

Article XVII.—CRUCIFORM STRUCTURES NEAR MITLA.

By MARSHALL H. SAVILLE.

PLATES VIII-XVII.

During the winters of 1898 and 1900, the American Museum of Natural History made extensive explorations in the State of Oaxaca, Mexico, under the terms of a concession granted by the Mexican Government, represented in the field by Sr. D. Leopoldo Batres, Inspector of Ancient Monuments.

In 1898 the expedition made excavations in the mogotes (mounds) at Xoxo, about two leagues south of the city of Oaxaca. A brief résumé of these explorations has been published in the 'American Anthropologist,' New Series, Vol. I, No. 2, 1899.¹ Minor excavations were made at Monte Alban, near Oaxaca, one of the most extensive of ancient ruined cities in Mexico. This entire region is filled with groups of mounds, showing a thickly populated province in former times.

In January and February, 1900, an expedition was in the field at the famous ruins of Mitla, which are situated about ten leagues east of the city of Oaxaca. Mitla was rarely visited by explorers until a few years ago. Since the completion of the Mexican Southern Railroad to the city of Oaxaca, the capital of the State, the ruins are visited by hundreds of tourists from the United States every year, with an increasing number of visitors each season. The journey is a comparatively easy one and is best made during the dry season, from December to April. Leaving the city of Puebla in the early morning, the train makes a gradual descent until a tropical region is reached at an elevation of about 1700 feet above the sea. As Puebla is nearly 8000 feet in altitude and Oaxaca 5000 feet, the tourist travels from the cold region to the tropics, and then into a delightful temperate zone in which are located Oaxaca and Mitla. The latter part of the journey is made through some of the grandest railroad scenery in the world. The road winds in and out at the

¹ Before publishing the details of these explorations the Museum is to continue work in several other groups of mounds, during the winter season of 1900-01. Excavations will be made at Cuilapa, Tectipac, and Macuilxochitl. All of these places are in the area of Zapotecan culture.

bottom of immense cañons, thence climbing steep grades, then down into fertile valleys, the train arriving at Oaxaca in the evening. From Oaxaca to Mitla the thirty-mile carriage ride is over a fairly good road, and the Hacienda of Sr. Quero at Mitla is one of the most delightful stopping places in Mexico.

We find the first mention of Mitla in the Post Columbian Nahuatl book, known as the Codex Telleriano Remensis. Under the account of what transpired during the reign of Ahuizotl, the Aztec monarch who preceded Montezuma, it is stated that—"In the year two rabbits, which is 1494, the Mexicans conquered the pueblo of Mictlan, which is in the province of Huaxaca."¹ Fray Diego Duran places the subjugation of Mitla during the reign of Montezuma the First.² The majority of original sources agree in placing his reign between the years 1440 and 1469. From what follows in Duran's account it would seem that this expedition to Oaxaca took place between 1440 and 1454. The date 1494 of the Codex Tell. Rem. is, perhaps, the most trustworthy and is accepted by Gay.³ The earliest mention of the ruins by a Spanish priest is made by Motolinia,⁴ from whom we learn that Father Martin de Valencia passed through Mitla sometime about the year 1537, and a brief account is given of a temple containing a hall in which are columns; and that the edifices are more worthy of being seen than any others in New Spain. The first extended account of Mitla is given by Burgoa,⁵ whose work is exceedingly rare. His description of the ruins is fairly accurate, but has given rise to the erroneous idea concerning the vast extent of the cruciform chamber found under one of the 'Palaces,' and also that the substructures of the buildings contain subterranean galleries.

The place was occupied by the Spaniards soon after the Conquest. The now famous "Palace of the Columns" was certainly used either for a dwelling or as a public edifice, and a Spanish window, built of bricks, still exists in the southern part of the front wall of the structure. Several of the doorways have been

¹ Codex Tell. Rem., Loubat Edition, 1899, p. 40, reverse.

² Historia de los Indios de Nueva España, written between 1579 and 1581, published in Mexico in 1867-80.

³ Historia de Oaxaca, p. 185.

⁴ Historia de los Indios de la Nueva España, written about 1540 and first published by Icazbalceta in 1859.

⁵ Geografía Descripción de la Parte Septentrional del Polo Artico de la America, Mexico, 1674.

partly walled up and remains of the brick walls may still be seen. One of the most important of the edifices, which contained mural paintings of the utmost value, has been partly demolished and a church and curate's house now occupy the site. A number of the rooms still exist, their beautiful stone work disfigured by numerous coats of whitewash, and the court, in which are the mural paintings, is used as a stable.

The modern exploration of Mitla dates from 1802, when Don Luis Martin and Col. de la Laguna visited the ruins and made sketches of the buildings. It was from their report and drawings that Humboldt obtained his information concerning Mitla. In 1806 the great French explorer Guillermo Dupaix and his artist Castañeda went to Mitla on their second exploring tour and the results of this visit are published in '*Antiquités Mexicaines*,' Paris, 1834.¹

In 1830 the German traveller Mühlenpfordt made plans and drawings, the originals of which may now be seen in the Museum in the city of Oaxaca. Copies were made by Juan B. Carriedo, and published by him in the '*Ilustracion Mexicana*,' Vol. II. This account was republished by Peñafiel in his work, '*Monumentos del Arte Mexicano Antiguo*,' and Mühlenpfordt's drawings are given in the plates copied from the originals in Oaxaca.²

About 1860 Désiré Charnay, on his first voyage to Mexico, made photographs of the principal edifices, which were published in 1863.³ These photographs, until recently, have been the basis for reproductions used in general works upon the Mexican ruins. The explorations of Charnay were followed by the visits of Baudelier, Ober, and Ayme in 1881.⁴ In 1888 Prof. Ed. Seler of Berlin copied the mural paintings, which were published by him in 1895 through the liberality of the Duke of Loubat.⁵ They have been much defaced during the past few years, since the advent of the tourists, and the colors are fast disappearing.

¹ This work is also included by Kingsborough, but there is some discrepancy in the two publications, both in text and plates. Some material found in one work is not given in the other.

² Published in Berlin in 1890, an unwieldy work but of great importance. One volume of text, in Spanish, French, and English, and two volumes of plates.

³ *Cités et Ruines Américaines*, Mitla, Palenqué, Izamal, Chichen Itza, Uxmal; recueillies et photographées par Désiré Charnay, avec un texte par Viollet-Le-Duc, suivi du Voyage et des Documents de l'Auteur. Text and Atlas of 49 photographs.

⁴ Baudelier, '*Archæological Tour in Mexico in 1881*'; Ober, '*Travels in Mexico*'; Ayme, '*Notes on Mitla, Oaxaca, Mexico, with Plans and Measurements of the Ruins*,' 1882.

⁵ *Wandmalereien von Mitla Eine Mexikanische Bilderschrift in Fresko*, 1895. A most valuable work, which contains a scholarly analysis of the deities depicted in the frescoes.

In 1895 Prof. W. H. Holmes spent one week at Mitla, on the Armour expedition, and his work is the most instructive study and description of the ruins which has ever been made.¹ None of these explorers, with the exception of Dupaix, have made excavations and their publications relate to the remains above ground. During the past century the condition of the buildings has deteriorated to a certain extent and no attention has been paid to them by the Mexican Government, except to appoint a guardian to prevent flagrant vandalism. It is a pleasing matter to record that last winter the Government, at last aroused to the value of these wonderful ruins, made an appropriation for their preservation, and active measures are being taken to shore up walls which are in danger of falling, and a fence has been built around the 'Palace of the Columns.' Furthermore, visitors are not to be allowed free access to the edifices, but must visit them in company with the Inspector.

Excavations for the American Museum of Natural History were made in the vicinity of the famous 'Palaces' within a radius of ten miles from east to west, and about three miles from north to south. In the valley in which the Mitla ruins are located are many mounds in which excavations were made, revealing the foundations of buildings now entirely destroyed; buildings partially destroyed, in which the rooms were cleaned out; and tombs, the walls of which were of stone with the 'mosaic' patterns seen in the 'Palaces.' Two burial places were discovered, but for their complete exploration more time was required than was at the disposal of the expedition. In the tombs and burial places more than thirty skeletons, in a more or less imperfect state of preservation, were taken out. The doorways of the burial chambers faced the west, but there was no regularity in the manner of interring the dead.

The hills to the east of Mitla were explored and the ruins investigated were designated Guiaroo, that being the name of the mountain which rises above them to the northeast. Between Mitla and Guiaroo is the Hacienda of Xaaga, and at this place is an extensive group of mounds known as Xaaga. Near Xaaga two tombs were discovered, and a small adobe building, almost entirely destroyed, was excavated. In the center of the room a

¹ *Archæological Studies among the Ancient Cities of Mexico*, 1897.

cache of 120 copper, tau-shaped objects was found ; these may be cutting implements but are more generally regarded as money.

A cruciform structure was discovered more than twenty years ago, in the largest mound at Xaaga ; first described, very briefly, by Bandelier, who gives a rough plan of this structure but no measurements.' As the top of the mound containing the chamber is occupied by the Hacienda building, the steps leading to which cover the entrance, it is impossible to photograph the doorway. Details will be given further on.

In the Guiaroo Group, in the foot-hills, two ruined adobe buildings and a cruciform, subterranean chamber were explored, and, for the first time, were cleared of the dense underbrush which covered them. These ruins were visited by Dupaix in 1806 and the cruciform structure described by him. They had not been visited by any explorer since that time.

CRUCIFORM STRUCTURES.—In this paper I shall take up only a single feature of the Mitla remains, namely, the great cruciform structures, four of which have come to our knowledge. One is in the Main Group of 'Palaces,' one at Xaaga, and two at Guiaroo. It is possible that others exist in the valley to the east of the 'Palaces.' Three of these chambers, which were unquestionably designed for tombs of the ancient priests, have the 'mosaic' decoration. No structures of like character are known in any other part of Mexico or Central America. They are by far the most elaborate and important burial chambers yet found in the New World, both in size and in beauty of stone work. Unfortunately none have been opened by archæologists, and we know nothing of what they formerly contained. Their form lends an added interest to these chambers, and analogies might be drawn with the crosses of the Old World ; but such speculations are not germane to the purpose of this paper. The cross is not uncommon in old Mexican remains and must have had some deep meaning with the ancient peoples of this portion of our continent. The reason why these chambers were so constructed, in the form of a cross, I shall not undertake to answer, but light may be thrown on this question as archæological research progresses in the near future.

¹ *Op. cit.*, pp. 309, 310.

MITLA.—In the substructure of edifice 20, Group F,¹ is a cruciform structure, the plan and measurements of which I introduce for the sake of comparison, as well as to finally correct a widespread error regarding the length of the chamber forming the base of the cross, which extends southward under the courtyard of this group. Burgoa gives the tradition, extant among

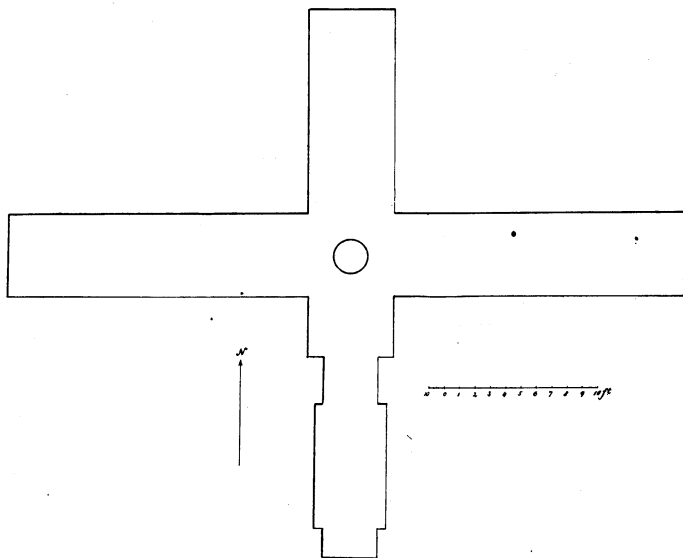


Fig. 1. Ground Plan of Cruciform Structure, Mitla.

the Indians in 1674, that the passage "ran more than thirty leagues under ground," and it was the current belief, at the time of my visit, that the chamber extended the length of the courtyard from north to south. Nevertheless, I find in Ayme's 'Notes on Mitla,' a statement that he made several excavations, and found its entire length about 9½ feet. At the time I was not aware of Ayme's investigations and therefore made an excavation in the same place, the results of which corroborated the accuracy of his statement. During the eighteen years intervening between the two excavations, the chamber had been partially filled with earth and stones which had probably washed in during the rainy sea-

¹ I follow the sketch map of Mitla published by Prof. William H. Holmes in his 'Archæological Studies Among the Ancient Cities of Mexico,' Part 2, Plate XXXIX, opposite p. 279.

son. I have recently learned that Dr. Sologüren made a trench here a few years ago.

Figure 1, after Mühlenpfordt, shows the ground plan of this cruciform structure. I shall not enter into a general description, as the main groups at Mitla and this chamber have been measured and described many times. I did not think it necessary to repeat the work of measuring, but a careful comparison of the figures given by Dupaix, Bandelier, Ayme, Holmes, and Corner,¹ shows that no two explorers agree in their measurements of this important structure. The dimensions I give, taken from Mühlenpfordt, are probably not far from correct, but can only be considered approximate.

The entrance was undoubtedly at the base of the cross and faced the south. As before stated, this part of the tomb is beneath the courtyard, and a flight of steps leads upwards to the other three rooms, which are in the substructure of the 'Palace,' above the level of the court. The walls of the several chambers are 'mosaic,'—that is, the geometric designs are made by the fitting together of small stones of different sizes. Some of these stones are more deeply imbedded than others, resulting in a geometric pattern formed by the projecting stones. This 'mosaic' or grecque work is shown in Plate I, from a photograph taken by Winfield Scott of a portion of the 'Palace,' below which is seen the present entrance to the cross. Most of the 'mosaic' panels are nearly destroyed, the designs being traced by the broken edges of the projecting stones which had formed the pattern. Some traces yet remain of a coating of white cement, painted red. It is extremely probable that the defacing of the panels of the chamber has been done by the Indians and not by tourists. The Indians have a belief that stones or fragments taken from the buildings will, sooner or later, turn to gold.

The following dimensions are approximate :

Extreme length from east to west, 45' ; extreme length from north to south, 35' ; length of base of cross from southern end to lower step, 9½' ; length of steps, 3' ; top step to corner of arms, 4' ; length of eastern and western arms, 20' ;

¹ 'Mitla: An Archæological Study of the Ancient Ruins and Remains in that Pueblo,' published in the 'Journal' of the Anthropological Institute of Great Britain, New Series, Vol. II, Aug.-Nov., 1899. This is the most recent publication on Mitla. The author states that he visited Mitla in 1891.

length of northern arm, head of cross, about 13'; average height of western, northern, and eastern arms, $6\frac{1}{2}'$; average width of galleries, eastern, northern, and southern arms, $5\frac{1}{4}'$.

XAAGA.—The Hacienda of Xaaga comprises the extreme eastern end of the Valley of Mitla, and extends for miles to the

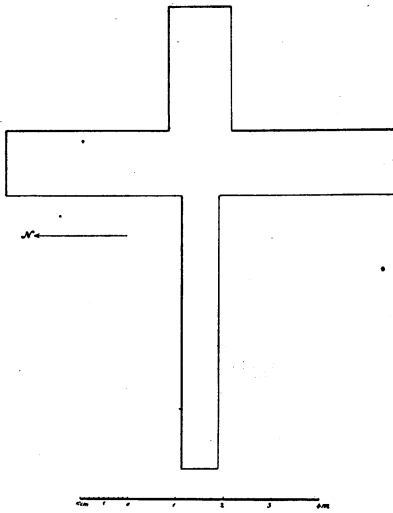


Fig. 2. Ground Plan of Cruciform Chamber, Xaaga.

eastward; the mountains, in which are the ancient quarries and the Guiaroo groups, form a part of this great estate. The Hacienda building is about three miles southeast of the village of Mitla and is built on the top of the principal mound. Near the house are the huts of the Indian laborers, some of which are placed upon ancient mounds, while scattered about in the immediate vicinity are other remains. In the great mound under the Hacienda building is the cruciform structure, the ground plan and entrance

of which are shown in Figures 2 and 3. The entrance at the foot of the cross faces the west and was found sealed by a large stone resting on a step 19 cm. in height, a short distance from the edge of the mound. The floor of the structure is approximately on a level with the ground in the immediate vicinity. An excavation of this mound would very likely reveal walls and possibly the ruins of a building: this was the case in mound 2, in which tomb 1 was found during the past winter: the tomb was in the western side of the mound and excavations revealed walls and a filled-in structure. The four chambers which form the cross are covered by large, flat roof-stones. Over the western chamber or base there are four stones which form the lower roof, and beyond are four others which extend to the junction of the four arms. The height of this chamber varies; at the entrance, which is low, it is 1 m. 15

cm. in height. At a distance of 1 m. 60 cm. from the door the roof rises 6 cm., the average height throughout the entire structure being 1 m. 68 cm. Over the eastern chamber or head of the cross, one stone forms the roof; over the northern arm are three and over the southern arm are four stone slabs. The center of the cross is covered by a single large stone, at which point the floor is depressed 15 cm. The floor of the entire structure is covered by cement 6 cm. in thickness.

The stone work of the eleven walls resembles that of the outer walls of the 'Palaces,' being composed of five courses of stones. In the center of each of the walls is a 'mosaic' panel.

In the different panels are found repeated all of the various designs seen in the 'Palaces' and several peculiar to this structure. These panels are colored: the inner surface is painted red, while the design in relief is covered by a thin coating of white cement. Each of these panels is composed of from three to five stones. In the eastern side of the southern arm, at the point indicated in the ground plan (Fig. 2), is an animal's head, carved out of stone, painted red, which projects about 6 cm. from the wall above the panel. This feature was found in two 'mosaic' tombs discovered at Mitla the past winter. The dimensions of the chamber are as follows¹:

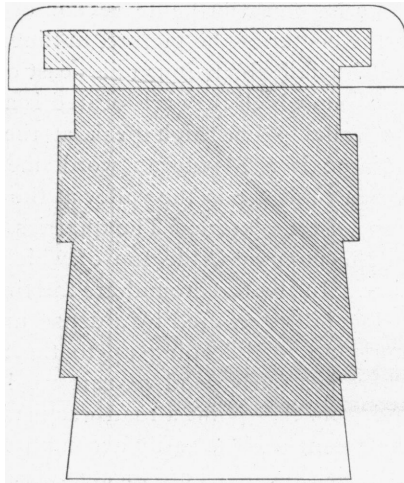


Fig. 3. Entrance to Cruciform, Chamber, Xaaga.

Extreme length from east to west.....	9 m. 71 cm.
Extreme length from north to south.....	7 m. 98 cm.
Length of base of cross.....	5 m. 72 cm.
Length of head of cross.....	2 m. 64 cm.
Length of northern and southern arms.....	3 m. 43 cm.

¹ These measurements are in metres, taken during the expedition of 1898. The measurements taken at Mitla and vicinity are in feet and tenths, for the reason that my metric system tape line mysteriously disappeared.

Width of northern and southern arms	1 m. 35 cm.
Width of entrance and entire base of cross.....	80 cm.
Width of head of cross	1 m. 32 cm.

GUIAROO. — The general location of this group is shown in Plate II, being in the depression of the mountain range, directly in the center of the picture, outlined against the horizon. They are situated about four miles east of the village of Mitla and the hill upon which they are located is about one thousand feet above the valley. The high peak at the left is Guiaroo mountain; Guiaroo is a Zapotecan word, meaning high mountain.¹ The Xaaga ruins are in the valley at the base of the mountains, at the right of the picture. The quarries are in front of Guiaroo peak, on the mountain, the top of which is barely discernible in the view. In the foreground are the two main groups of 'Palaces.'

The hill is covered by a dense underbrush and there was formerly no road leading up to the ruins from the valley below. There is a fairly good ox-cart road to the base of the foot-hills, and from that point a road was made to the summit, so that now the ascent may be easily accomplished on horseback. The spur on which the ruins are located is separated from the lower hills to the west, and the high mountain ridge to the east, by deep and almost impassable barrancas.

The view looking west from the ruins is magnificent; the entire valley of Mitla is spread out before one, and the high mountains of the Mixteca, forty miles distant, are seen in the background. This spur would have formed a natural stronghold in case of attack by an enemy, as the only practicable approach would have been from the high hill to the north, on which the ancient quarries were located. It is not a desirable location for a large settlement, for the reason that the entire available space on the summit is occupied by the temple and sepulchral ruins, and it would have been impossible for the steep sides of the hill to be used for habitation sites.

GUIAROO. LOWER GROUP.—The entrance of the cruciform chamber, discovered by Dupaix, is illustrated in Plate III, and the ground plan is given in Figure 4. Dupaix's plan is not cor-

¹ The common term used by the natives in designating the ruins is 'paderones,' a corruption of the Spanish word *paredones*, walls. The Zapotecan term is *basul lyobaa*. Lyobaa is the Zapotecan name of Mitla.

rect: his plan shows steps which have never existed, and the cross section which he gives of the tomb, with 'mosaic' panels, is absolutely wrong! The walls of this structure are composed of medium sized stones, covered with cement; in the center, where the four arms join, the four corners are made of large stones. The walls are painted, the lower half being red, the upper part white, the natural color of the cement. The dimensions of the structure do not show the regularity seen in the Xaaga tomb.¹

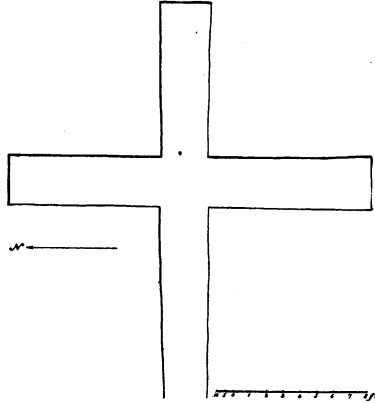


Fig. 4. Cruciform Chamber, Guiaroo, lower group.

The dimensions (given in feet and tenths) are as follows:

Extreme length from east to west.....	24. feet
Extreme length from north to south.....	29.9 feet
Length of base of cross.....	12. feet
Length of head of cross.....	9.3 feet
Length of northern arm.....	9.2 feet
Length of southern arm.....	9.9 feet
Width of entrance.....	2.6 feet
Width of head of cross.....	3.1 feet
Width of end of northern arm.....	3. feet
Width of end of southern arm.....	3.2 feet
Average height of the chamber.....	4.4 feet

At the present entrance, which is at the base of the cross, and faces the west, there are no signs of any stone which might have served to seal the chamber. It is but a slight distance below the level, between the two adobe houses, and the eastern part of the vault is under the eastern adobe house, a portion of the wall being seen in the upper right-hand corner of Plate III. The rude stone

¹ Dupaix gives the following description of this tomb: "Under the principal entrance of this building, at a very little depth, is a subterranean sepulchre: it is constructed in a simple style, and its plan is in form of a cross, constituting four chambers, the walls of which are coated with square stones polished and painted with ochre. A flight of stairs leads to it, and their descent faces the west. We found nothing in this dismal vault but the remains of a deer and a kid, which some leopard or wolf, the present occupants of this ancient house, had dragged to this solitary spot."

work of this structure is somewhat similar to that of two small tombs found in the valley, and may indicate the work of the later Zapotecan occupants of Mitla. They resemble also the stone work of the Xoxo tombs where the 'mosaic' treatment of decoration is entirely absent. In the valley tombs, however, no funeral urns like the Xoxo urns were found.

GUIAROO, UPPER GROUP.—The great cruciform subterranean chamber now to be described, which is destined to be one of the great attractions of Mitla in the future, is on the upper part of the hill about one hundred feet above and six hundred feet north of the main group, a little more than four miles east of the Hacienda of Mitla. To the northwest and higher up in the range of hills, about one mile distant, are the old quarries from whence were transported, in the ancient times, the immense blocks of stone which form the door lintels of the more important 'Palaces' of Mitla. Many immense quarried stones still lie scattered about at the quarries, while others have been partially broken out from the bed rock. The large blocks used in the construction of the cruciform chamber were transported from this place, and on the road between these two points are several large blocks which were evidently being moved to the chamber when the work ceased. The method of transportation was probably by means of rollers and large ropes. The stones were dressed at the quarries and the 'mosaic' designs carved after they were placed in the structure.¹

In an article on 'Oaxaca and its Surroundings,' by Dr. N. H. Wheeler, published in the 'Popular Science News' for January, 1896, this cruciform structure is mentioned; and in a small brochure issued later by the Mexican National Railroad, under the title 'Tropical Tours to Toltec Towns,' the writer quotes from a newspaper article signed 'W.' (probably Wheeler) in which a brief description with measurements is given of this tomb. The cham-

¹ This great chamber was first visited by Ober in 1881, who gives the following brief notice of its existence:

"That the hills about are full of ruins which no one has seen of late, we were fully convinced. We visited several sepulchral structures of stone, their inner surfaces carved into the same strange shapes as adorned the walls. Prof. Bandelier, sent out by the Archaeological Institute of America, had remained here twelve days, but had not seen these paredones or Indian walls, in the hills which we visited. . . . We ascended the high hills in quest of the paredones above the valley,—a most tedious climb, over ridges and through barrancas. We found the largest paredon in a dense thicket on a hill commanding the whole valley near the gap through which passes the trail to the Mixe village of Ayutla. A sepulchre is formed here of massive blocks in the form of a cross, about ten feet deep, six wide, and thirty long. All the inner faces of these immense blocks are sculptured, like those of Saga, while other dressed rocks are scattered about."—*Op. cit.*, pp. 541, 542.

ber was covered by forest and half filled with debris, composed of rubble stone and earth. The view in Plate IV was taken before clearing out the debris and gives a good general idea of the cruciform plan of this structure. In the background to the left the zig-zag bridle path is seen, which leads into the region occupied

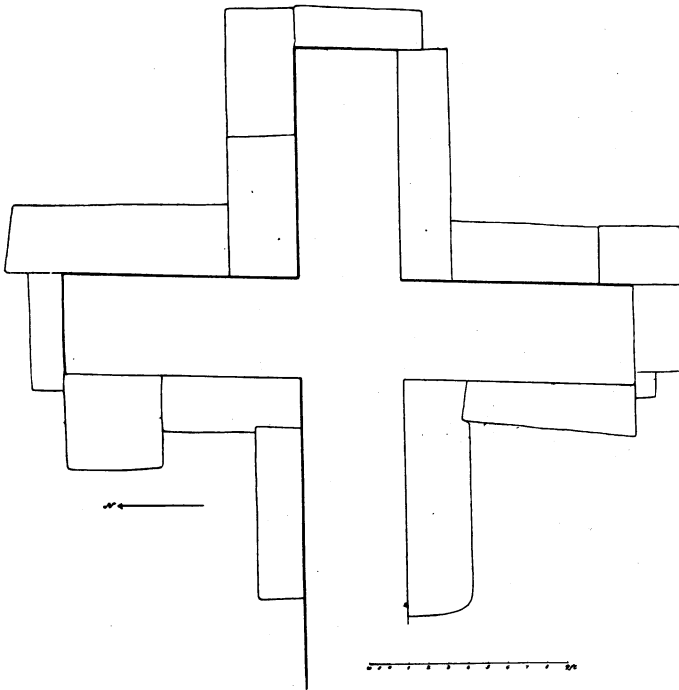


Fig. 5. Ground Plan, Cruciform Chamber, Guiaroo, upper group.

by the Mixe Indians, and is also a highway, but not the main one to Tehuantepec.

Figure 5 is the ground plan of the chamber, and shows that the angles formed by the junction of the side and end walls of the arms of the cross are not perfect right angles.

Apparently this structure was never completed. The debris with which it was partially filled did not contain the slightest trace of remains of human workmanship, and had probably fallen down and washed in from a ruined structure occupying a pyramidal-

shaped mound about twenty feet in height; the base of this mound adjoined the northwest corner of the structure, indications of which are seen in Plate VIII, at the upper left-hand corner. The large stones were pinched in place by means of the holes in the back of them (see Plate VII), and the perfect joining of these

immense blocks reveals the absolute mastery of the stone worker's art. The carving was done after the walls of the chamber were completed, and the designs must have been traced out on the wall surface before the cutting of the 'mosaic' patterns. Stone chisels might have been used and probably this tool was the one employed by the ancient workmen.

There are three different designs in the decoration. A drawing of the end of the northern arm is shown in Figure 6 ; whether the grecques

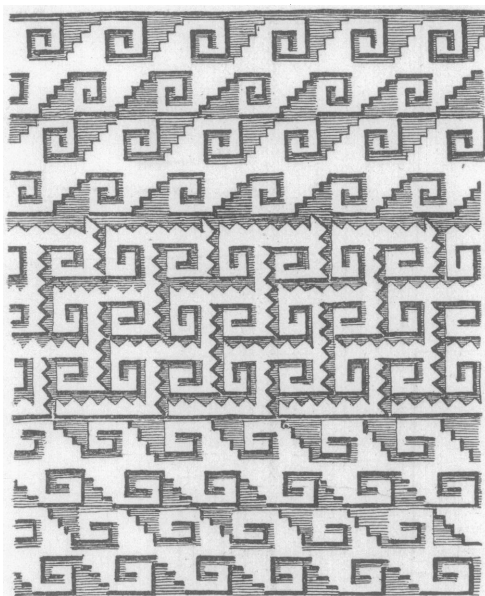


Fig. 6. 'Mosaic' Patterns, Wall of Cruciform Chamber, Guiafoo, upper group.

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are purely decorative or are conventional symbolism it is impossible to say. By a stretch of the imagination the upper and lower patterns might be resolved into a series of Swastikas. These three designs form continuous bands of decoration around the chamber ; a single break in the carving is found in the plain end wall of the southern arm, a curious feature of which is the hole for pinching (see Plate VI). The depth of the carving is about three-fourths of an inch, and as a rule the serrated edges of the patterns are slightly beveled. In one place which was

well protected from weathering by the debris, a small section of the design still preserves on the part in relief a very thin coating of cement painted red. The floor of the chamber is not cemented, another proof of its unfinished condition.

In Plate IX are three stones which lie close to the southern end of the structure; holes for pinching are seen, and on the stone at the right is a raised ridge, similar to the one shown on the stones in place in Plate V. These blocks do not bear 'mosaic' carving, and were apparently intended to form the end of the western arm, the opening. The dimensions of the chamber are as follows:

Extreme length from east to west, 32'.8.

Extreme length from north to south, 28'.6.

Length of northern, eastern, and southern arms, 11'.7.

Width of northern, eastern, and southern arms, 5'.2.

Length of western arm to end of sculpture, 11'.

Total length of wall, 15'.9.

Width of eastern arm, 5'.2.

Height of chamber, $7\frac{1}{2}$ feet.

Dimensions of largest block, southern wall of western arm, $12\frac{1}{2}' \times 3'.3 \times 3'$.

Above and below the three 'mosaic' bands are plain surfaces, the upper one .4 high, the lower one .7. The heights of the various 'mosaic' designs are, respectively, upper, 2'.1, center, 2'.1 $\frac{1}{2}$, and lower, 1'.9.

Rising from the northwest corner of this subterranean chamber is a pyramidal mound, the foundation of a building now entirely destroyed. On the top we found the remains of a much decayed skeleton, buried about two feet below the surface; two stone heads were also excavated near by, one of which is shown in Figure 7; it is beautifully carved and is one of the finest pieces of stone carving from Oaxaca. It is perhaps a portrait of one of the former occupants of this locality; the aquiline nose is one of the characteristic features of the modern Zapotecan Indian. The head is cut from a piece of volcanic tuff and is $5\frac{5}{8}$ inches high and 4 inches wide. The projection at the back shown in Figure 7 has served to fasten the head in a stone wall, either in the outer or inner wall of a tomb.

In tomb 1 at Mitla two heads were found projecting from the front wall of the vault, one on either side of the door, slightly

above the line of the lintel. In tomb 4 two stone animals' heads were found in the interior of the chamber, one near the northeast corner, and the other in the southeast corner, both projecting just below the roof.

CHILA. — There is one other cruciform tomb which has come

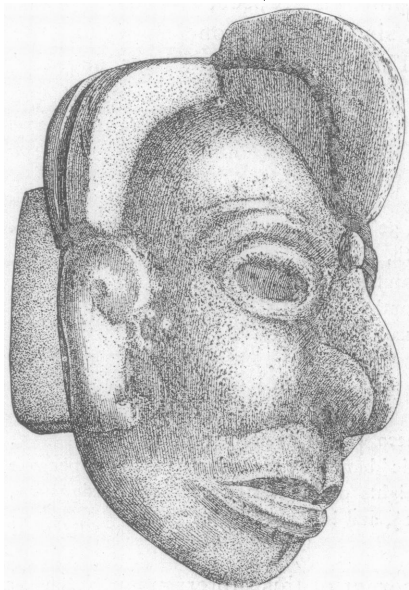


Fig. 7. Stone Head, found near Cruciform Chamber, Guilaroo, upper group.

to my notice, and I here-with introduce the description which Bancroft gives, taken from Dupaix, which is as follows: "At Chila, in the extreme southern part of Puebla, is a hill known as La Tortuga, on which is built an untterraced pyramid, eighty-eight feet square at the base, fifty-five feet high, with a summit platform fifty feet square. It is built of hewn stone and covered, as it appeared from Castañeda's drawing, with cement. The exterior surface is much broken up by the trees that have taken root there. A stairway leads up the western front.

Near the northeastern corner of the mound is an entrance leading down by seven stone steps to a small tomb about eleven feet below the surface of the ground, and not under the mound. At the foot of the steps is an apartment measuring five and a half feet long and high and four feet wide, with a branch or gallery four feet long and a little less than three feet wide and high, in the center of each of the three sides, thus giving the whole tomb in the ground plan the form of a cross. . . . There is certainly a general resemblance to be noted in this tomb structure to those at Mitla; the interior is lined with hewn blocks laid in lime mortar and covered with a fine white plaster, the plaster on the ceiling being eight or nine inches thick. The discovery of human bones in the

lateral galleries leaves no doubt respecting the use to which the subterranean structure was devoted."¹ (See ground plan in Figure 8.)

There is another point of resemblance between the Chila cross and the chamber under the Mitla 'Palace.' Both structures have an entrance facing the south, whereas the entrances to the Xaaga and Guiaroo chambers face the west. The Zapotecan tombs at Xoxo and one of the tombs excavated at Monte Alban have doorways facing the west, which direction appears to have been the common one and probably had some symbolic meaning. In the Maya region this is not the case; no fixed point of the compass was used in the placing of the entrances to their burial chambers. As yet we have inadequate data, practically none at all, concerning the burial customs in other parts of Mexico.

The massiveness of the construction, and simple and chaste ornamentation, place these great Mitla tombs in a class unapproached by any other known burial chambers in ancient America. As noted by Holmes, the geometric fretwork mosaics differ from the great façades of the Yucatan buildings "in subject matter rather than in kind, for the decorated surfaces there, though depicting animal forms, are mosaics in the sense that they are made up of separate hewn or carved stones set in mortar to form ornamental designs."² This method of construction brings the Mitla 'Palaces' and smaller tombs into direct relationship with the Yucatan ruins. So far as I am aware, outside of Yucatan no other group of buildings with the exception of Mitla have this 'mosaic' style of stone work. In Plate X I have brought together side by side a view of a section of the front of the 'House of the Governor' in Uxmal, Yucatan, and a picture of the northern end of the 'Hall of Mosaics' in the Palace of the Columns at Mitla, which will illustrate the close resemblances of the construction. There is one point of variance, however, which is quite noteworthy, namely, in the roof.

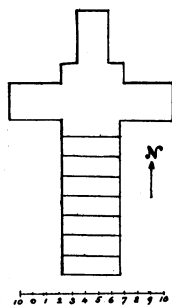


Fig. 8. Ground Plan, Cruciform Chamber, Chila.

¹ Bancroft, 'Native Races of the Pacific States,' Vol. IV, Antiquities, Chap. IX, pp. 465, 466.

² Holmes, *op. cit.*, pp. 247, 248.

In the whole area of Maya culture the style of roof is what is known as the Mayan or triangular arch, whereas in the Mitla buildings a flat roof was used. In Yucatan flat roofs are reported from but one ruin—Tuloom, on the eastern coast of the peninsula. Stephens describes a small building visited by him in 1841 in which the ceiling is flat, and several others with fallen roofs, but with indications of the same method of roof construction.¹ On the tops of some of the walls in the Mitla edifices may still be seen the mortar sockets in which formerly rested the ends of wooden ceiling beams. In the Mayan remains outside of Yucatan, for example in Palenque, where much stucco was employed, and at the ruins of Copan, Honduras, where the great feature is sculptured monoliths, this 'mosaic' work is not found. Stucco is sparingly used in Yucatan, and there are no traces of it in Mitla. Moreover, there is very little separate stone sculpture in Yucatan, and none at Mitla. The absence of carved monoliths at Mitla is striking, when we consider the great monolithic lintels of one of the 'Palaces,' where there are single stones nearly twenty feet in length. It seems very probable that Mitla and the Yucatan ruins belong to the same epoch and are the remains of a people having kindred ancestors. I have elsewhere offered the suggestion that the building of Mitla was by the Nahuas, and that Zapotecan occupancy was the result of conquest. Modern research points to a common ancestry of both the Nahuan and Mayan peoples.

¹ Stephens, 'Incidents of Travel in Yucatan,' Vol. II, pp. 391, 392, and pp. 398, 399. His description is interesting, and as the ruins of Tuloom have not been visited since that time, I quote what he writes concerning this roof: "The interior [of the chamber] is about seven feet high, and discloses an entirely new principle of construction. It has four principal beams of wood, about six inches in diameter, laid on the top of the wall from end to end of the chamber, with smaller beams, about three inches in diameter, laid across the larger so closely as to touch, and on these cross-beams is a thick mass of mortar and large pebbles, which was laid on moist, and now form a solid crust, being the same materials which we had seen in ruins on the floors of other rooms." This describes what was also the probable construction of the roofs of the Mitla 'Palaces.'