of the vault in question was unusually broad (3.05 m.) and the vertical distance from the spring of the arch to the capstones comparatively short (about 1.5 m.). The Maya seemed to have realized the instability of this arch and twice attempted to strengthen it by thickening the

supporting walls and by putting in transverse walls (p1. 23). Their precautions, however, were not effective and the southern vault fell, pushing the lower south wall outward.

DOORWAYS

The common form of doorway in Structure A-XVIII is a simple rectangular opening spanned by a wooden lintel. The doorways run from 1.68 m. to 2.29 m. in height and from 69 cm. to 2.49 cm. in breadth. Those of the second story are lower than those of the first. The jambs are built in the same fashion as the walls and sometimes converge slightly at the top of the doorway. The lintels are composed of from two to five sapote beams, their number depending upon the thickness of the jambs. The beams average about 23 cm. in height and 36 cm. in width, and extend as much as 1.25 m. into the walls on either side of the doorway. Only their under surfaces were flattened (p1. 11, *a, b*). In the lower story the lintels are about 30 cm. below the spring of the arch. The lintels over the doorways of the upper story are directly under the spring of the arch and support the large stones which form the offset at the spring (A-A, p1. 21).

There are but three aberrant doorways: one between Rooms 2 and 3, another between Rooms 3 and 4, and the third between Rooms 8 and 9. The first two are in the added cross-walls that subdivide the room originally formed by the long lower southern vault. They differ from the rest in that their jambs are constructed of roughly squared and faced stones laid in both vertically and horizontally (pls. 23, *d, 7, b*). This type of construction is more fully described above (p. 16). The arched doorway with no lintel between Rooms 8 and 9 is not duplicated elsewhere in the building (see p1. 11, *a* and p. 13). In some instances doorways have been narrowed by the addition of an extra wall laid against one of the jambs (*a*, cross-section B-B, p1. 21), or had their jambs thickened by increasing the thickness of the room wall (p1. 8, *b*).

VENTILATORS AND DRAINS

Ventilators are very numerous. They average about 23 cm. square (p1. 4, *c*), while the largest measure 30 by 53 cm. With the exception of two at the north end of the interior stairway all occur below the spring of the arch (A-A, p1. 21). Most of the ventilators occur in the outside walls of the building, but there are a few between rooms. In some cases the openings run as much as 3.35 m. through a wall. The ventilators apparently had two functions, air circulation and light. The latter was not very well fulfilled, as little illumination could pass through such narrow windows in walls so thick. The front rooms were well lighted by their large doorways, but those behind must always have been nearly dark. The two large openings seen in plate 4, *c* were not made by the original builders, but were caused either by failure of the masonry, or more probably by chicleros who, in order to render the rooms more habitable, knocked out stones already loosened by cracks in the wall above.

The drains, small openings averaging about 15 cm. square, occur at floor level and slope downward through the walls. There were many of them in Structure A-XVIII in both upper and lower stories, but by far the greater number were in the rear rooms where the floor slopes toward the back wall and the readiest drainage would be through it. The front rooms needed fewer openings of this sort as their natural drainage was through their doorways. The primary function of the small wall openings at floor level was doubtless

to carry off water which found its way into the building, but they also augmented the none-too-adequate lighting of the back rooms.

NICHES, CORD HOLDERS, ETC.

There is only one niche inside Structure A-XVIII. This was formed by a ventilator in Room 5, which was blocked from the outside to produce a small recess. On the outside of the building niches occur in the façade above the medial molding of the lower story. They are about 2 m. high, 18 cm. deep, and from 30 cm. to 76 cm. wide, and are placed on either side of the masks, extending from the top of the medial molding to the bottom of the cornice (p1. 17, *d*). Inside the building cord holders are found on the walls near the door jambs. Their usual position is two on either side near the bottom and top of the doorway. They were made by placing roughly cylindrical pieces of stone across a hollow in the wall about 20 cm. in diameter and 13 cm. deep (p1. 11, *b*).

Openings of about the same size as the ventilators occur in the outside walls but do not penetrate the walls.

There are floor depressions of two kinds: holes on either side of a doorway, about 25 cm. in diameter and 15 cm. deep, nicely plastered inside; and large holes through the floors of three of the back chambers. These averaged 30 cm. across and 25 cm. deep, and contained charcoal and potsherds.

MOLDINGS

Structure A-XVIII was provided with three main horizontal moldings: the medial molding, the upper molding or cornice of the lower story, and the medial molding of the upper story (p1. 17, *d*). All three are of simple rectangular profile, and consist of a single course of stones about 36 cm. thick protruding from 18 to 25 cm. from the wall. The lower medial molding and the cornice are equi-distant from each other throughout and follow the various floor levels (p1. 17, *b*). The upper medial molding extends around the building without change of level. The medial moldings of the upper and lower stories occur at the level of the spring of the vaults. The stones composing them pass through the wall to form the offsets at the spring of the vault inside such rooms and contain offsets. The cornice is at the floor level of the upper story except where it drops from 36 to 43 cm. in the coigns on the north side of the building (p1. 17, *d*). The stones forming the corners of these moldings carried a groove 8 cm. wide and 12 mm. deep on the exposed under surface. This groove was about 20 cm. from the outer edges of the stones and rested directly on the edge of the wall below, leaving only half the groove exposed. The purpose of these grooves was probably for extra assurance against possible slipping.

The only basal molding or plinth on the exterior of the superstructure occurs on the south side. It is formed by the floor upon which the southern rooms are built, extending out about 20 cm. and turning down to a terrace 36 cm. below. The face of this molding is vertical (p1. 17, *a*). On the substructure a basal apron molding was found on the upper terrace (p1. 18).

Inside basal moldings occur on the north side of Rooms 2, 3, and 4 and at the east end of Room 6. These are at floor level and rise on a batter to a height of from 41 to 51 cm. In Rooms 2, 3, and 4 they are composed of two courses of stones which project 5 cm. from the wall at the top of the molding (p1. 23, *g*). The molding in Room 6 is formed by

the continuation of the floor of Room 10 which passes under the partition wall and extends 18 cm. beyond.

INTERIOR DECORATION

During the excavation of Structure A-XVIII several examples of linear painting and graffiti were found. The best of these were on the west jamb of the doorway between Rooms 3 and 6 (fig. 3). They were examined and traced by Mr. Francis Richardson, who reports:

The west jamb was covered with two coats of plaster. The first, a sizing coat from 3 to 31 mm. thick, had a coarse grayish composition. The second coat varied in thickness from 3 to 9 mm., being smooth on the exposed surface. The outside color was a natural cream, while immediately beneath the surface the plaster was a faded salmon pink. The graffiti and painting lay upon this second coat of plaster. Except for a well-done human head in profile (fig. 3), the graffiti were hardly worth recording, for, as in Structure B-XIII, the other incisions were apparently accidental scratches. The only discernible figure or design, outlined in black paint, was the head and part of the body of a snake, with open jaw, and a crest or crown on the top of the head. The artist apparently lacked the confidence and skill of those who did the paintings in Structure B-XIII, for it is comparatively crude in execution. One interesting point that this figure brings up is that graffiti and painting may on occasion be used together. The top of the crest, or crown, was not indicated with paint, but rather with a line incised into the plaster. Aside from a group of four vertical lines crossed by one horizontal line, little remained other than occasional disconnected black lines.

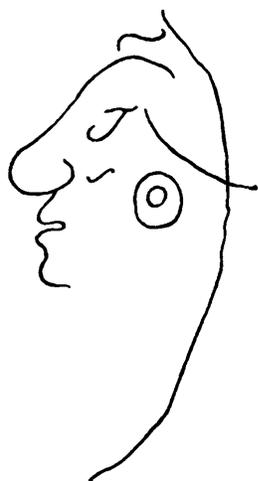


FIG.—Graffito from doorway between rooms 3 and 6.

On the north side of Room 9 there are traces of other graffiti, which have been nearly destroyed in the past few years by chicheros' cutting their names into the walls. However, they were observed in 1927 by Dr. Thomas Gann, who states:

On the northern wall were a number of graffiti; some of them still bearing traces of having been covered by the topmost coat of red paint, a sure indication that they were scratched in during the occupancy of the structure by the original builders, and not by wandering Indians at a later date. The graffiti show crude human heads, a scorpion-like creature, and what are probably intended for phallic symbols.¹

Areas of red paint (Ridgway's Hay's Russet)² occur on walls and floors. The floors were probably once all painted this color. The north wall of Room 6, between the two doorways, bore seven vertical red panels (c, cross section B-B, p1. 21). In several other rooms the walls have traces of wide horizontal red bands, but the exact design could not be determined.

¹ Thomas Gann, *Maya Cities*, p.173.

² R. Ridgway, *Color Standards and Color Nomenclature*.

EXTERIOR DECORATION

In many places on the outside of the building, where the plaster still adhered to the walls, indications of red paint were found. Although the whole exterior may not have been painted, there is little doubt that the greater part of it once was. Aside from paint, the only exterior decorations remaining consisted of seven fragmentary masks. Originally there were probably fourteen masks on the upper façade of the lower story between the medial molding and the cornice: two at either end of the building, five at the front, and five at the back. Large stones protruding from the wall were used as a support upon which the details had been modeled in stucco. The central mask on the north side measured 1.22 m. across and about 2 m. high. The rest were 91 cm. across and 2.13 m. high (pls. 17, *d*, 4, *c*). All are set in rectangular panels. Both frames and masks have a slight batter. The bases of the masks protrude about 15 cm. beyond the bottom of the frame, which is formed by the medial molding; their upper parts only protrude from 2.5 to 5 cm beyond the cornice. Almost nothing was left of the actual faces. In restoring them for the isometric drawing (p1. 18), Mr. Arthur Richardson therefore combined the faces of the masks found on Structure E-VII sub at Uaxactun with a headdress from a wooden lintel at Tikal illustrated by Maudslay.³

SUMMARY

Structure A-XVIII belongs to the earliest group of vaulted buildings at Uaxactun. It is believed to date from before 9.8.0.0. Evidence for the latter supposition is afforded by its masonry, which is the "Old Empire flat stone work" of L. Roys. That type is also found in Structure A-V at Uaxactun, where stratified architectural remains that are correlatable with Initial Series dates prove it to have been superseded by crudely veneered masonry prior to 9.8.0.0. The tertiary walls in Rooms 2, 3, and 4 are an early example of the latter development. Another indication of the age of A-XVIII is lack of potsherds in the substructure fill, for at Uaxactun, whenever the core of the original pyramid of a series of superimposed pyramids has been excavated, its fill has been found barren of pottery.

The function of Structure A-XVIII is uncertain. It is multichambered, and might accordingly be classed as domiciliary. That it also fulfilled religious purposes can, however, hardly be doubted because of the altar in Room 12. Evidence of habitation is afforded by the pottery and artifacts found in the rooms, by the presence of two child burials, and by the charcoal-filled holes in the floors of the rear rooms. It has been suggested that these were used for cooking and that the rooms in which they occur may have been used as kitchens. This can hardly be so, because the walls and vaults show no sign of smoking. It is possible that the building served as a residence, during their period of office, for those in charge of ceremonies, and as a place of storage for the paraphernalia necessary for such ceremonies. It is even possible that priests occupied the building with their families, as the presence of child burials might indicate. Whether or not this is true, it is certain that the long, badly lighted, narrow rooms did not offer much in the way of comfort as a permanent residence.

³ *Riologia Centrali-Americana*, Plates, vol. I (p1. 99, *c*).



a, East end of structure A-XVIII from institutional camp



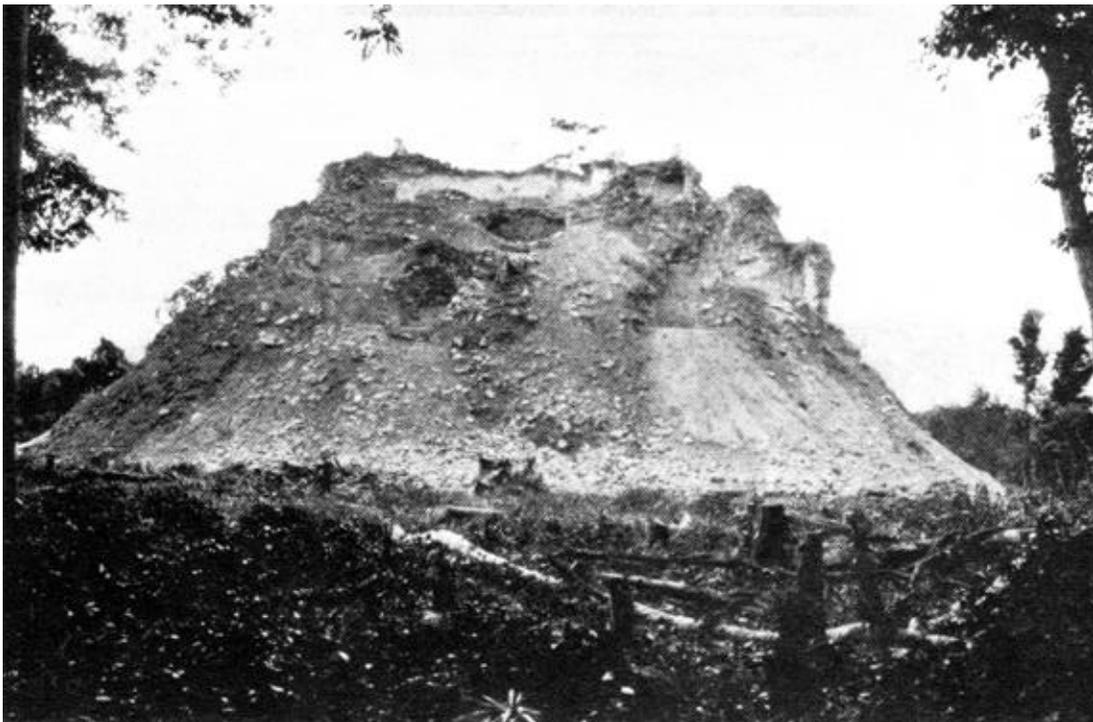
b, Looking east from upper story



a, Bushing Structure A-XVIII, tree falling from upper story.



b, View from south before excavation.



c, South side partially excavated.



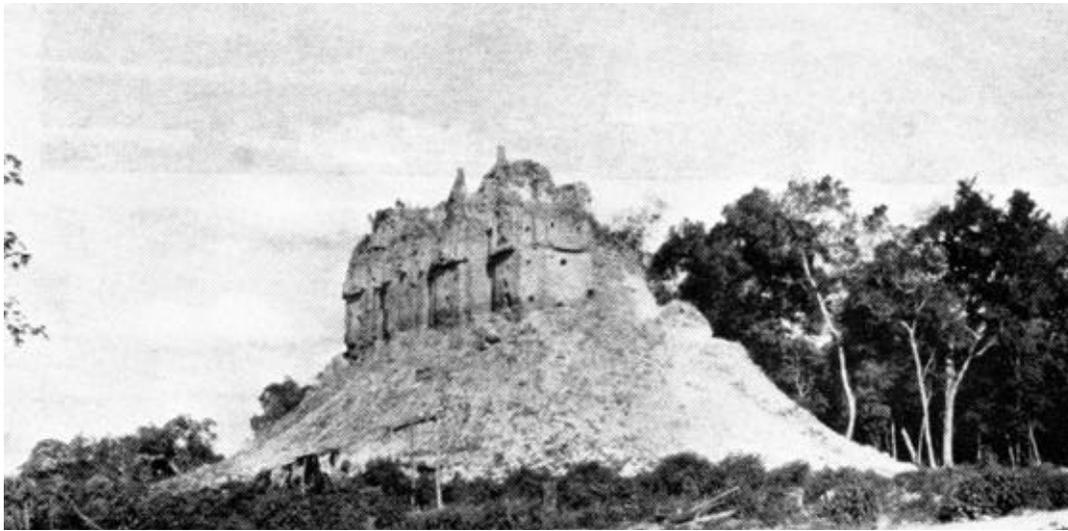
a, South side after excavation.



b, West end partially excavated.



a, West side partially excavated.



b, Northwest corner after excavation.



c, North side after bushing and clearing.



a, Looking west along southern rooms of lower story.



b, Exposed portion of upper terrace on north side of substructure;
letter "a" indicates floor of first terrace of substructure.



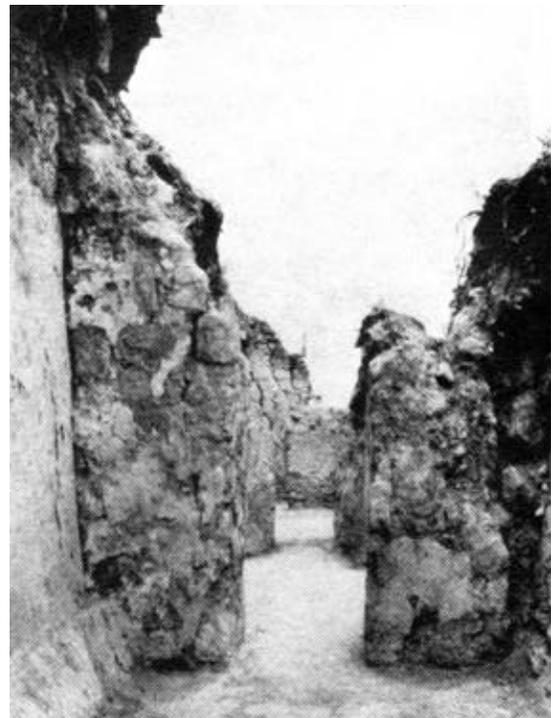
a, Looking west along rooms of upper story.



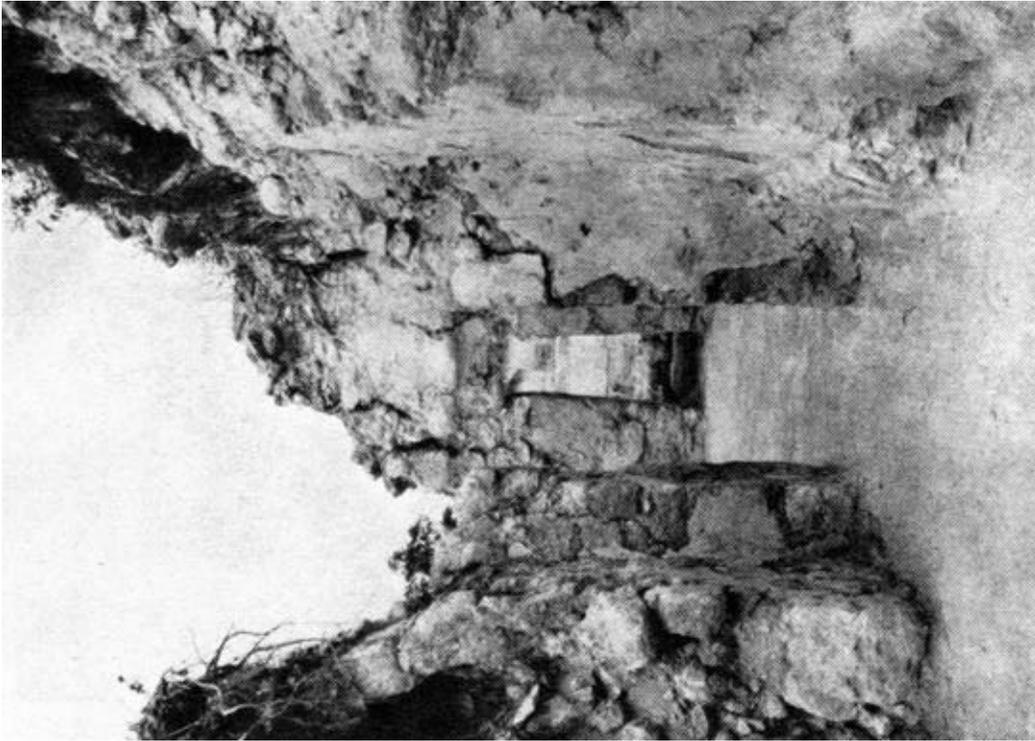
b, Looking east along rooms of upper story.



c, West end of Room 2 and doorway to Room 1.



d, Looking east from Room 2 through doorways into Rooms 3, 4 and 5



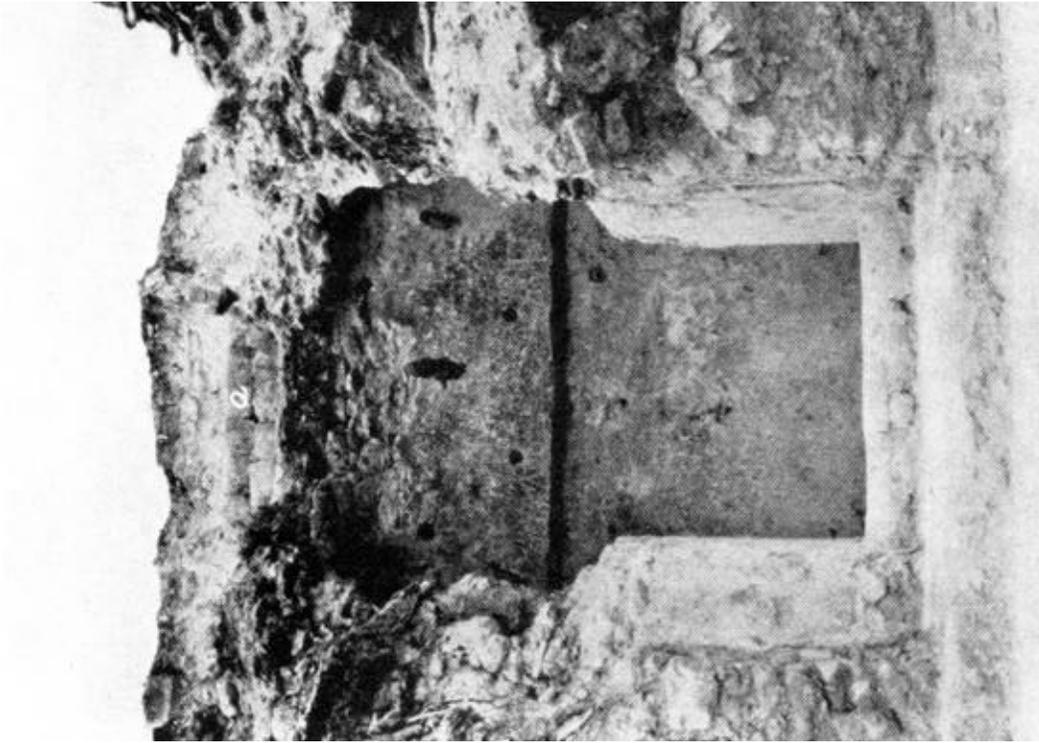
b, Looking west from Room 3, through Rooms 2 and 1.



a, North wall of room 2.



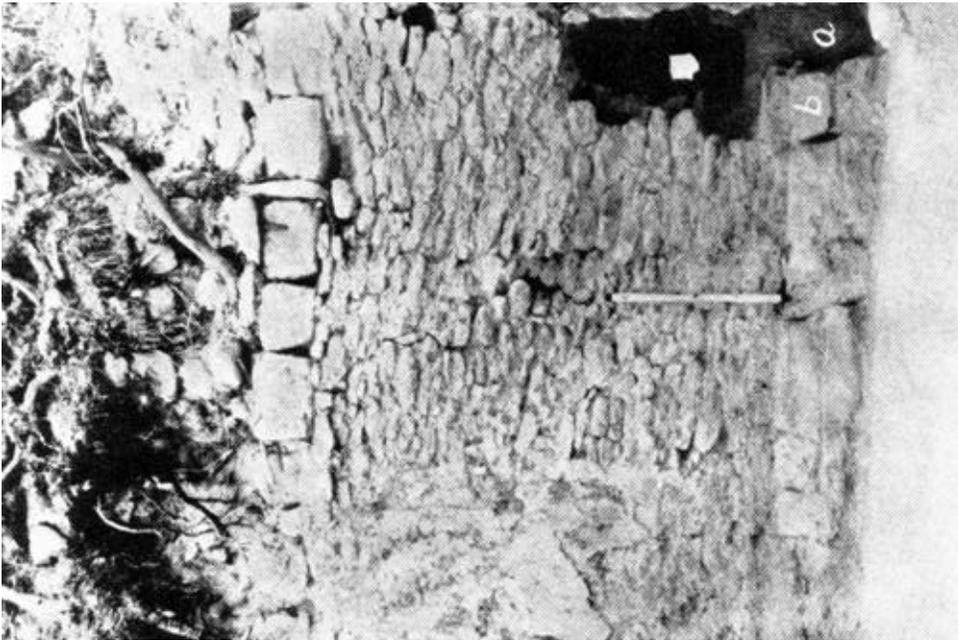
b, East jamb of doorway in south wall of Room 3. Arrows indicate later additions.



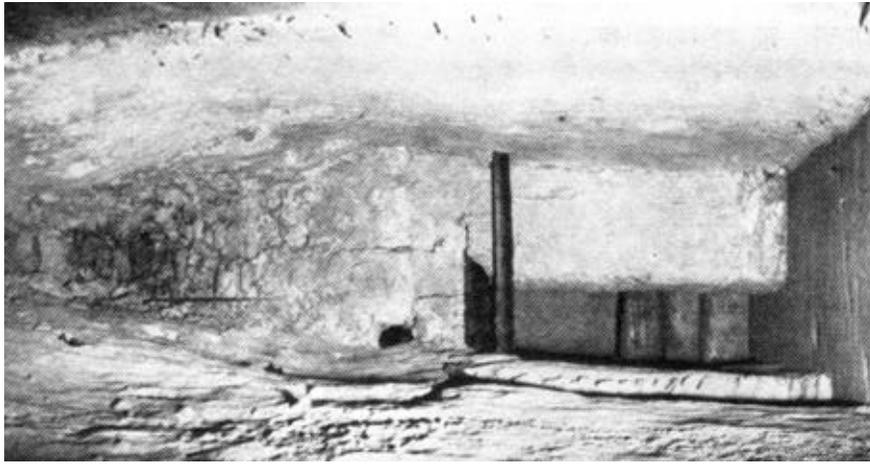
a, Looking through doorway in south wall of Room 3 at doorway and north wall of Room 6. Letter "a" indicates altar in center of Room 12.



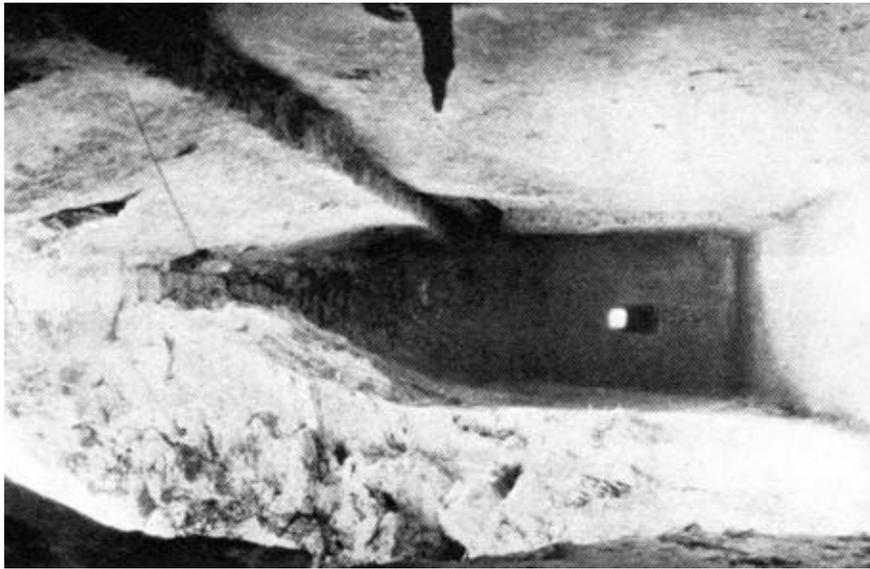
b, Looking west at Room 5.



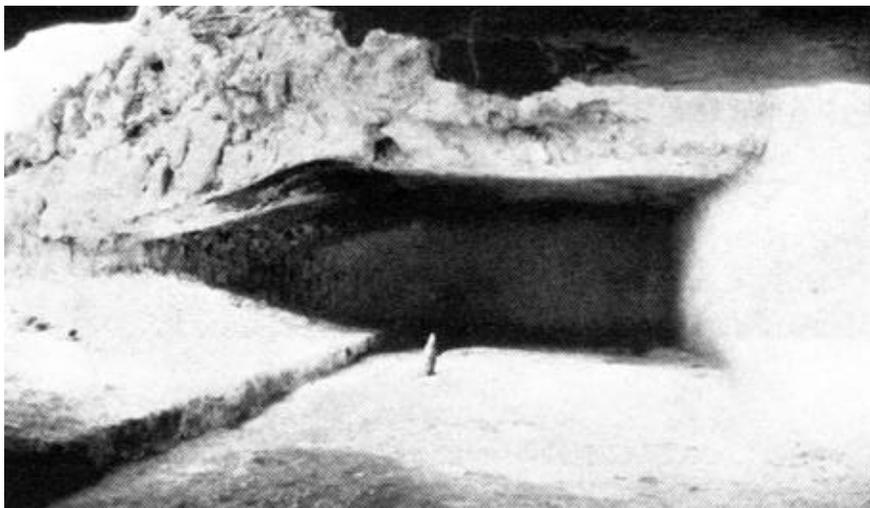
a, North wall of room 4: "a", primary wall; "b", secondary wall.



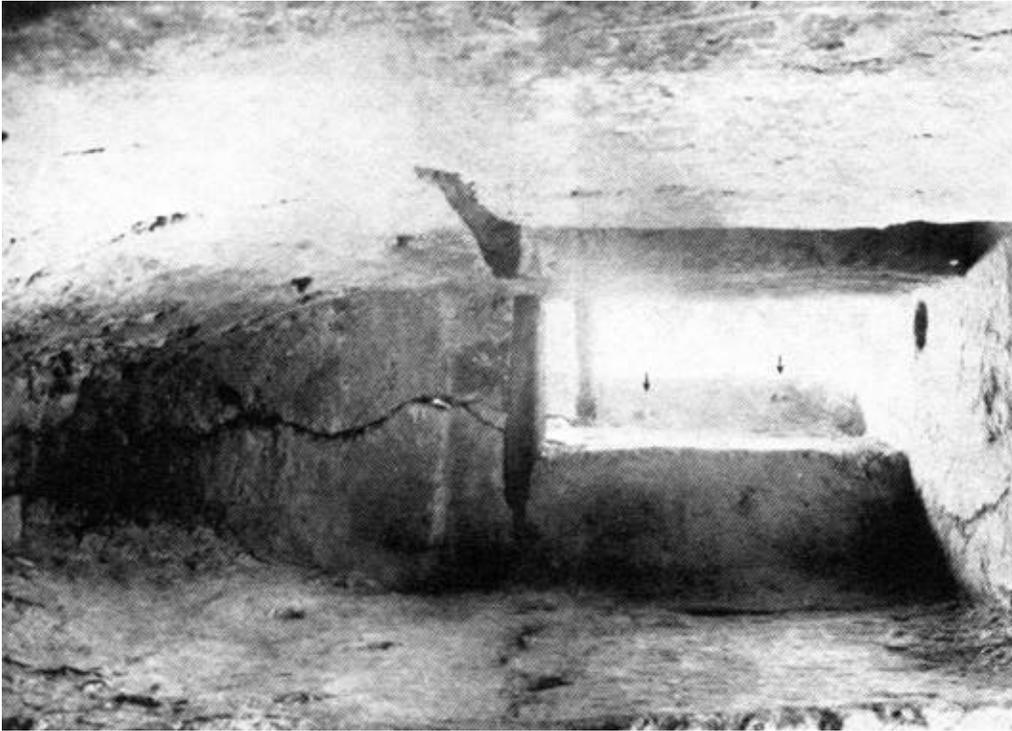
c, West end of Room 8 and doorway leading to Room 7 and Interior Stairway. Doorway in south wall leads to Room 6.



b, Looking west down Room 6.



a, Looking east down Room 6.



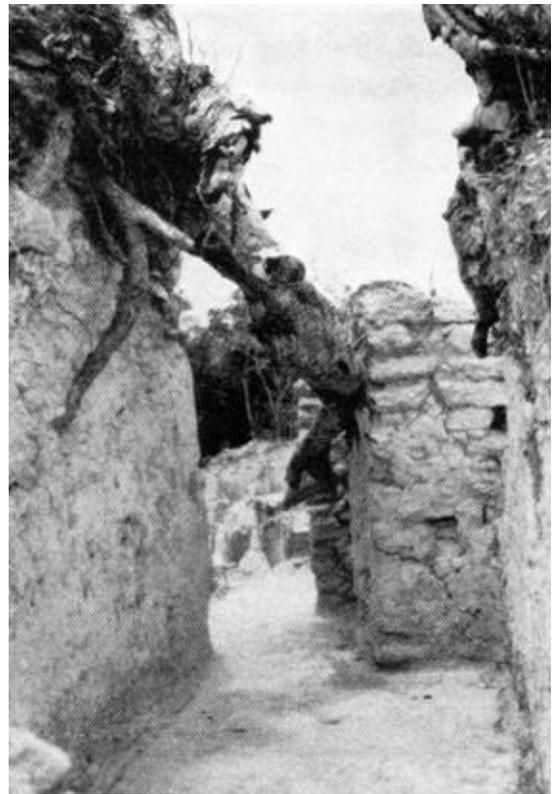
b, East end of Room 9 showing doorways into Rooms 10 and 11 to the east and into Room 6 to the south. Arrows indicate cord holders.



a, West end of Room 9 and doorway into Room 8.



a, West of Room 12 and entrance to stairway to lower story. Doorway in south wall opens on terrace over south row of rooms.



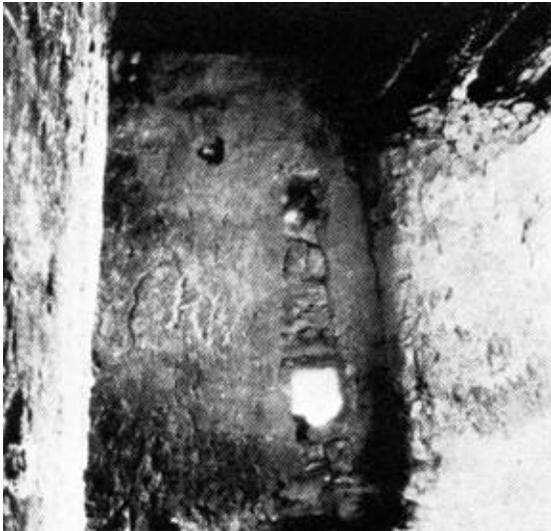
b, West end of Room 15 and doorway into Room 14, also north jamb of doorway into Room 13.



c, West end of Room 16. Wall forming west end of room is secondary.



d, East end of Room 16 and doorway into Room 17, also north jamb of doorway into Room 18. Doorway in south wall leads into Room 12.



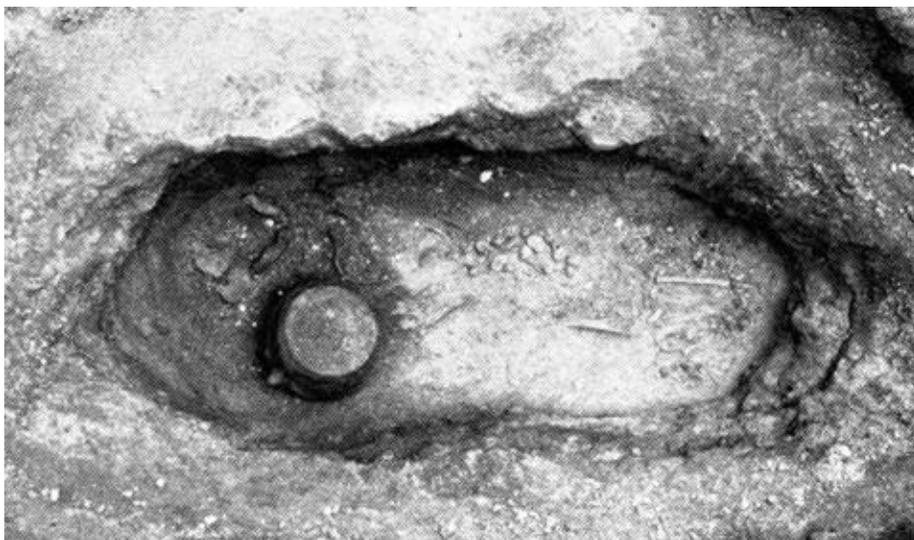
a, North end of Room 10 and north jamb of doorway into Room 11.



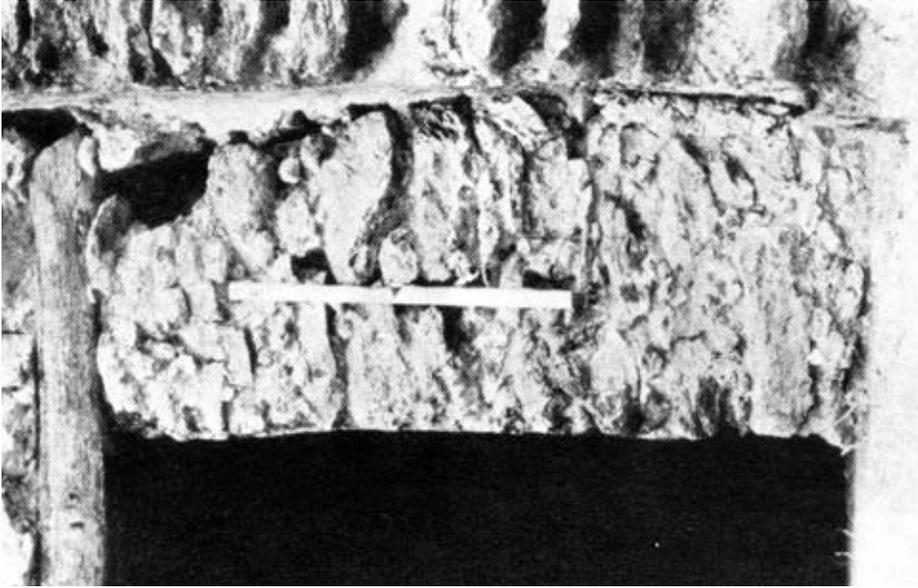
b, Southwest corner of Room 5, showing location of grave and the two capstones.



c, Wooden bow from Room 6.



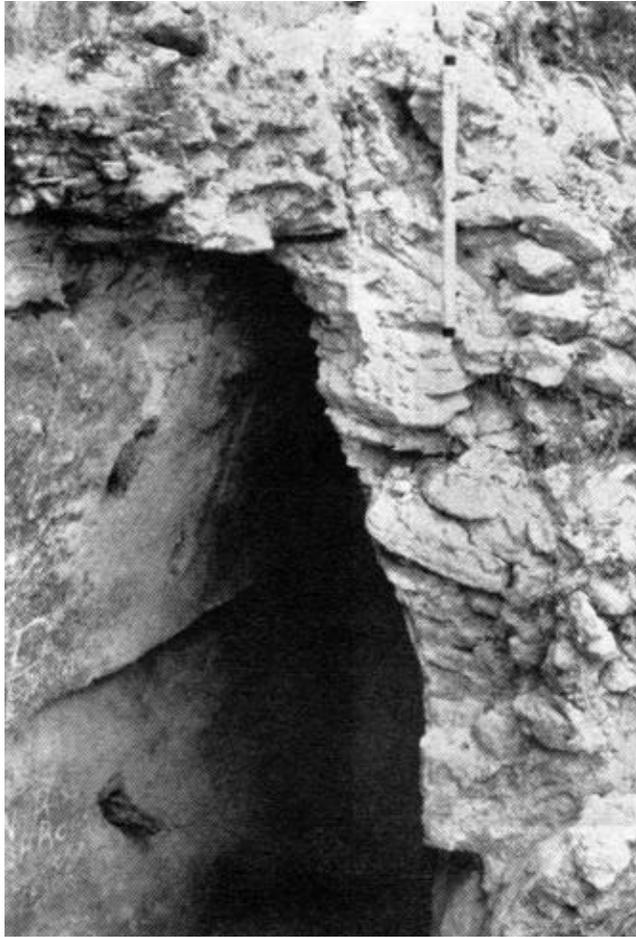
d, Burial 2.



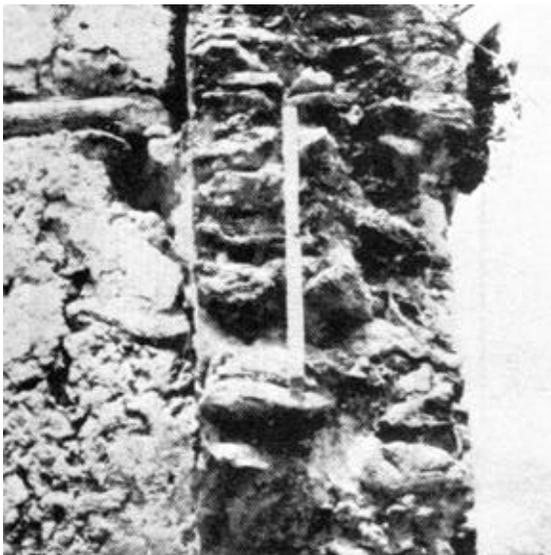
b, North jamb of doorway in west wall of Room 11.



a, Section of outside of south wall of Structure A-XVIII.



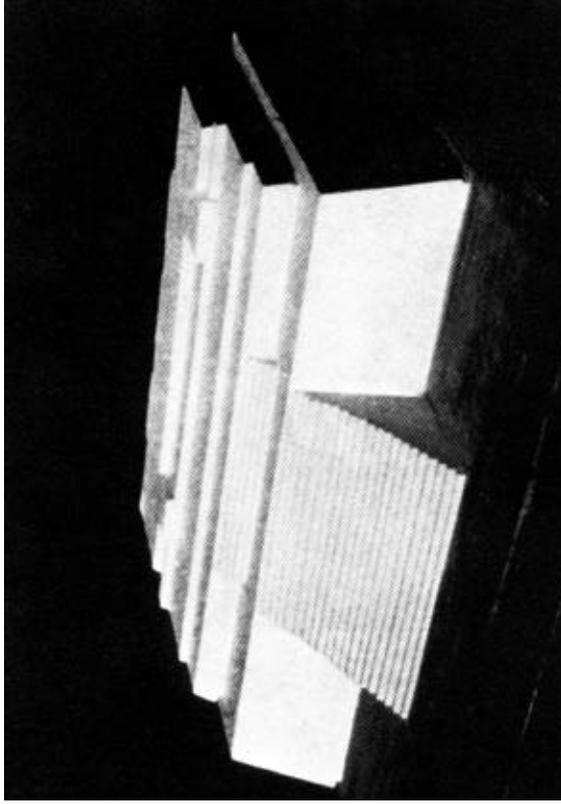
a, Looking east at section broken through upper part of Room 6.



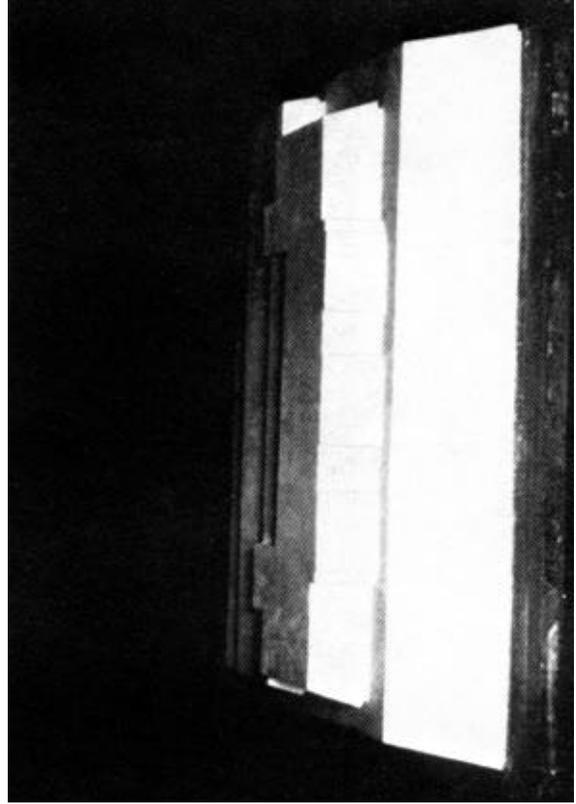
b, Cross section of north wall of Rome 11.



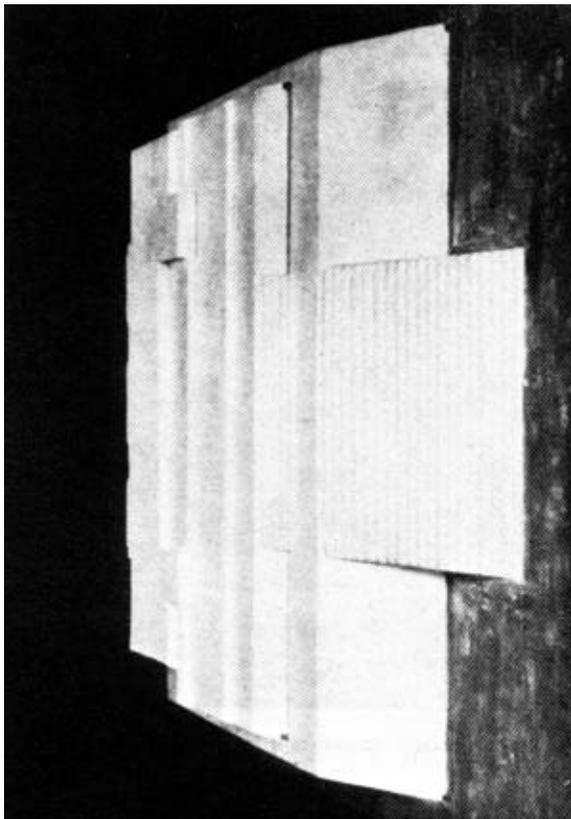
c, Looking down interior stairway to second landing.



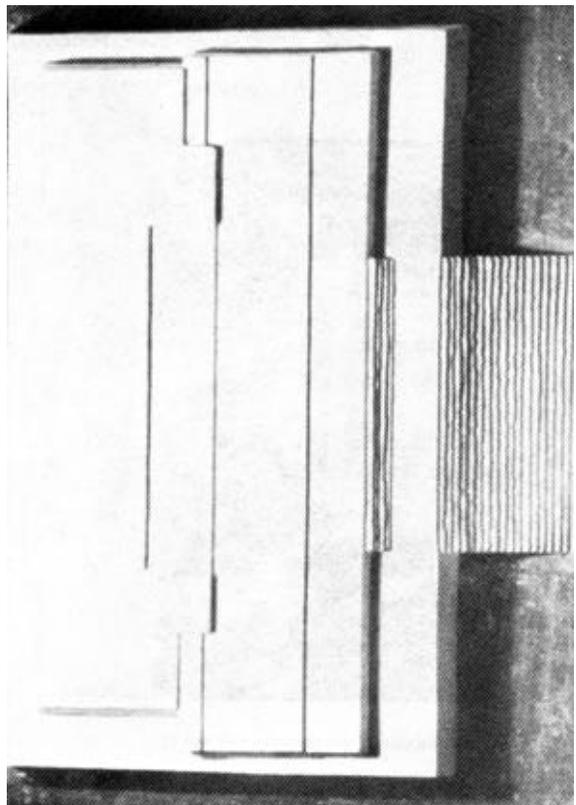
b, Southeast corner.



d, North side.

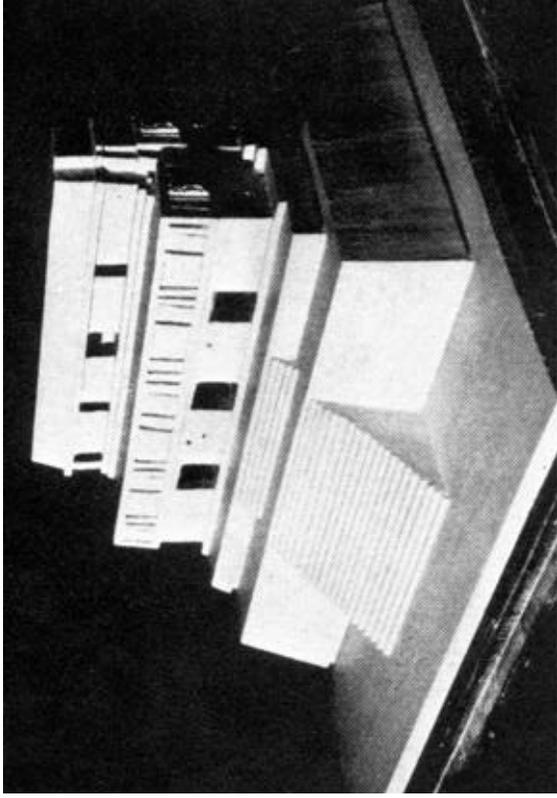


a, South side.

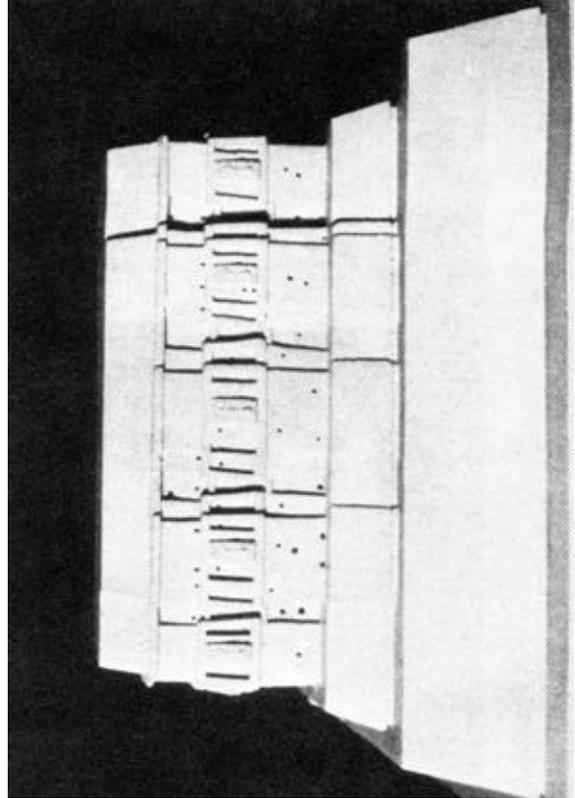


c, View from above.

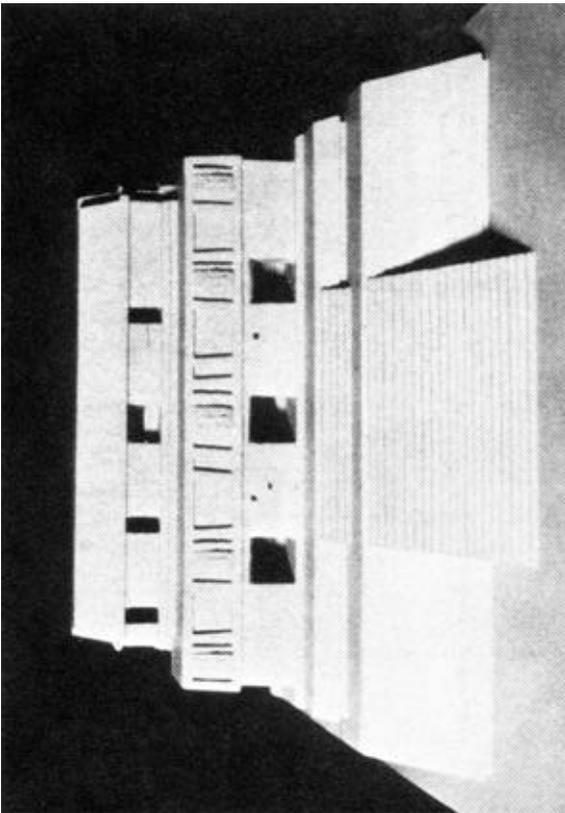
Model of substructure.



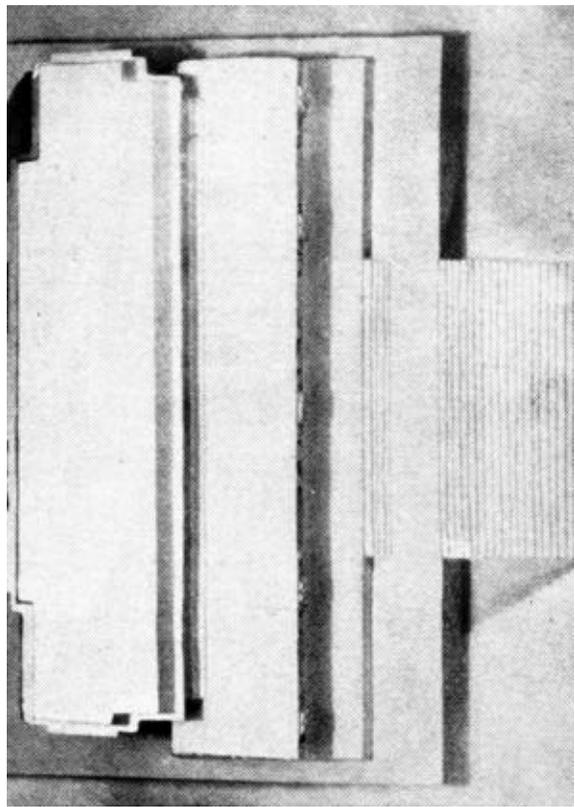
b, Southeast corner



d, North side.

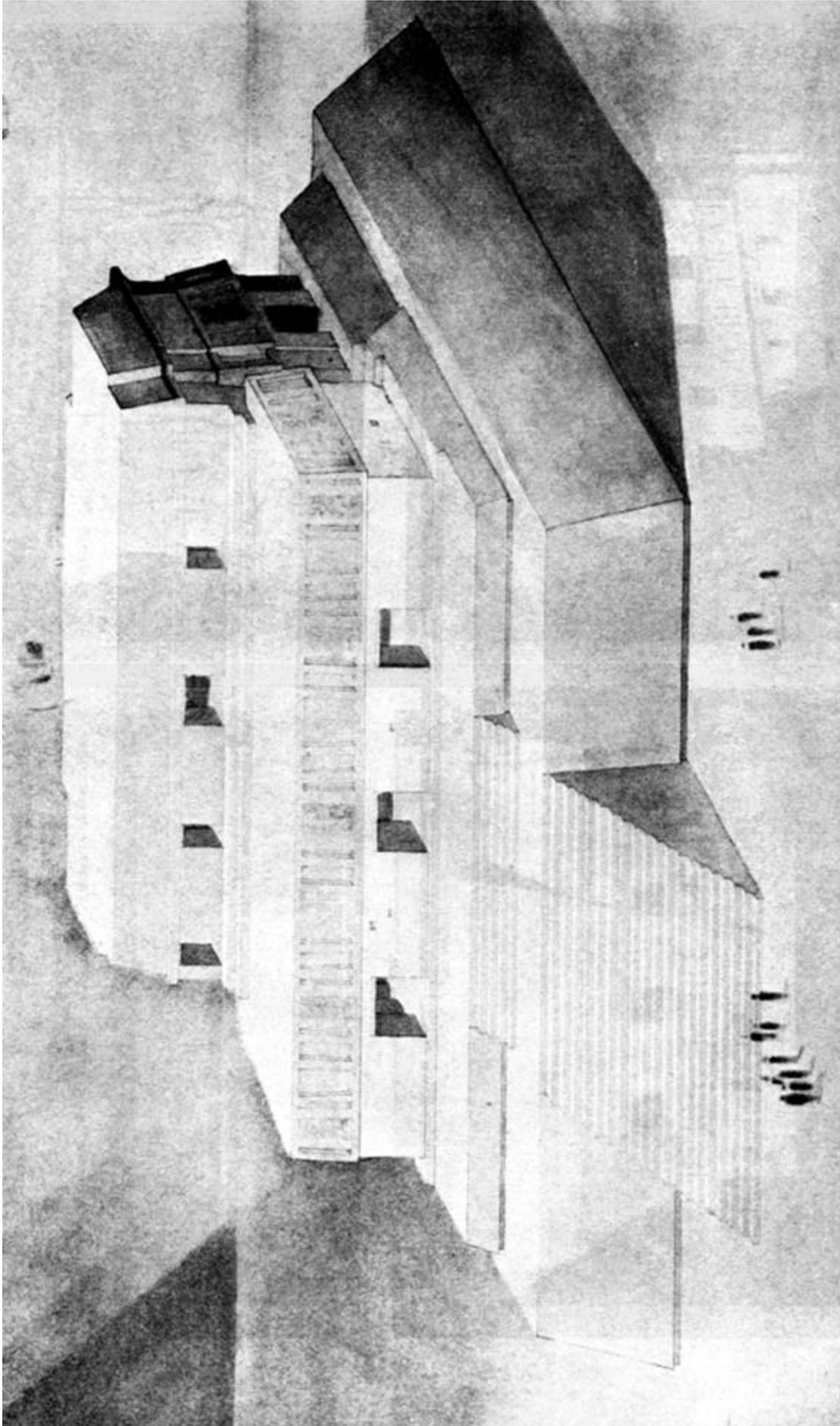


a, South side.

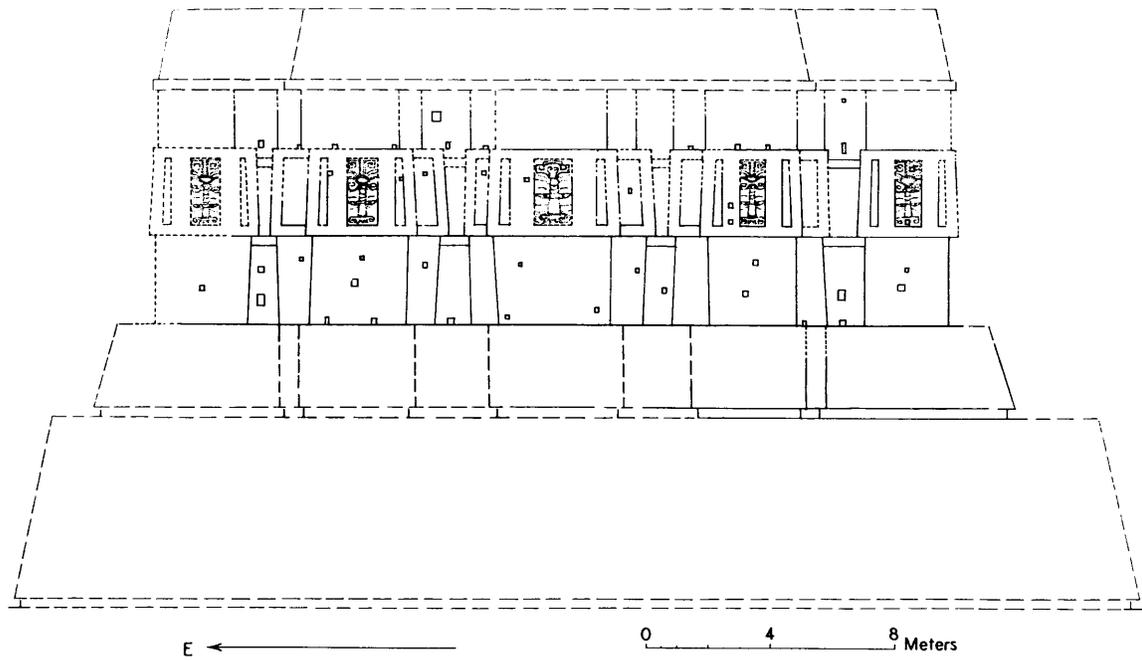


c, View from above.

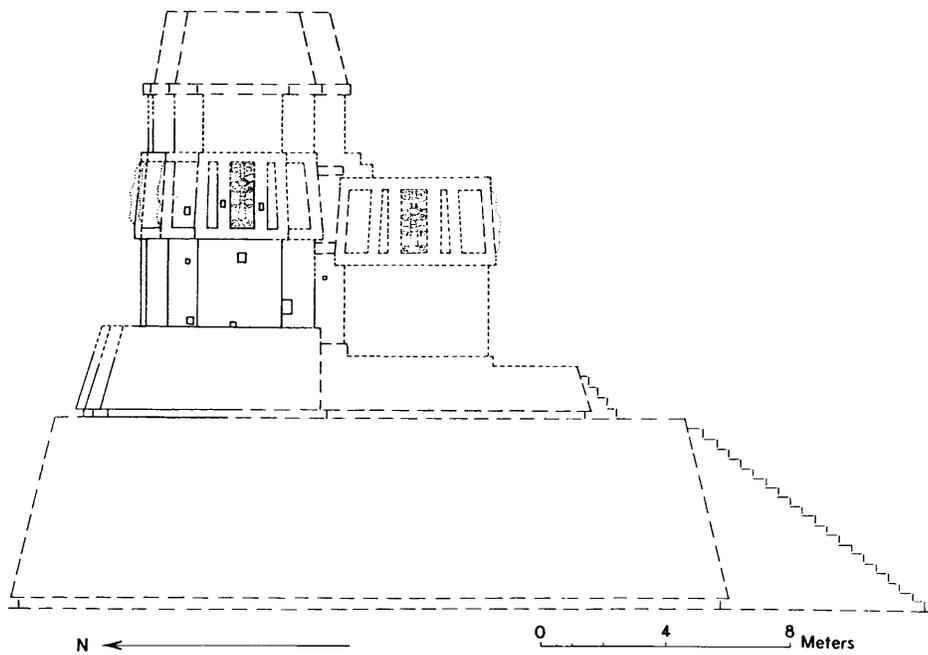
Model of Structure A-XVIII.



Isometric drawing of south and east sides of Structure A-XVIII (after F. B. Richardson).

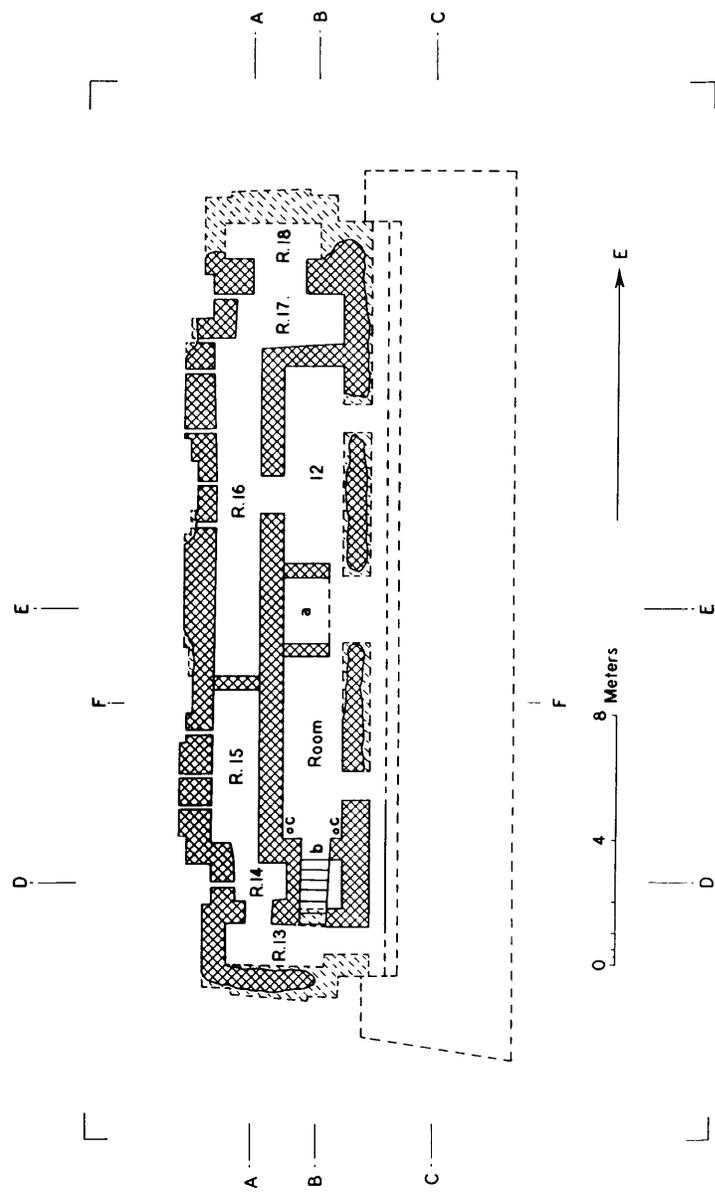


a

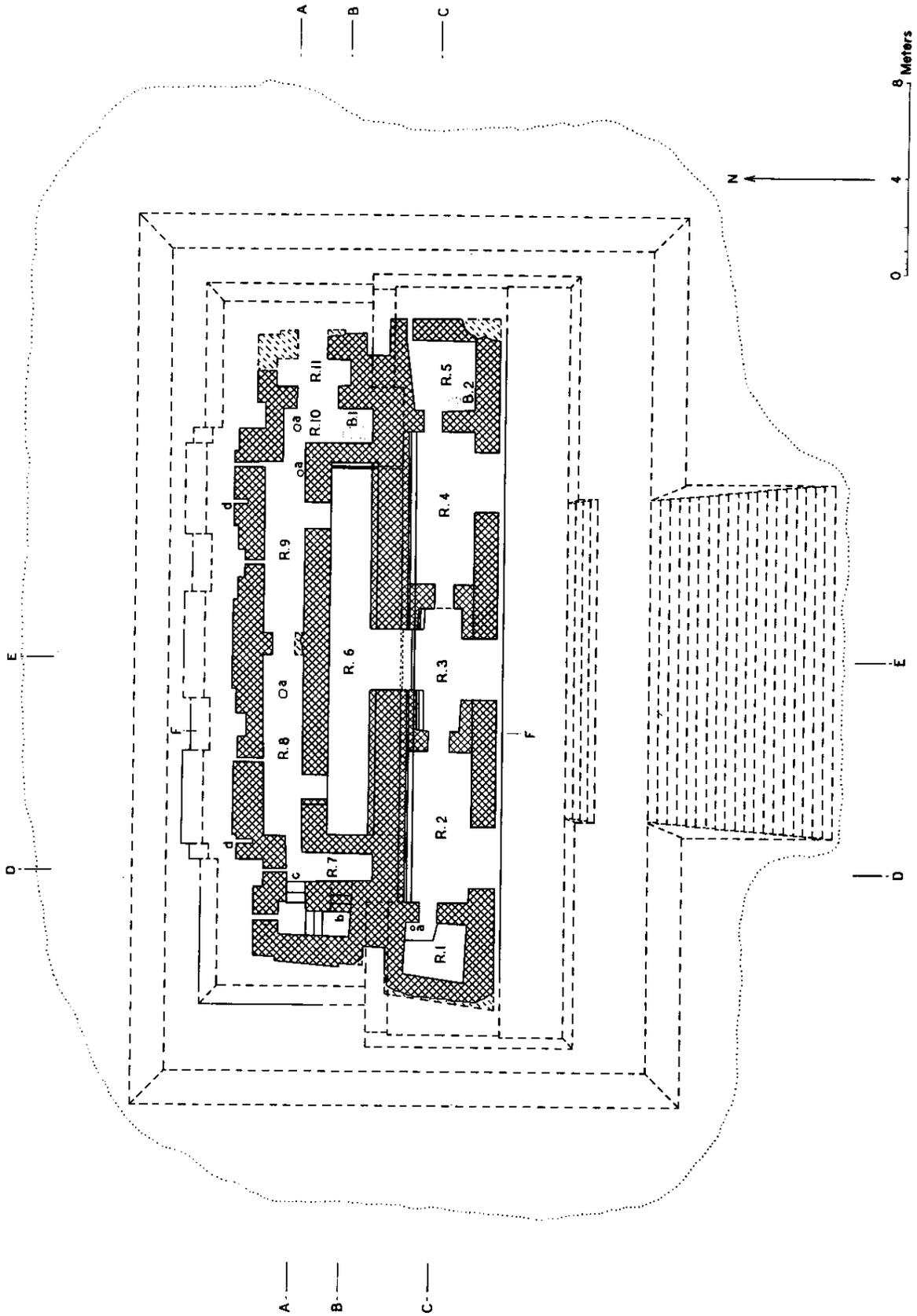


b

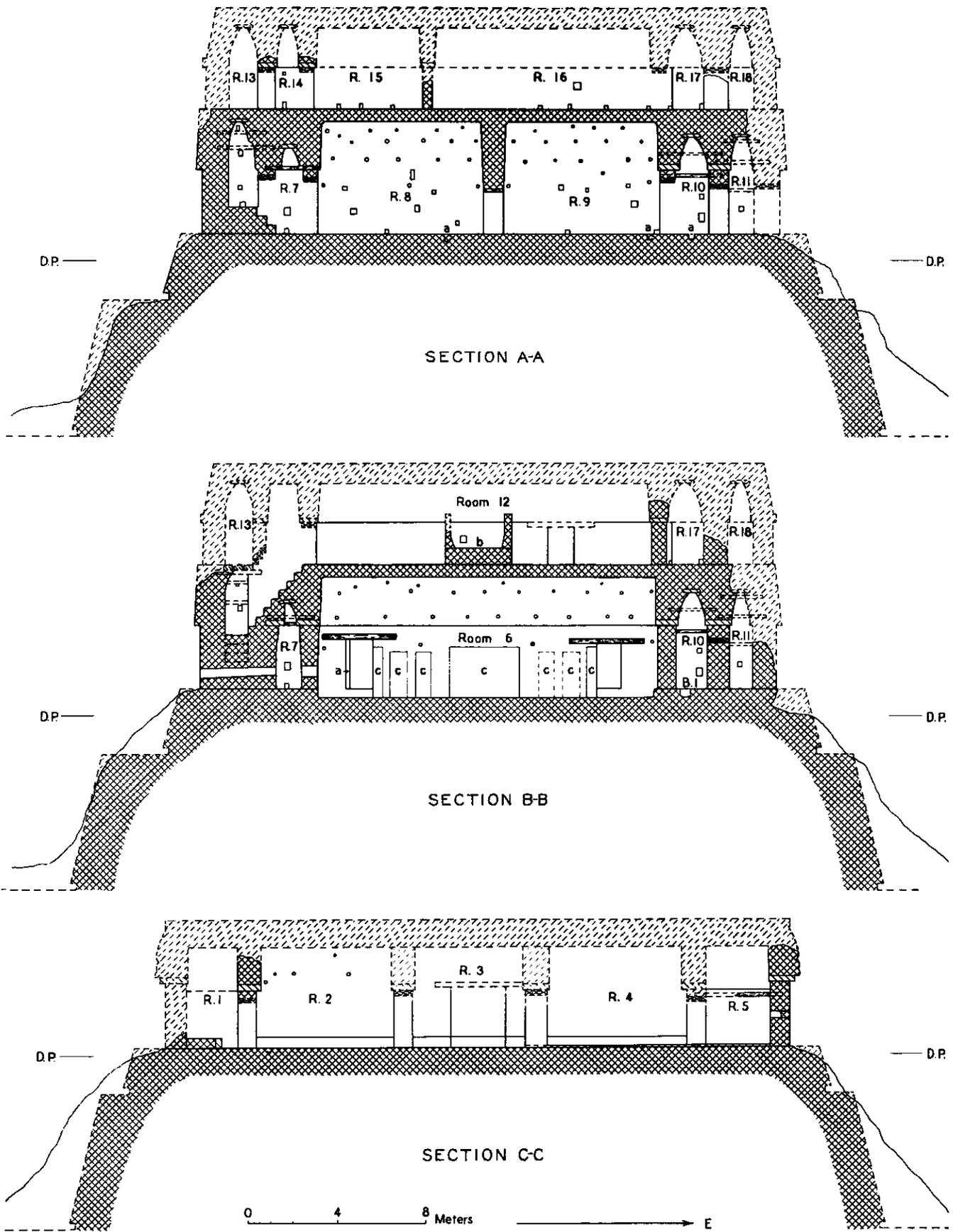
Elevations of Structure A-XVIII: *a*, north side; *b*, west side.



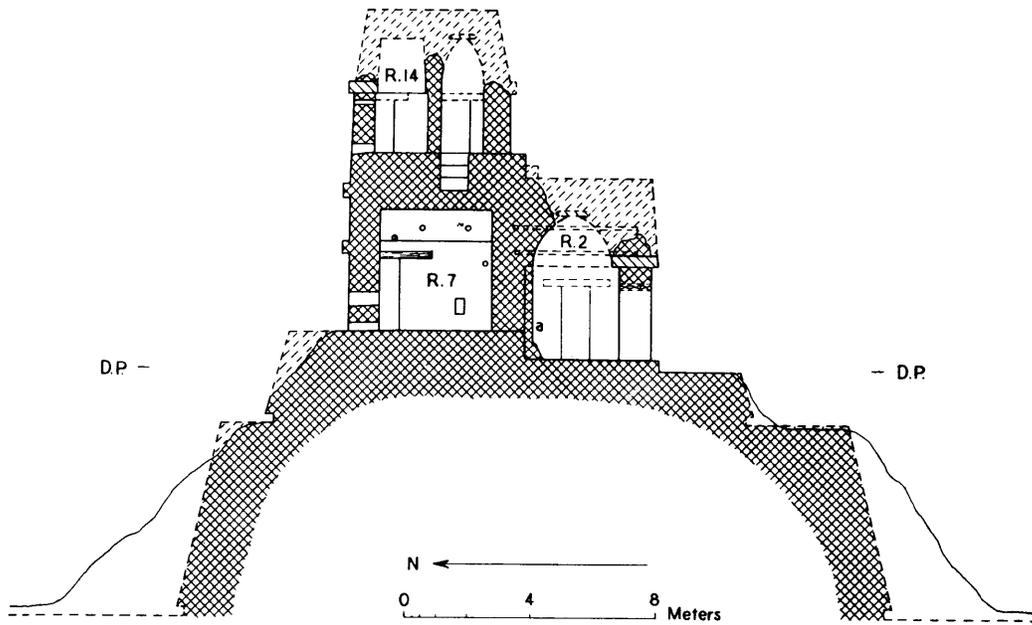
Ground plan of upper story: "a", altar; "b", top step of stairway leading to lower floor; "c", plastered holes in floor.



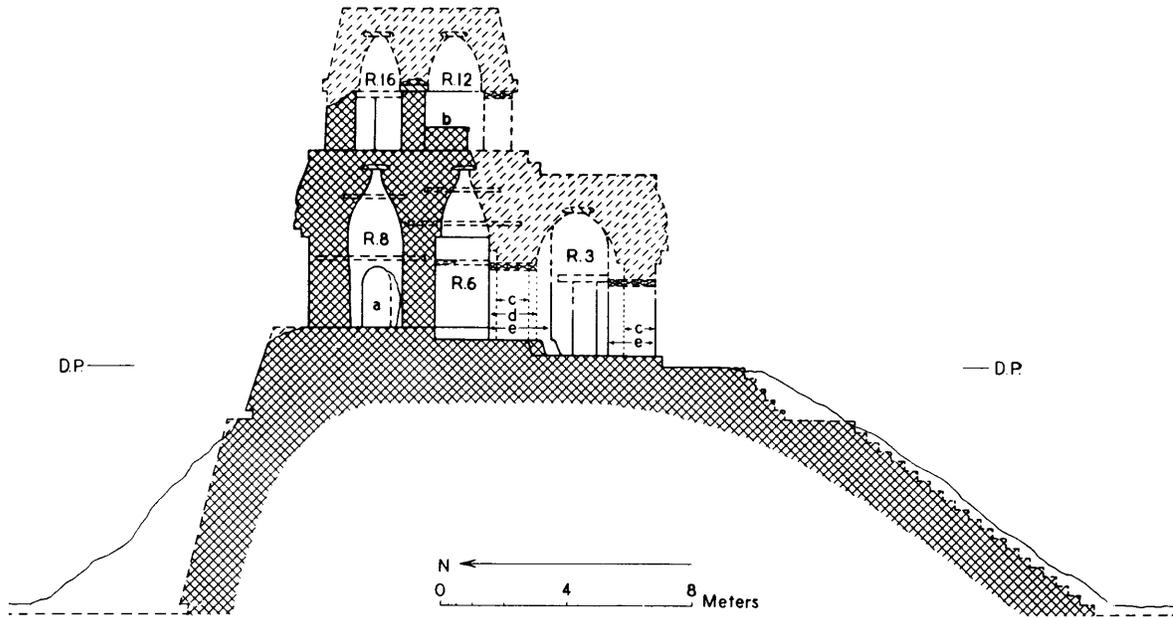
Ground plan of lower story: "a", circular holes through floor; "b", second landing of interior stairway; "c", lowest step of interior stairway; "d", holes extending partially through wall.



Cross section A-A: "a", cylindrical holes through floor. Cross section B-B: "a", secondary wall built against west door jamb; "b", altar; "c", panels of red paint on wall.

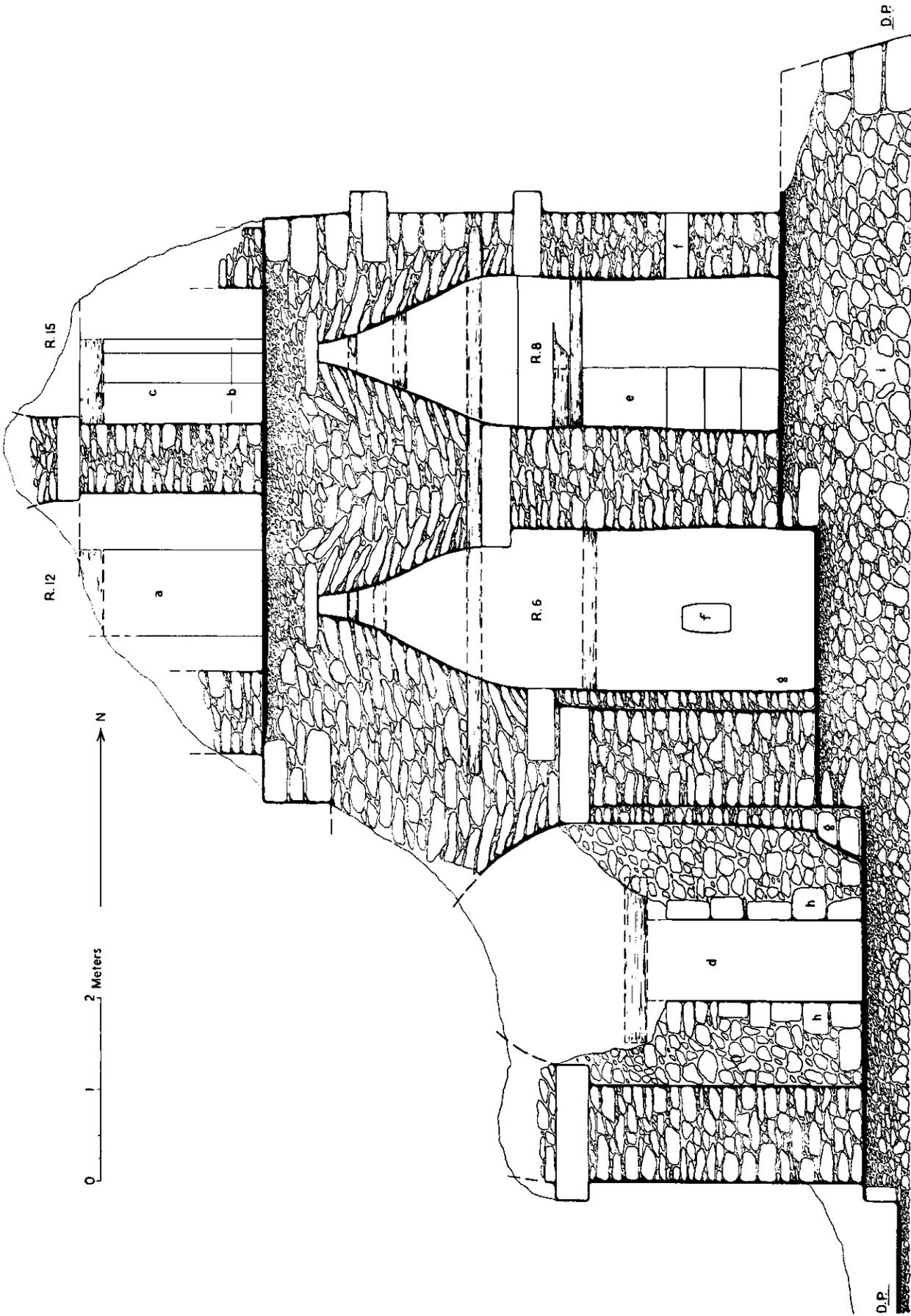


SECTION D-D

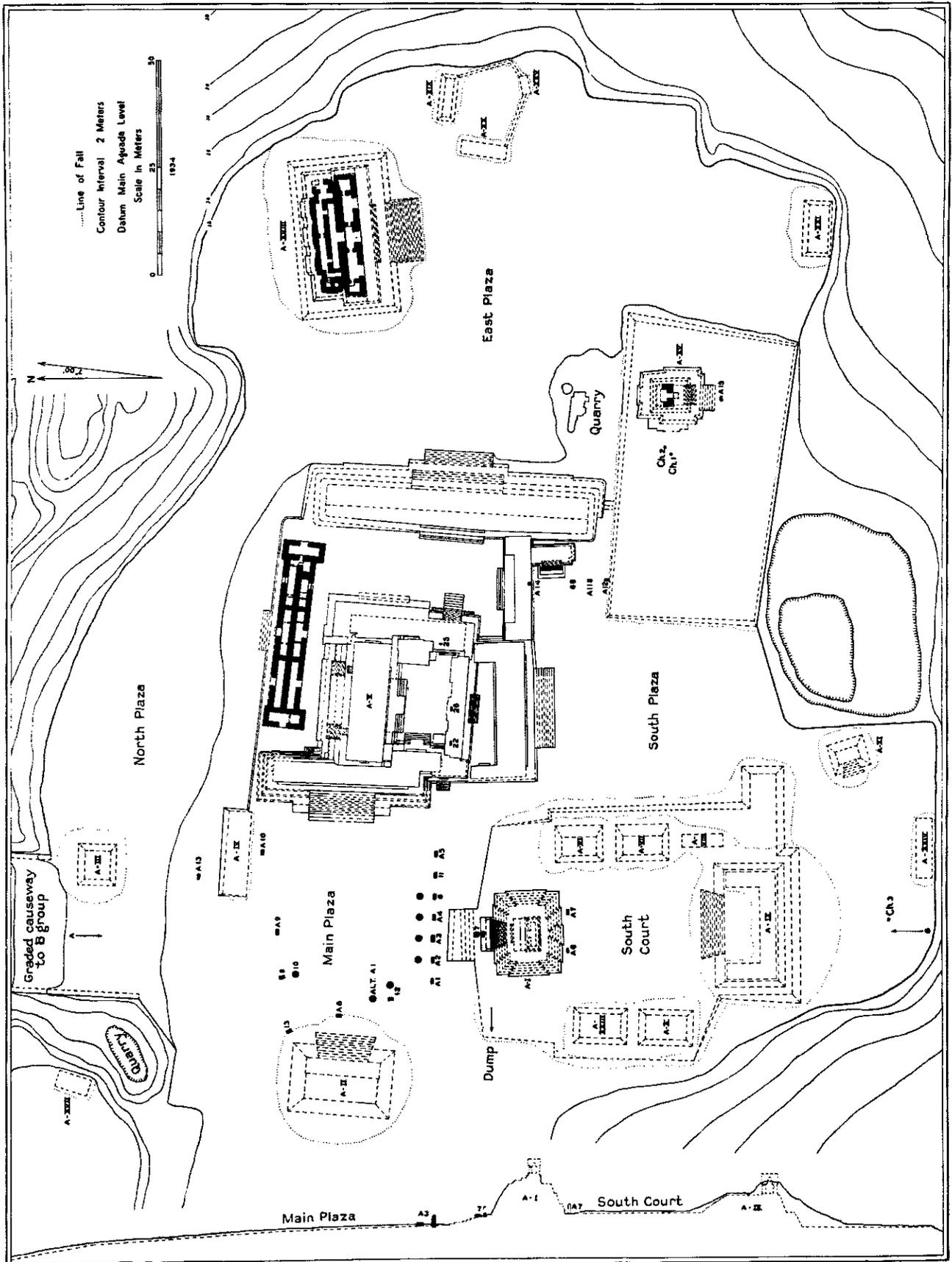


SECTION E-E

Cross section D-D: "a", secondary wall. Cross E-E: "a", doorway separating Rooms 8 and 9; "b" altar; "c", original wall; "d", secondary addition; "e", tertiary addition.



Cross section F-F: "a", entrance to interior stairway; "b", doorway to Room 14; "c", north jamb of doorway from Room 14 to 13; "d", doorway from Room 3 to Room 2; "e", doorway to Room 7 and interior stairway; "f", window; "g", secondary addition; "h", tertiary addition; "i", rubble of large stones and dirt.



Plan and section of Group A, Uaxactun.