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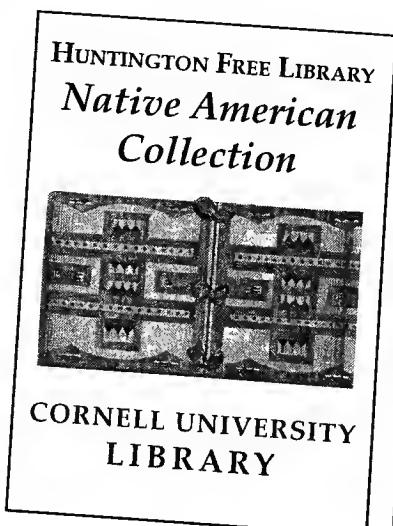
THE CRUCIFORM STRUCTURES OF MITLA AND VICINITY

BY
MARSHALL H. SAVILLE

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INTRODUCTION

A PORTION of the material contained in this paper has already been published under the title "Cruciform Structures near Mitla." In view of the fact that other cruciform structures were found during subsequent explorations, and an opportunity was afforded to add to and to correct former notes, I have thought best to revise, and bring together in a single paper, much of what I published before, making this a chapter of a monograph which I hope to publish later, giving a complete account of the explorations of the Loubat Expedition at Mitla.

During the winters of 1898-99, 1899-00, 1900-01, 1901-02, the Duke of Loubat furnished funds for the American Museum of Natural History to make extensive archæological explorations in the State of Oaxaca, Mexico, under the terms of a concession granted by the Mexican Government, through the kind offices of President Diaz. The interests of the Mexican Government were represented in the field by Leopoldo Batres, Inspector of Ancient Monuments. Two winters were spent in excavating the ancient mounds, called *mogotes*, in the Valley of Oaxaca, and during two winters work was carried on in the vicinity of the well known Temples of Mitla.

ZAPOTECAN TOMBS

In 1898 the Loubat Expedition made excavations in the mogotes at Xoxo, about two leagues south of the city of Oaxaca.¹ Minor excavations were made at the great ruined hill-city of Monte Alban, just south of the city of Oaxaca. Monte Alban is one of the most important and extensive ruined cities in Mexico, and during the time when the Loubat Expedition was later engaged in explorations at Cuilapa, the Inspector of Ancient Monuments commenced a survey and exploration at this site, with very important results.

At Xoxo the Expedition discovered a number of interesting tombs in the mogotes. Funeral urns of the well known Zapotecan type were usually found near the front walls of the vaults. The stonework was of an extremely simple type, and often covered with cement and stucco decorations. Evidence was found of a dome-shaped cement covering of at least one of the mogotes.

In 1902 investigations were continued in the Valley of Cuilapa, a much larger group than that at Xoxo, and less than two miles southwest of Xoxo. As in all the groups of mogotes, those at Cuilapa were found to be of two classes, namely, temple mounds and burial mounds. Of the former class three were explored, revealing the construction of the pyramids, and the foundations of old Zapotecan temples. In the burial mounds, seven tombs and seven stone graves were uncovered. The tombs were of the same general character as the tombs at Xoxo. They are stone vaults which were usually built

¹ A brief account of the exploration of the mogotes at Xoxo will be found in the *American Anthropologist*, N. S., I, no. 2, 1899, pp. 350 to 362.

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on approximately the level of the surrounding fields, and after interments had been made the entrance to the chamber was sealed by a large stone (sometimes by two stones), and over the tomb a solid structure of adobe bricks, earth, and stones was erected, strengthened by cement layers or floors, and undoubtedly covered in many cases by a dome-shaped cement surface. In one instance three tombs, facing respectively north, west, and south, were found under a cement floor or platform slightly raised above the surrounding level. The burial chambers vary in size and construction, and while at Xoxo those discovered faced the west, in Cuilapa tombs were found facing the other points of the compass. In these vaults were many skeletons with the usual food and drink vessels, incense burners, and many personal ornaments made of jadeite. In Xoxo practically no personal ornaments were found, but fragments of mosaic work, bits of shell, obsidian, jadeite, and hematite on stucco objects, were obtained. In Cuilapa and Xoxo were found lintels with hieroglyphic inscriptions, and mural paintings on the outer and inner walls of several tombs. Terra-cotta tubing was excavated near a number of these tombs, and was ascertained to have been used for water drains. Drains made of stone were also uncovered near tombs.

Early accounts regarding the customs of the Zapotecan Indians, which have been verified by the explorations of the Loubat Expeditions, show that their funeral ceremonies were as follows: When an important person died, the body was dressed and placed in a stone chamber together with various personal ornaments and objects belonging to the deceased. Food and drink were placed in or near the tomb to sustain the de-

ceased on his journey to the other world. Once a year for four years his friends came to the tomb and made fresh offerings of food and drink. At the expiration of this time the flesh had decayed. Sometimes the bones were then gathered and placed in niches, but otherwise they were allowed to remain on the floor. Often they were painted red. In some instances the metate and hand-stone for grinding corn, and the clay griddle for baking tortillas or corn-cakes, were placed in the chamber, with numerous incense burners. Then the door was sealed with a large stone, and usually objects of value, such as personal ornaments and mosaics, were thrown into the space in front of the vault. Probably some of the offerings of food, drink, and incense were intended for the deities whose effigies (the funeral urns) were placed near by, to guide the spirits of the deceased on their journey to the other world. A mound of earth, adobe brick, and stones was then raised over the structure, and was sometimes covered with a dome of cement. Nothing of the nature of mosaic stone work, similar to that of the Mitla tombs and temples, was discovered in the mogotes; nor was such found at Monte Alban, either by the Loubat Expedition or by Mr Batres. The mural paintings are also widely different from those of Mitla.

MITLA

During the winters of 1900-01 and 1901-02 the Loubat Expedition worked at Mitla. The Mitla ruins are situated about ten leagues east of the city of Oaxaca. Since the completion of the Mexican Southern Railroad to the city of Oaxaca, several years ago, the ruins have been visited by hundreds of tourists,

with an increasing number of visitors each year. The journey is a comparatively easy one, and is best made during the dry season, between December and 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, one travels from the cold region to the tropics, and then into a delightful temperate zone in which are situated 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 bottom of immense canyons, then climbing steep grades and passing down into a fertile valley, the train arrives at Oaxaca in the early evening. From Oaxaca to Mitla the thirty-mile carriage ride is over a good road, and the hacienda of Sr D. Felix Quero at Mitla is one of the most delightful stopping places in Mexico.

We find the first mention of Mitla in the postcolumbian Nahuan book known as the Codex Telleriano Remensis. Under the account of what transpired during the reign of Ahuizotl, the Aztecan 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 1454. The date 1494 of the Codex Telleriano Remensis is, per-

¹ *Codex Telleriano Remensis*, Loubat edition, 1899, p. 40 reverse.

² Duran, *Historia de los Indios de Nueva España*, written between the years 1579 and 1581; first published in Mexico in 1867-80.

haps, the most trustworthy, and is accepted by Gay.¹ The earliest mention of the ruins by a Spanish priest is made by Motolinia,² from whom we learn that Father Martin de Valencia passed through Mitla some time about the year 1537. A brief account is given of a temple containing a hall in which are columns; and it is stated that the edifices are more worthy of being seen than any others in New Spain.

In Sahagun's great work³ we find the statement that Quetzalcoatl, after leaving Tecamachalco, "made and built some houses underground, which are called Mientlancalco." This undoubtedly is a misprint, and in Jourdanet's translation into French the place is spelled Mictlancalco. As Bandelier remarks, "the subterranean buildings agree very well with the architecture of Mitla or Mictlan."⁴ Torquemada, who evidently makes use of the work of Motolinia, writes that the followers of Quetzalcoatl left Tullan offended and came to Cholullan, where they lived many years with their people; thence they sent some of their number to Huaxayacac to settle there as well as in the Mixteca Alta, Mixteca Baja, and Zapotecas, and these people are said to have erected the great and sumptuous "Roman" edifice of Mixtlan. People called Tultecatl, from the name of Tullan, are said to have been great artificers.

The first extended account of Mitla is given by Burgoa, whose work is exceedingly rare.⁵ His description of the ruins

¹ Gay, *Historia de Oaxaca*, p. 185.

² Motolinia, *Historia de los Indios de Nueva España*, written about 1540 and first published by Icazbalceta in 1859.

³ Sahagun, *Historia General de las Cosas de Nueva España*, tomo, 1, lib. 3, cap. xiv, p. 258, Bustamente edition, Mexico, 1829.

⁴ Bandelier, *Archaeological Tour in Mexico*, Boston, 1884, p. 264.

⁵ Burgoa, *Geografica Description de la Parte Septentrional del Polo Artico de la America, Mexico*, 1674.

is fairly accurate, but has given rise to the erroneous idea concerning the vast extent of the cruciform chamber found under one of the temples, and also that the substructures of the buildings contain subterranean galleries. This is true of but two of the structures, so far as we have been able to determine during the extensive excavations which we have carried on around the buildings.

The place was occupied by the Spaniards soon after the Conquest. The now famous Temple of the Columns was certainly used either for a dwelling or as a public edifice, and a Spanish window, built of bricks, has existed until recent times in the eastern part of the front wall of the structure. Several of the doorways were partly walled up, and remains of the brick walls were until recently still in place. One of the most important edifices, which contained mural paintings of the utmost value, has been partly demolished, and a church and a curate's house now occupy the site. A number of the rooms are still intact, their beautiful stonework 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

¹ This text is included also in Kingsborough's work, but there is some discrepancy

In 1830 the German traveler Mühlenpfordt made plans and drawings, the originals of which are now in the Museum in the city of Oaxaca. Copies were made by Juan B. Carriedo, and published by him in the *Ilustración 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.¹

About 1860 Désiré Charnay, on his first journey to Mexico, made photographs of the principal edifices, which were published in 1863.² These photographs, until recently, have been the basis for reproductions used in general works upon the Mexican ruins.³

The explorations of Charnay were followed by the visit of Doutrelaine several years later.⁴ Bandelier, Ober, and Ayme came in 1881.⁵ In 1888 Professor Eduard Seler of Berlin copied the mural paintings, which were published by him in 1895 through the liberality of the Duke of Loubat.⁶ They have

in the two publications, both in text and plates. Some material found in one work is not given in the other.

¹ Peñafiel's great work was published in Berlin in 1890, one volume of text, in Spanish, French, and English, and two volumes of plates.

² Charnay, *Cités et Ruines Américaines, Mitla, Palenque, Izamal, Chichen Itza, Uxmal; recueillies et photographiées, avec un texte par Viollet-le-Duc, suivi du Voyage et des Documents de l'Auteur*. Text, and Atlas of 49 photographs.

³ The Loubat Expedition has made about two hundred and fifty photographs in the vicinity of Mitla.

⁴ Doutrelaine, *Les Ruines de Mitla*, published in *Archives de la Commission Scientifique du Mexique*, Paris, 1867, Vol. III, pp. 104 to 111, with plates of plans of the Temple of the Columns and of the Fortress.

⁵ Bandelier, op. cit.; Ober, *Travels in Mexico*; Ayme, *Notes on Mitla, Oaxaca, Mexico*, with plans and measurements of the ruins.

⁶ Seler, *Wandmalereien von Mitla. Eine Mexikanische Bilderschrift in Fresko*, Berlin, 1895. A most valuable work, which contains a scholarly analysis of the deities depicted in the frescoes.

been much defaced during the last few years, since the advent of the tourists, and the colors are fast disappearing.

In 1895 Professor W. H. Holmes spent a week at Mitla, with the Armour Expedition, and his work is the most instructive study and description of the ruins that 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 last century the condition of the buildings had deteriorated to a certain extent, and until recently no attention has been paid to them by the Mexican Government, except to appoint a guardian to prevent flagrant vandalism.

In 1900 excavations for the American Museum of Natural History were made in the vicinity of the famous "temples," 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 situated 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" pattern seen in the "temples." Two burial places were discovered, but for their complete exploration more time was required than was at the disposal of the Expedition. More than thirty skeletons, in a more or less imperfect state of preservation, were taken out of the tombs and burial places. 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

¹ Holmes, *Archaeological Studies Among The Ancient Cities of Mexico*, Chicago, 1897.

the mountain which rises above them to the northeast. Between Mitla and Guiaroo is the Hacienda of Xaaga. Near Xaaga two tombs were discovered, and a small adobe building, almost entirely destroyed, was excavated. In the center of the room a cache of 120 copper tau-shaped objects was found; these may be cutting implements, but are generally regarded as money. There is strong evidence showing their use to have been ceremonial. In the Guiaroo group, in the foothills, two ruined adobe buildings and a cruciform subterranean chamber were explored, and, for the first time, were cleared of the dense under-brush 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 other explorer since that time.

The operations of the Expedition during the winter of 1901 and the most important results obtained may be briefly summarized as follows:

1. The courtyards of the groups of the Temple of the Columns and the Cruciform Tombs were cleared out, revealing the cement floors painted red.
2. The entrance to Cruciform Tomb 1, under the north temple group of the Cruciform Tombs, was excavated (see plate III, 1).
3. A new cruciform chamber was discovered under the east temple group of the Cruciform Tombs (see plates V-VIII).
4. The ancient water drains of the two courts were discovered and cleaned out. Each was found in the southwestern corner of the court.
5. It was ascertained that the mounds on the south side of the court of the group of the Temple of the Columns, and the

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west side of the court of the group of the Cruciform Tombs, were platforms and not substructures for buildings.

6. The courtyards were found to be entirely closed and were entered by stairways in the above mentioned platforms. The platforms of the temples were reached by flights of steps from the court; and in the group of the Cruciform Tombs three small flights of steps led up to the platform from outside the court.

7. The small holes which occur in the façades of the temples, near the doors, served to hold stone heads, one of which was found in the débris at the base of the temple; this head is shown in the hole from which it had fallen, in plate II.

8. Mosaic panels were uncovered in the facings of the substructures corresponding to the panels in the buildings, making a unit of the substructure and the building which it supported; search was made for the famous subterranean passage mentioned by Burgoa. Inasmuch as the Group of the Temple of the Columns and the Group of the Cruciform Tombs are the only groups at Mitla with substructures to the temples, careful search was made in these substructures for concealed chambers or openings into subterranean passages. With the exception of the Cruciform Tomb found under the east temple, and the drains of the two courts, no passages or underground rooms were discovered. The other groups of temples at Mitla are built on the bed-rock. An excavation was made in the northernmost room of the Group of the Curacy. This room is near the base of the hills, and there was a possibility that it might have been placed over the entrance to a natural cave. Several such caves do exist in the hills in the northern part of the valley. The excavation

of this room, which corresponds with Burgoa's account of the entrance being at the rear of the "last hall with another door at the rear," did not reveal the slightest trace of any door or opening either in the wall or floor. It seems, therefore, that we must

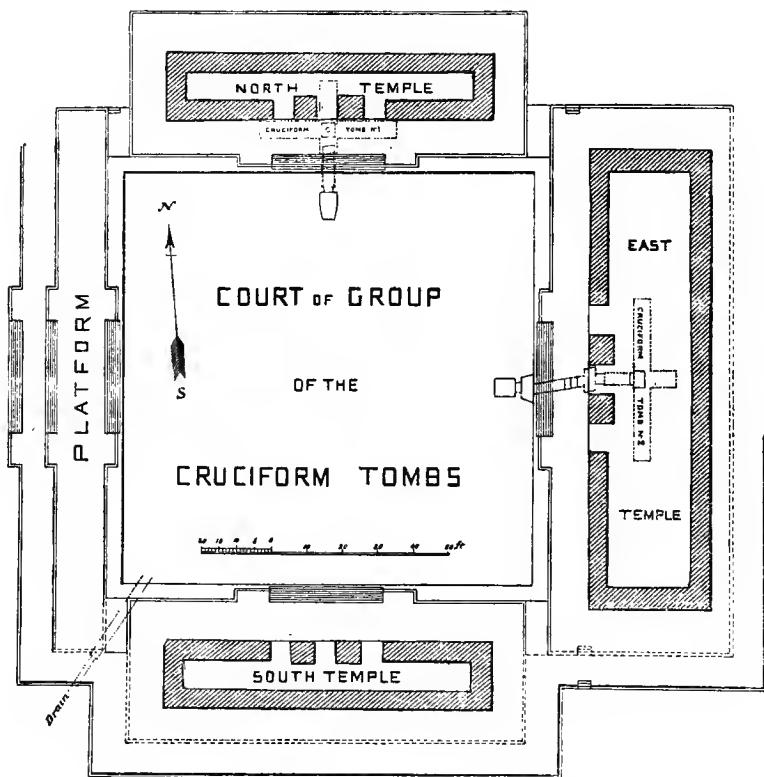


Fig. 1—Ground-plan, Group of the Cruciform Tombs.

dispose of this tradition as being on a par with all others of the same character. In connection with all of the great ruins of Mexico and Central America we find just such legends of underground passages, and as yet none have been found.

SAVILLE—CRUCIFORM STRUCTURES

PLATE I



Entrance to Cruciform Tomb No. 1 at base of steps. Cement floor of court in the foreground

NORTH TEMPLE, GROUP OF THE CRUCIFORM TOMBS, LOOKING NORTH

CRUCIFORM TOMB I

In my former paper¹ a brief account was given of this tomb in the substructure of the north temple group of the Cruciform Tombs (see figure 1), in which I followed the nomenclature of the sketch map of Mitla published by Professor W. H. Holmes in his *Archaeological Studies Among the Ancient Cities of Mexico*. The discrepancy in the measurements of some explorers was noted, and the measurements of Mühlenpfördt were considered to be the most nearly correct. I herewith append the result of repeated measurements taken in 1901:

Extreme length, east to west.....	41.4 ft.
Extreme length, north to south.....	34 "
Length of chamber, base of cross.....	9 "
Length of base of cross to lower step.....	7.5 " aver.
Length of steps.....	7 " "
Top step of corner of arms.....	2 " "
Length of eastern arm.....	18.1 "
Length of western arm.....	18.2 "
Length of northern arm, head of cross.....	12.3 "
Width of eastern, western, northern, arms.....	5.1 " "
Width of chamber, base of cross.....	4 "
Height of eastern, western, northern, arms.....	6.5 " "
Height of chamber, base of cross.....	3.6

In figure 2 are shown the ground-plan (*a*) and front view of the under-courtyard entrance (*b*) of this chamber.

The three rooms forming the head and arms of the cross are in the substructure of the Temple, above the level of the court. The walls of the several chambers are mosaic,—that is,

¹ Saville, Cruciform Structures Near Mitla, *Bulletin of the American Museum of Natural History*, XIII, art XVII, pp. 201-218, New York, Nov. 9, 1900, 10 plates and 8 text figures.

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 a prominent feature of the Mitla building, and its exact counter-

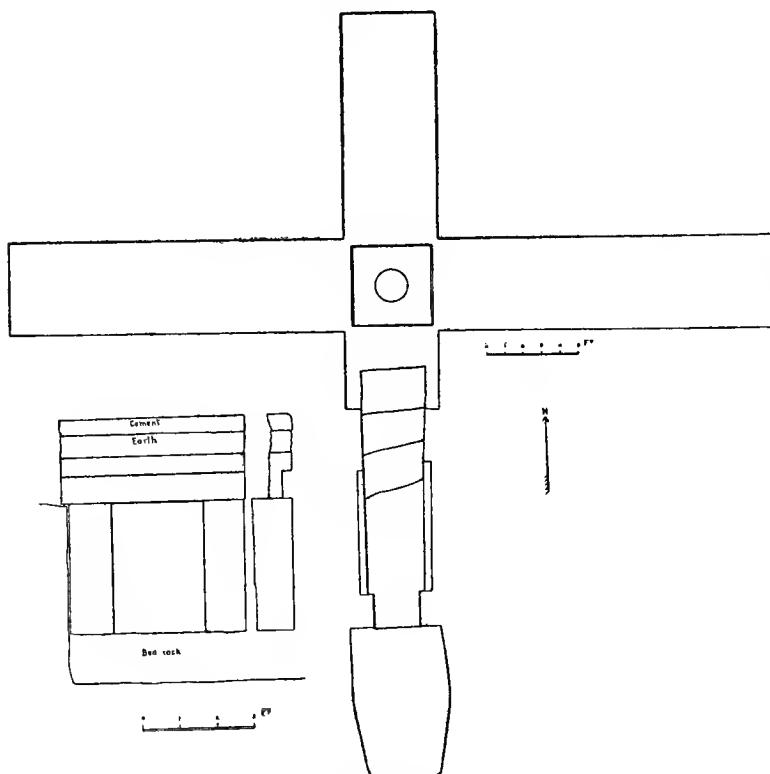


Fig. 2—Ground-plan and entrance, Cruciform Tomb 1.

part is not found elsewhere, although there is a general resemblance in some of the structures in Yucatan, as noted at the end of this paper. Most of the mosaic panels in this cruciform tomb are nearly destroyed, the designs being traced by the



SECTION OF NORTH TEMPLE, GROUP OF THE CRUCIFORM TOMBS,
SHOWING THE STONE HEAD IN THE FAÇADE

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 chambers has been done by Indians and not by visitors. The Indians have a belief that stones or fragments taken from the buildings will, sooner or later, turn to gold.

In the center, at the junction of the four arms, is a depression, in which is a large column supporting the roof. This is a feature not found in any other of the cruciform chambers.

In clearing out the courtyard of this group a break in the cement floor was revealed, showing an ancient excavation in the bed-rock below the floor. It is about 8 feet in length from north to south, averages 5 feet from east to west, and is 6 feet in depth. The cement floor of the courtyard is 8 inches in thickness and about 1.5 feet above the bed-rock at this point. Here was found the doorway of the Cruciform Tomb facing the south (see pl. III, 1, showing doorway at the base of the cross and in the background the former entrance where in colonial times the Spaniards probably broke through the stone steps leading up to the temple); the southern arm, or base of the cross, is in the bed-rock in the northern extension of this excavation, the sides of which are covered with mosaic panels, thus concealing the rough walls cut in the rock. The doorway is 3.6 feet in height and 2.45 feet in width. The stone which formerly sealed the door was not discovered, nor were there found any traces of steps leading down from the court to the level of the doorway. It would seem probable that in ancient times this entrance was entirely concealed, the space in the bed-rock being filled in and the cement floor of the courtyard covering the space. The steps

leading up from the lower room into the main galleries of the tomb are rudely cut out of the bed-rock, as seen in plate IV, a view taken from the inside of the tomb, near the column, looking toward the south.

CRUCIFORM TOMB 2

The cruciform chamber in the substructure of the east temple was discovered January 24, 1901, while clearing the débris of the lower platform and steps of this edifice. In plate V is shown a view of this temple after the completion of the explorations in the courtyard. The cement floor is shown also, and in front of the flight of steps leading up to the temple is seen the opening to this new Tomb. An opening in the cement floor was uncovered about 5 feet west from the lower step. This opening averages a little less than 6 feet in diameter from north to south and from east to west, its shape being slightly irregular (see plate VII, 1, and the ground-plan and cross-section of the chamber in fig. 3). It is much smaller at the base than at the top, as seen in the cross-section.

The first doorway (see *a*, plate VI, 1) faces the west, and has been sealed by a large stone (shown in plate VII, 1), 4.4 feet high, 4 feet wide, and 8½ inches thick. This stone has been thrown back against the sloping western side of the opening in the position shown in the picture, and under it were found fragments of two human skeletons and several pottery vessels of the common type found in the tombs — a grayish black ware.

On the south side of the opening, leading down from the level of the courtyard to the level of the floor, at the outer doorway, was found a line of Spanish roof tiles, seemingly placed



1. Entrance to the Tomb, looking northeast



2. Interior of the Tomb, looking west

CRUCIFORM TOMB NO. 1

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there to conduct water into the two lower chambers of the tomb. It is probable that after the discovery of this Cruciform Tomb

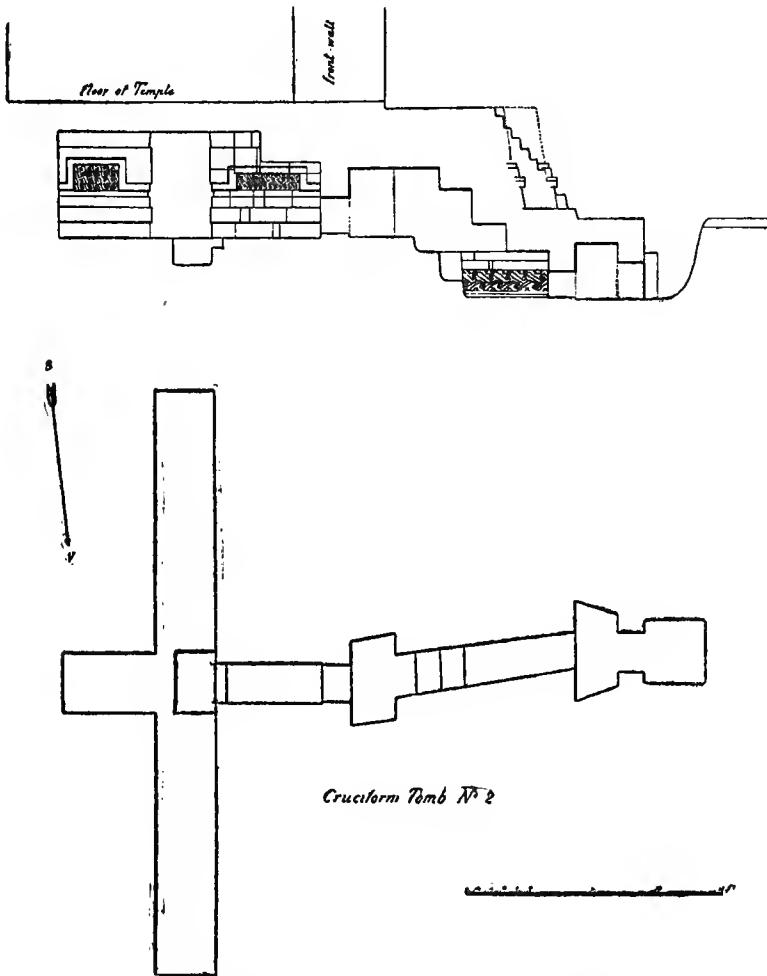


Fig. 3—Ground-plan and section, Cruciform Tomb 2.

by the Spaniards, who removed whatever was found in it and made an excavation in the floor of the northern arm, these two lower rooms cut out of the bed-rock were used as a reservoir,

the grecque work of the inner chamber being badly disintegrated by water. Later the chamber was partly filled with earth, the entrance filled up, and all traces of the existence of the chamber obliterated.

The upper part of the first doorway at the entrance is about 3.2 feet below the cement floor of the court. It is about 3.5 feet high, 2 feet long, and 2.75 feet broad. It leads into a small chamber of irregular shape (see ground-plan), about 5.4 feet in height, 3.3 feet in length, and 5.4 feet in width at the outer entrance and 7.5 feet at the inner end. In the center of this wall is a second doorway (see *b*, plate VI, I), averaging 2.9 feet in height, 2.15 feet in length and 2.8 feet in width, which leads into a chamber of the same width as the doorway and is 7 feet long on the north side and 6.5 feet long on the south side. On each side is a mosaic panel. This chamber does not run at right angles with the entrance, but bends sharply to the north. The floor is on the same level as the entrance to the court, and from the entrance to the eastern end of the chamber the structure is on an excavation made in the bed-rock, as is the case in Cruciform Tomb 1. The roof rises in the manner of inverted steps, as seen in the cross-section, this part of the tomb being under the steps leading up to the temple. Inside of the door the height of the room is 3.5 feet. Where the roof rises the height is 5.6 feet, and from this point on one may walk in an upright position. At the inner end of this chamber is a flight of rude steps (three in number) cut out of the bed-rock, which leads up to another small room of irregular shape, averaging 3.4 feet in length from east to west, 6.4 feet in width from north to south, and 6 feet in



STEPS CUT IN BED-ROCK, SOUTHERN ARM OF CRUCIFORM TOMB
NO. 1, LOOKING SOUTH TOWARD ENTRANCE

height. The walls of this chamber are made of smooth stones and painted red.

From this chamber is a third doorway (see *c*, plate VI, 1), 3 feet high, 2.2 feet long, and 2.8 feet wide, with a step .75 feet high. This doorway is immediately under the front wall of the temple, and leads into the main part of the structure, which is cruciform and composed of four arms or galleries (see plate VII, 2, and plate VIII). Inside of the door the roof of the western arm is 6 feet above the floor for a distance of 4.65 feet, where it rises to a height of 8.3 feet, which is the height of the eastern, northern, and southern arms. This western arm is 8.35 feet long from the doorway to the junction of the other arms, and 3 feet wide. At the point of union of the four arms is a depression in the floor, as seen in the cross-section (see also plate VIII), about 4.4 feet from north to south, 3.25 feet from east to west, and 1.25 feet deep. There is a step into this depression, as one enters from the western arm, which is .85 feet deep from the floor.

The head of the cross, or eastern arm, is 7.15 feet long and 4.7 feet wide. The northern arm on the eastern side is 20.2 feet long and 4.7 feet wide, and the southern arm on the eastern side is 20.3 feet long and 4.7 feet wide. The total length of the tomb from north to south, which runs parallel to the temple above, is 45.2 feet, and from the doorway at the entrance of the courtyard to the inner end of the eastern arm, the distance is 44.7 feet, there being but little difference in the two dimensions.

In these four galleries the walls are in a perfect state of preservation, and contain the best stonework to be found in Mitla. The large stones are neatly joined; in some cases it is difficult to find the joints. The general method of construction

is shown in the drawing of the south wall of the western arm in the cross-section of the tomb (*e*, plate VI, 1). The north wall of the western and southern arms is shown in *d* of the same illustration. Plate VI, 1*a* shows the eastern walls of the northern and southern arms, and *b* the opposite walls of the same galleries. As in the temples the walls have grecque panels, but the designs are cut in slabs as in the cruciform tomb at Xaaga, and not in the mosaic style as in the lower chamber near the entrance, and in the temple. There are eleven panels in all, in each of which is a different pattern. The designs in relief are covered with white cement; the inner cutting is painted a bright red in which glisten silver-like particles. This red color is probably from cinnabar. The designs were cut in the slabs after the walls were finished, and were sketched out in black with a blunt implement. In some instances the stone-cutter worked inside of the lines, many of which remain, and may be seen where the cement covering has peeled off; apparently the whole surface was lined off horizontally, as many such lines are found in all the panels. The depth of the design is about an inch, and as in the cruciform tombs at Xaaga and upper Guiaroo, the cutting is beveled. The floor is covered with cement. The roof is composed of large, flat, smooth-faced stones.

Over the center, at the junction of the four arms, is a single large stone on which a design (figure 4) is painted in red lines. This remarkable tomb is now protected from vandalism by an iron gate which is always kept locked. Visitors are admitted only in the company of the local inspector. It is, however, exposed to the elements and during each rainy

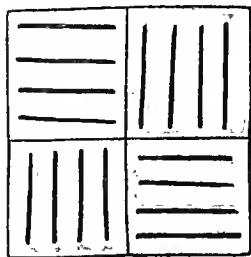


Fig. 4—Design on roof stone over central part of Cruciform Tomb 2.

SAYIL, H - CRUCIFORM STRUCTURES

PLATE V



EAST TEMPLE, GROUP OF TWO CRUCIFORM TOMBS, LOOKING EAST. ENTRANCE TO
CRUCIFORM TOMB NO. 2 AT BASE OF STEPS

season the lower chamber is flooded with water. A light structure should be built over the entrance by the Mexican Government.

XAAGA

The Hacienda of Xaaga comprises the extreme eastern end of the Valley of Mitla, and extends for miles to the eastward. The mountains, in which are the ancient quarries and the Guiaroo groups, form a part of this great estate.¹ The Hacienda building is about three miles southeast of Mitla, and is built on the top of the principal mound. Near the houses 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 a cruciform structure was discovered about thirty years ago. It was first described very briefly by Bandelier, who gives a rough plan of the structure, but no measurements.² The ground-plan and entrance are shown in figures 5 and 6, and a photograph of the entrance is given in plate IX, I. 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 in from the edge of the mound. The floor of the structure is somewhat

¹ The word *Xaaga* is Zapotecan, and is probably derived from *xaguiagaa*, *xani* meaning below; *guia*, mountain; *gaa*, nine; or, "below the nine mountains," as it is just below a high ridge with nine peaks or points which bears the name, in Zapotecan, *Guigaa*, or in Spanish, *Nueve Picachos*. This etymology will be found in the valuable work of Manuel Martinez Gracida, "Catalogo etimologico de las poblaciones del Estado de Oaxaca," *Boletin de la Sociedad de Geografia y Estadistica*, Cuarta epoca, tomo 1, num. 6, 7, and 8, p. 418, Mexico, 1889.

² Bandelier, op. cit., pp. 309-310.

lower than the level of 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 near Mitla during the winter

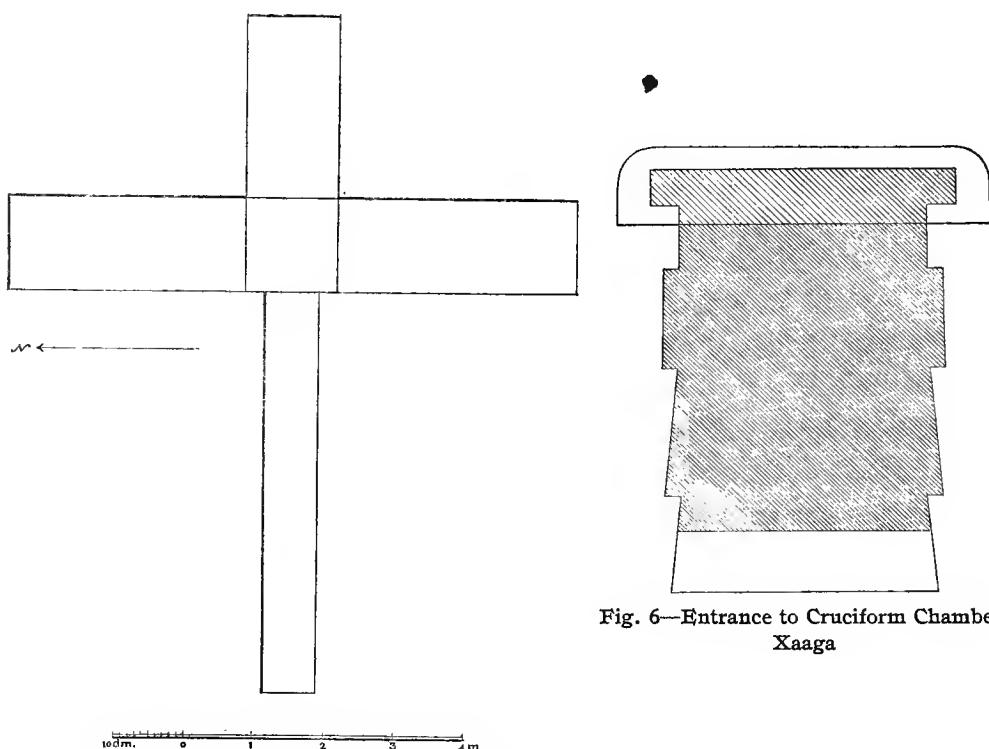
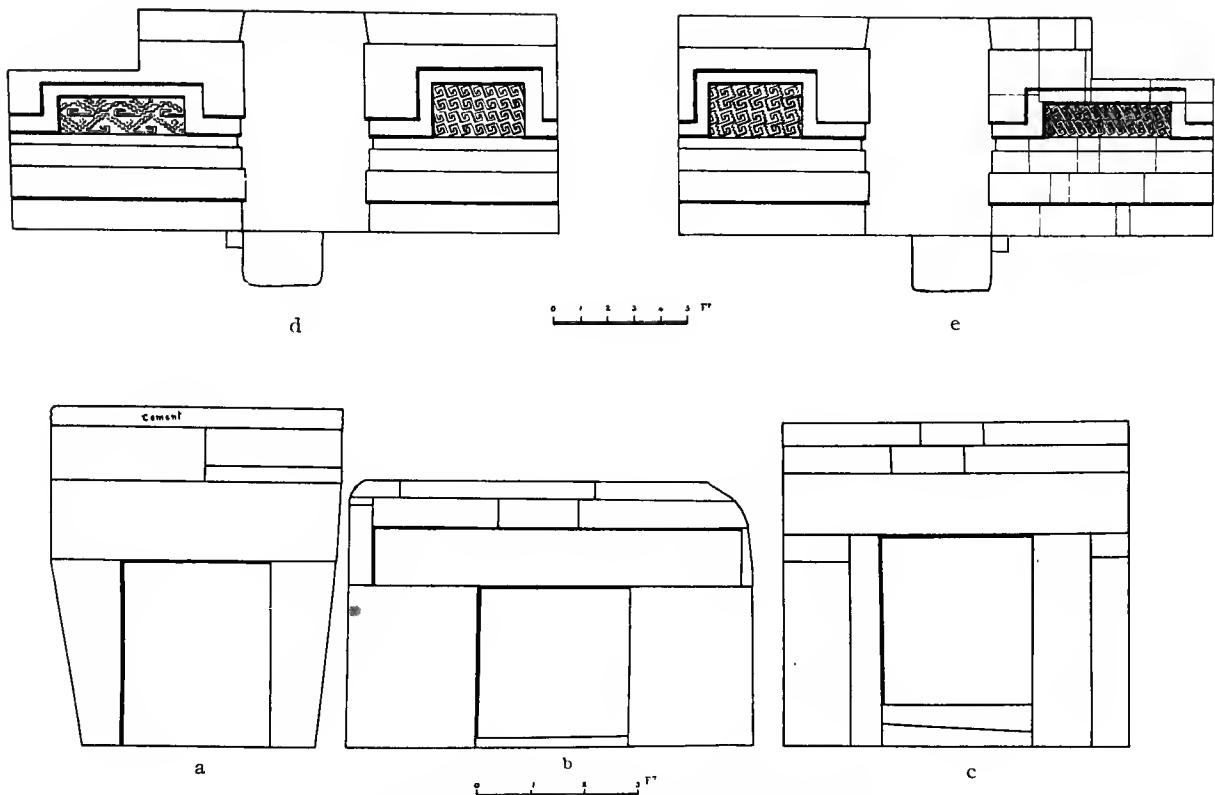


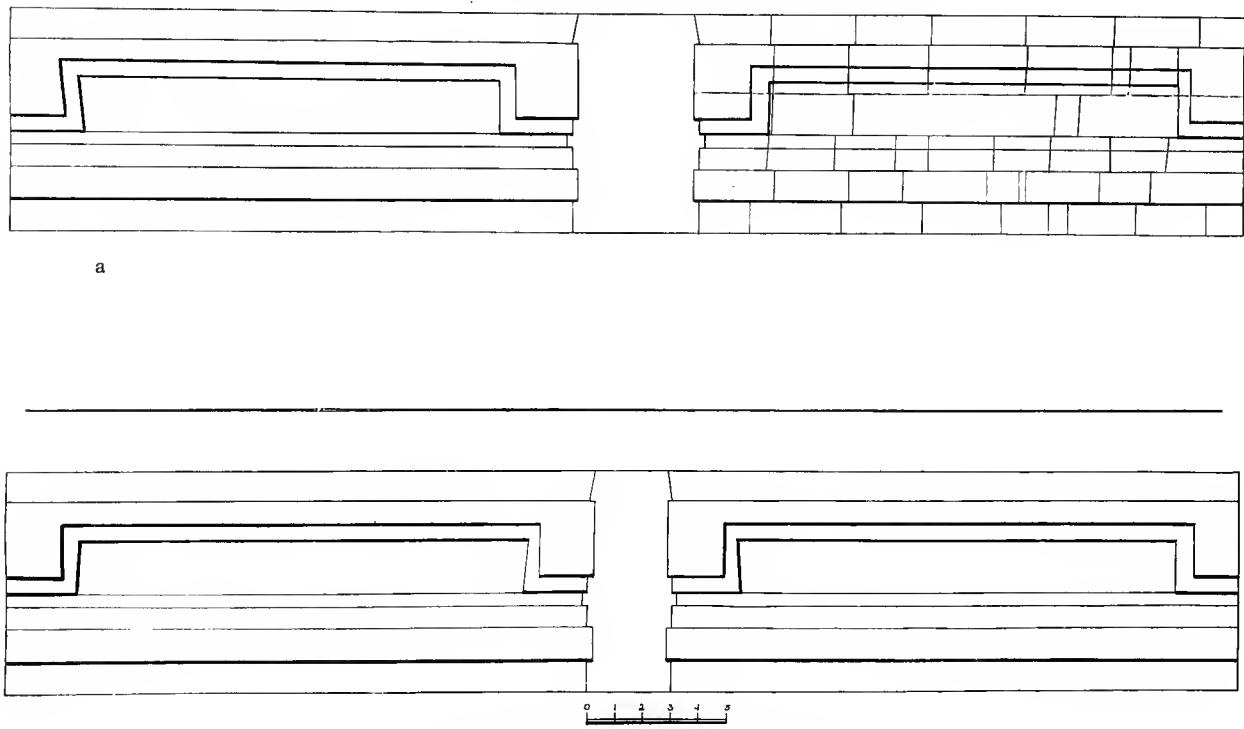
Fig. 5—Ground-plan of Cruciform Chamber, Xaaga

Fig. 6—Entrance to Cruciform Chamber,
Xaaga

of 1901, where the tomb was in the western side of the mound and excavations uncovered stone walls and a filled-in structure. The four chambers which form the cross of the Xaaga structure are covered by large flat roof-stones. Over the western chamber or



1. Doorways and walls of Eastern and Western arms



2. Walls of Northern and Southern arms

CRUCIFORM TOMB NO. 2

base there are four stones which form the 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 5.6 feet from the door the roof rises $2\frac{1}{2}$ inches, the average height throughout the entire structure being 5.6 feet. 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.

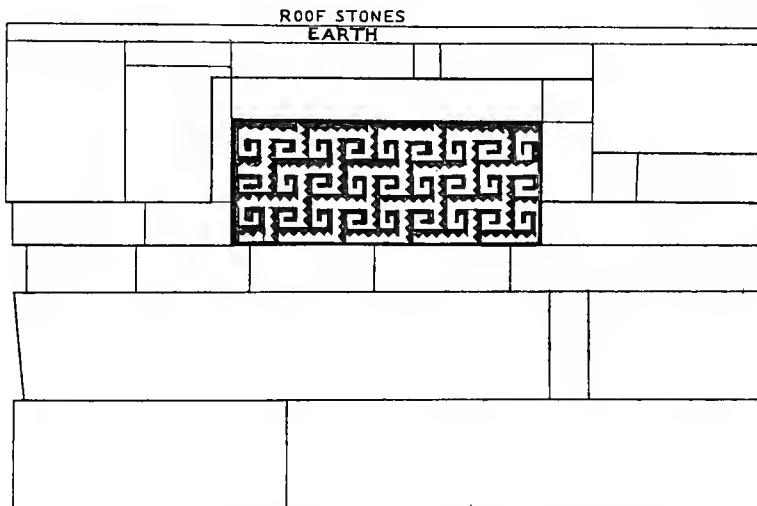


Fig. 7—North wall of eastern arm, Cruciform Chamber, Xaaga

The center of the cross is covered by a single large stone, at which point the floor is depressed 6 inches. The floor of the entire structure is covered with cement 6 cm. in thickness.

The stonework of the eleven walls resembles that of the outer walls of the "temples," being composed generally 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 "temples," and several peculiar to this structure. A section of the north wall of the east arm is shown in figure 7. 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 four to five stones. In the eastern side of the southern arm, at the point indicated in the ground-plan (figure 5), is a rude human face (figure 8), carved out of stone, painted red, which projects about $2\frac{1}{2}$ inches from the wall above the panel. This feature was found in two tombs with mosaic stonework at Mitla. In Tomb 1, two heads were found projecting from the front wall of the vault, one on each side of the door, slightly above the line of the lintel. In Tomb 4, two animal heads were found in the interior of the chamber, one near the northeast corner, and the other in the southwest corner, both projecting just below the roof. Moreover, during the excavation of the substructure in front of the north building of the Group of the Cruciform Tombs in Mitla, a stone carving representing a rude human face was found just below one of the holes which are found at intervals in the façades of the temples. This head fits perfectly into the hole above, and unquestionably belongs there, thus solving the problem of the use of these holes, for which a number of suggestions have been advanced (see plate II).

The dimensions of the chamber are as follows:

Extreme length from east to west.....	32	ft.
Extreme length from north to south.....	26.9	"
Length of base of cross.....	18.9	"
Length of head of cross.....	8.7	"
Length of northern and southern arms.....	11.11	"



Fig. 8—Stone head
in southern arm
of Cruciform
Chamber, Xaaga



1. Entrance, looking east



2. Interior, Northern Arm
CRUCIFORM TOMB NO. 2

CRUCIFORM STRUCTURES OF MITLA 175

Width of northern and southern arms.....	4.3½ ft.
Width of entrance and entire base of cross.....	2.6 "
Width of head of cross.....	4.3½ "
Length of northern, eastern, and southern arms.....	11.7 "
Width of northern, eastern, and southern arms.....	5.2 "

GUIAROO

The general location of the Guiaroo group of ruins is shown in plate XII, 5, being in the depression of the mountain range, directly in the center of the picture, back of the temple. They are situated about four miles from the village of Mitla, and the hill upon which they are located is more than a thousand feet above the valley. The high peak at the left is Guiaroo mountain; *Guiaa* is a Zapotecan word, meaning "high mountain."¹ The Xaaga ruins are at the base of the mountains at the right of the picture. The quarries are to the left of Guiaroo peak, on the mountain.

The hill is covered by a dense underbrush, and there was formerly no road or trail leading up to the ruins from the valley below. There is a fairly good ox-cart road to the base of the foothills, 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 situated 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 is magnificent; the entire Valley of Mitla is spread out before one, and the high mountains of the

²The common term used by the natives in designating the ruins at Guiaroo is *Paderones*, a corruption of the Spanish word *paredones*, "walls." The Zapotecan term for the ruins is *Basul Lyobaa*. *Lyobaa* is the Zapotecan name of Mitla.

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 situated. It is not a desirable location for a large settle-

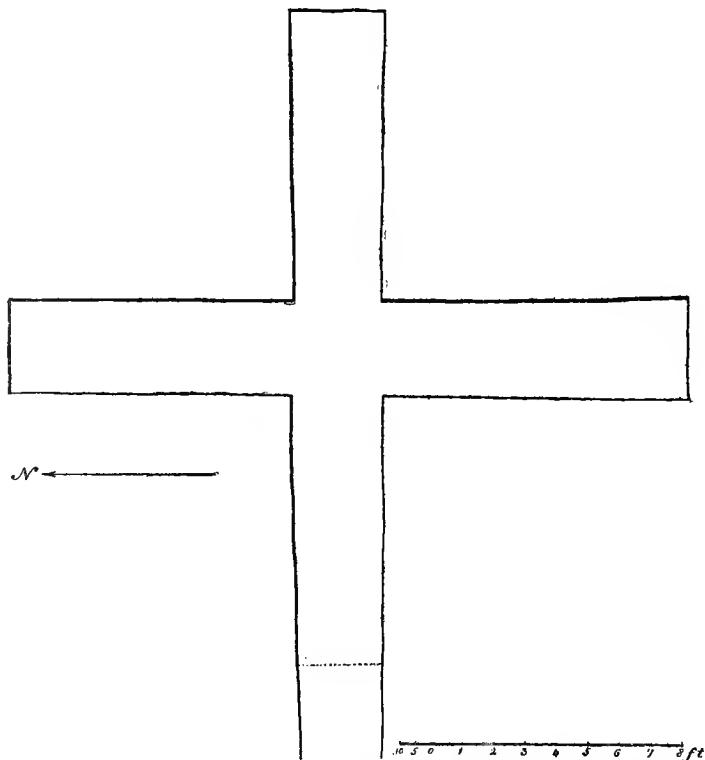


Fig. 9—Ground-plan of Cruciform Chamber, Guiaroo, Lower Group

ment, 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 hills to be used for habitation sites.



INTERIOR OF CRUCIFORM TOMB NO. 2, LOOKING NORTH FROM SOUTHERN ARM, SHOWING DEPRESSION IN THE CENTER

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GUIAROO — LOWER GROUP

The entrance of the cruciform chamber, discovered by Dupaix, is illustrated in plate IX, 2, and the ground plan is given in figure 9. Dupaix's plan is not correct; it shows steps which have never existed, and the cross-section which he gives of the tomb with mosaic panels is absolutely wrong.¹ 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 tombs.

The dimensions are as follows:

Extreme length from east to west.....	24	ft.
Extreme length from north to south.....	22	"
Length of base of cross.....	11.7	"
Length of head of cross.....	9.3	"
Length of northern arm.....	9.2	"
Length of southern arm.....	9.9	"
Width of entrance.....	2.6	"
Width of head of cross.....	3.1	"
Width of end of northern arm.....	3	"
Width of end of southern arm.....	3.2	"
Average height of the chamber.....	4.4	"

¹ Dupaix gives the following description of this tomb: "Under the principal entrance of this building, at a very little depth, is a subterranean sepulcher: 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 ocher. 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."

At the present entrance, which is at the base, 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 IX, 2. The rude stonework of this structure is somewhat similar to that of two small tombs found in the valley, and may indicate the work of the late Zapotecan occupants of Mitla. They resemble also the stonework of the Xoxo and Cuilapa tombs found in the mogotes of the valley south of the city of Oaxaca, where the mosaic treatment of decoration is entirely absent. In the valley tombs near Mitla, however, no funeral urns like the Xoxo and Cuilapa urns were found.

GUIAROO — UPPER GROUP

The great cruciform subterranean chamber now to be described is on the upper part of the hill about one hundred feet above and six hundred feet north of the main group. To the northwest and higher up in the range of hills, about one mile distant, are the old quarries whence were transported, in ancient times, the immense blocks of stone which form the door lintels of the more important temples of Mitla. Many immense quarried stones still lie scattered about at the quarries, while the 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 way between these two points are several large blocks which were evidently being moved to the chamber when the work ceased. The method of



1. Entrance to Cruciform Chamber, looking east. Xaaga



2. Entrance to Cruciform Chamber, looking east. Lower Guiaroo

ENTRANCES TO CRUCIFORM CHAMBERS

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 position in the structure.

The first notice which we have of this splendid structure is given by Ober, who visited it in 1881. Its importance seems to have escaped the attention of subsequent explorers, for it is not mentioned by Bandelier, Seler, or Holmes. Ober gives the following account of the structure: "That the hills 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. Professor Bandelier, sent out by the Archæological 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 sepulcher 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 Sagá, while other dressed rocks are scattered about."¹

In the article on "Oaxaca and its Surroundings," by Dr N. H. Wheeler, published in *Popular Science News* for Janu-

¹ Ober, op. cit., pp. 541-542. In my first paper on this subject, I gave this extract from Ober in a footnote. It seems to have been overlooked by Leon in his book on Mitla, where he ascribes the discovery to Batres. Before undertaking my work at Mitla in 1900, I had been presented with a plan of this Guiaroo tomb, by Dr N. H. Wheeler. Hence, to correct any wrong impression as to the credit of the discovery of this most important structure, Ober's account has been included in the text of this revised study.

ary, 1896, this cruciform structure is mentioned; and in a small brochure issued later by the Mexican National Railway, 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, of the structure

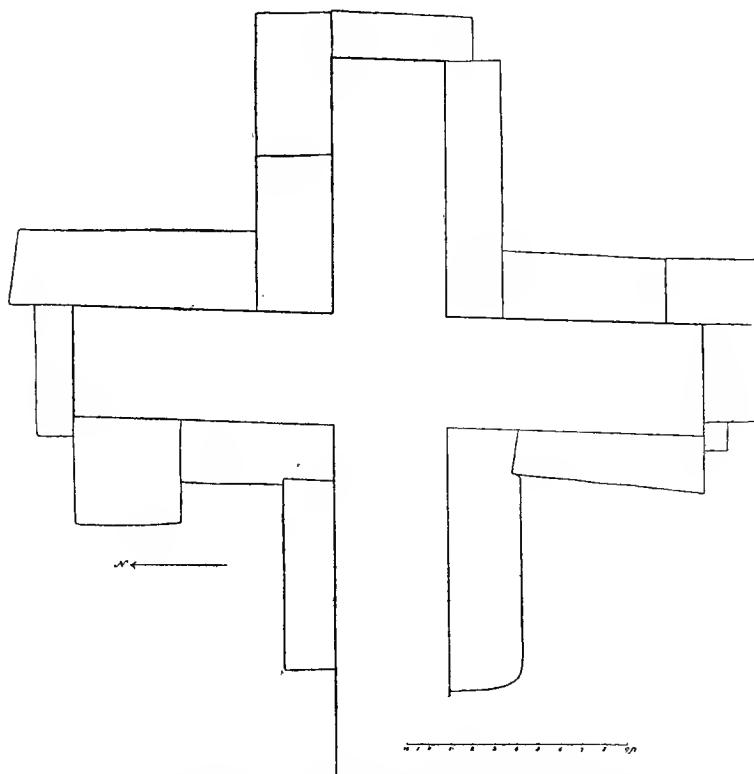
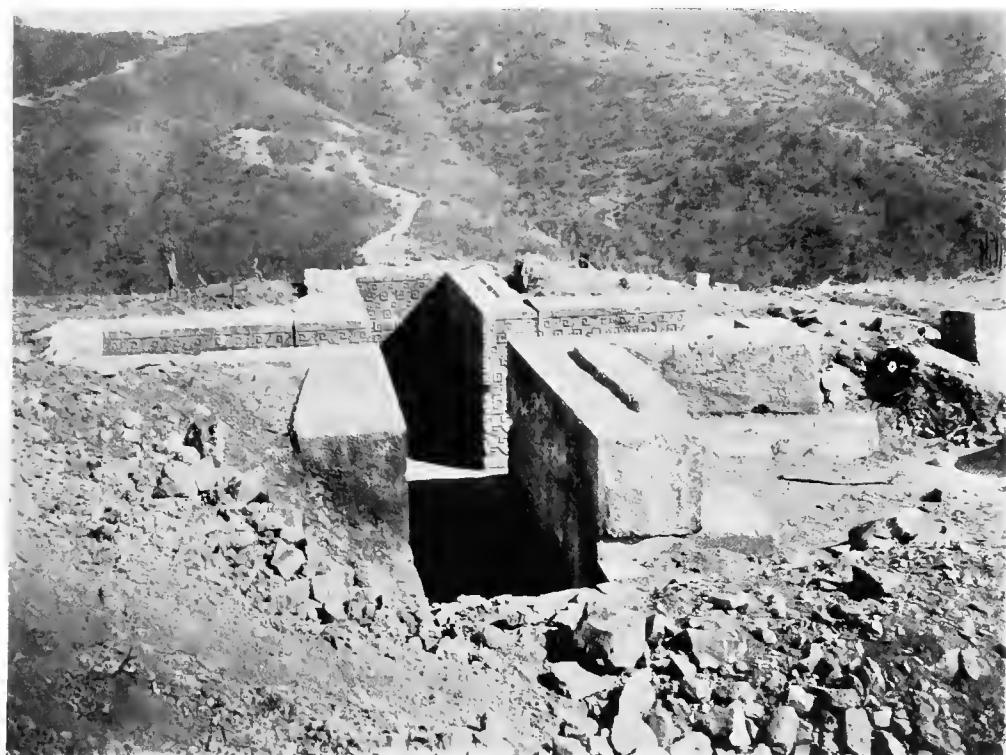


Fig. 10—Ground-plan of Cruciform Chamber, Guiaroo, Upper Group

is given. The chamber was covered by forest, and half filled with débris, composed of rubble stone and earth. The view in plate X, 1, was taken before clearing out the débris, and gives a good general idea of the cruciform plan of the chamber. In the



1. Looking southeast, before excavation



2. Looking east, after excavation

CRUCIFORM CHAMBER OF UPPER GUIAROO

background, to the left, the zigzag bridle-path is seen, which leads into the region occupied by the Mixe Indians, and is also a highway, but not the main one to Tehuantepec.

Figure 10 is the ground-plan, 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 débris 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 XI, 2, near the upper left-hand corner. The large stones were pinched into place by means of the holes in the back of them (plate XII, 1), and the perfect joining of these immense blocks reveals the absolute mastery of the stoneworker'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 be-

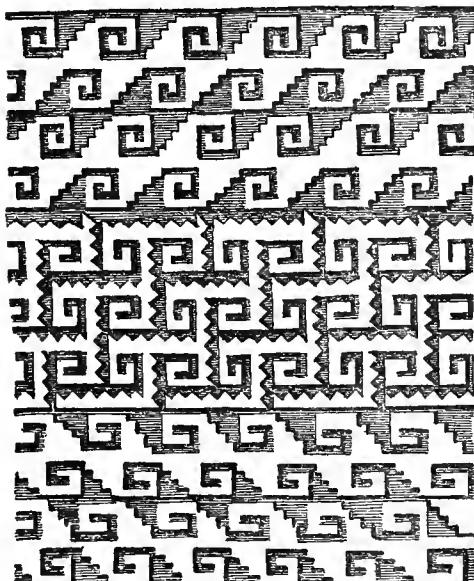


Fig. 11—"Mosaic" patterns, wall of Cruciform Chamber, Guiaroo, Upper Group

fore the cutting of the mosaic patterns. Stone chisels 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 11. Whether the grecques are purely decorative or are conventional symbols is difficult 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 XI, 1). 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 débris, a small section of the design still preserves, on the part in relief, a very thin coating of cement with outline of grecques painted red. The floor of the chamber is not cemented, another proof of its unfinishd state.

In plate XII, 2, are shown 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 X. 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 ft.
Extreme length from north to south.....	28.6 "
Length of northern, eastern, and southern arms.....	11.7 "



1. Looking south, showing plain wall at end of Southern Arm



2. Looking north, inside of structure

CRUCIFORM CHAMBER OF UPPER GUIAROO

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Width of northern, eastern, and southern arms.....	5.2 ft.
Length of western arm to end of sculpture.....	11. "
Width of western arm.....	5.2 "
Height of chamber.....	7.5 "
Size of largest block, southern wall of western arm.....	12.5 by 3.3 by 3 "
Total number of stones employed.....	52

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 ft., center, 2.15 ft., and lower, 1.9 ft.

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 from the surface; two stone heads were excavated near by, one of which is shown in figure 12; it is well carved and is one of the finest pieces of stonework from Oaxaca.

Fig. 12—Stone head, found near Cruciform Chamber, Guiaroo, Upper Group

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 about $5\frac{1}{8}$ inches high and 4 inches wide. The projection at the back shown in the drawing has served to fasten the head in a stone wall, either



in the outer or inner wall of a tomb. This point I have already noted in the description of the chamber at Xaaga.

This concludes the description of the cruciform structures at Mitla. There are other covered or subterranean chambers in the form of a cross in Oaxaca and Puebla, which I shall briefly notice. I have been informed by Sr Manuel Martinez Gracida, who is perhaps the best authority on the archæology of Oaxaca, that there are cruciform tombs at Chilchotla, District of Teotitlan del Camino, in the region now occupied by the Mazatecs, and at Otitlan, District of Tuxtepec, in the region occupied by the Chinantecs. These places I have not been able to visit, and I do not know the style of architecture, nor whether they have the mosaic treatment of the walls. I was informed by Dr N. H. Wheeler of the discovery of a cruciform tomb at Ejutla. I visited this place in January, 1902, but the structure had been so covered by débris that I was not able to make any careful survey or observations as to its character. It is situated in the largest and most imposing mogote in the Ejutla group in the center of the village, and must have been erected as a tomb of some important personage. From the character of the stones, the presence of stucco decorations on the outer wall, and the size of the mogote, it seems evident that it was one of the largest burial structures in this part of Oaxaca. A slab found near the front of the tomb, which faces south, which probably served to seal the entrance, bears carving of the Zapotecan type. I secured several small objects of clay and a string of shell and amazonstone beads, said to have been found with a skeleton in one of the arms of the structure. M. Leon Diguet in "Notes d'Archéologie Mixteco-Zapotèque," read before the



1. Excavation made outside of the chamber, looking northeast



2. Large blocks of stone lying south of the chamber
CRUCIFORM CHAMBER OF UPPER GUIAROO

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Société des Américanistes of Paris, November 8, 1904, calls attention to the Ejutla cruciform structure. He states that "the mogote of Ejutla is of hemispherical form, six meters in height, with a diameter at the base of forty meters, covering in its center a cruciform crypt." In his description of the interior he gives no measurements.¹ I do not know when Diguet made his observations. If later than my visit, the débris must have been removed from the place; this is very probable, as the mound is in the backyard of one of the houses in the town, and the tomb would make an excellent storehouse for the owner of the property.

Another cruciform chamber was discovered many years ago and was described by Dupaix. I quote here from the translation of Dupaix's account as published by Bancroft. "At Chila, in the extreme southern part of Puebla, is a hill known as La Tortuga, on which is built an unterraced 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

¹ I give here what Diguet writes concerning the Ejutla tomb: "Sur la section ainsi mise à jour, on voit clairement que l'édifice fut agrandi à trois reprises différentes. Cet accroissement successif est constaté par des couches de stucage disposées parallèlement dans la construction. Le mogote d'Ejutla, de forme hémisphérique, d'une hauteur de six mètres, d'un diamètre de base de quarante mètres, recouvre en son centre une crypte cruciforme d'assez vaste dimension, mais qui selon toutes probabilités été retouchée, elle aussi, après coup, quand on a augmenté les proportions de l'édifice.

"Elle offre cette particularité que la partie centrale, orientée de l'E. à l'O. (et dont la moitié seule existe aujourd'hui), est en forme de nef avec une voûte ogivale, les deux autres chambres formant transept paraissent seulement avoir en une voûte à peine cintrée, presque moitié plus basse que le reste. Le fond de la nef, c'est-à-dire la partie qui

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 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

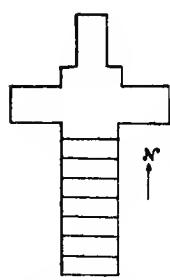


Fig. 13—Ground-plan, Cruciform Chamber, Chila.

of the three sides, thus giving the whole tomb in 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, figure 13.)

I was at first inclined to place some importance to the fact that this structure faced the south as does one of the cruciform chambers at Mitla. The explorations made at both the Mitla

regarde l'Orient, présente sur sa paroi, à mi-hauteur, une série de petites niches de différentes grandeurs et de formes variées. A proximité de ce fond et sur les côtés, se trouvent deux grandes niches creusées dans la paroi latérale. Les parois de la crypte laissent voir distinctement la brique crue de la construction, sans trace d'un revêtement. L'ogive du haut ne paraît pas avoir été construite, mais taillée, du moins en partie, dans les assises de briques crues que l'on avait ajoutées lors d'une seconde augmentation de l'édifice. C'est du moins ce que prouverait, à mon sens, une trace de stucage, visible encore à une certaine hauteur dans le mur. . . .

"Toute la partie extérieure mise à jour a montré la décoration dont était ornée la base de l'édifice. Sur une hauteur de quatre-vingts centimètres, des pierres calcaires taillées formaient le soubassement se ce socle. Il se continuait en hauteur par une série de frises en stuc épais, parfaitement travaillé. Une seule de ces frises présentait un motif d'ornementation." — *Journal de la Société des Américanistes de Paris, Nouvelle Série, tome II, 1905, pp. 114, 115.*

¹ Bancroft, *Native Races of the Pacific States*, IV, Antiquities, chap. IX, pp. 465, 466.

ruins and in the Valley of Oaxaca, show that there was, with one possible exception, no fixed direction in which the entrances of the tombs must face. The Zapotecan tombs discovered in Xoxo by the Loubat Expedition all faced the west, but there may be tombs there which we did not discover facing in other directions. In Cuilapa, for example, we found under one cement covered platform, slightly raised above the ground, three tombs, facing respectively, south, west, and north, while in some of the other mogotes tombs were found facing west. Thus the point which I raised in my first publications on this subject does not, in the light of later explorations, obtain.

The massiveness of the construction, and simple and chaste ornamentation, place the Mitla cruciform structures in a class unapproached by any other known burial chambers in ancient America. The workmanship revealed in the stonework, the elegant precision with which the stones are laid and carved, is not equaled in any of the Mayan ruins. However, as noted by Holmes,¹ the geometric fretwork mosaics differ from the great façades of the Mayan 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." This method of construction brings the Mitla temples, cruciform chambers, and smaller tombs into relationship with the Mayan ruins. So far as I am aware, outside of the Mayan territory no other group of buildings with the exception of Mitla has this mosaic style of stonework. In plate XIII I have brought together side by side a view of a section of the so-called

¹ Holmes, *op. cit.*, pp. 247, 248.

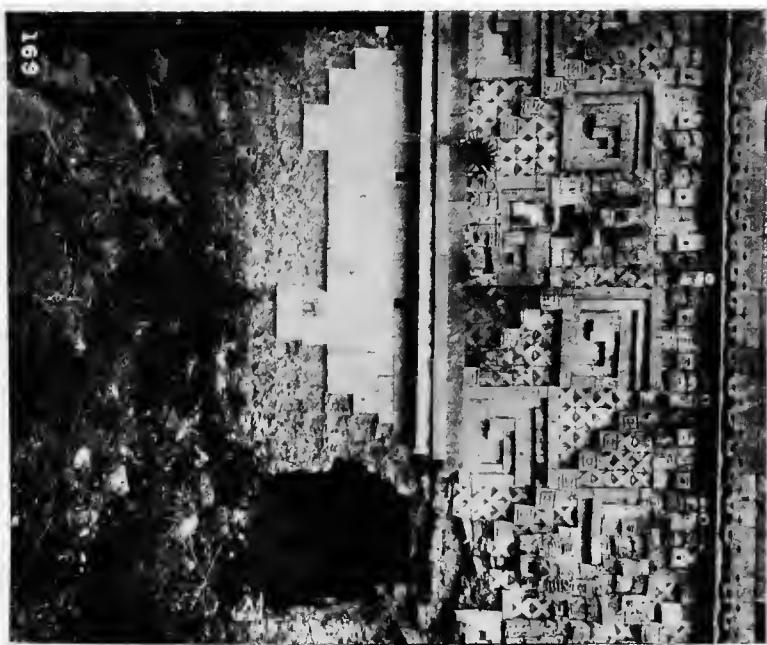
"House of the Governor" in Uxmal, Yucatan, and a picture of the northern end of the "Hall of the Mosaics" in the Temple of the Columns at Mitla, which will illustrate the close resemblance in the construction. There is one point of variance, however, which is quite noteworthy, namely, in the roof. In the whole Mayan area the style of roof is what has been called the Mayan or triangular arch, whereas in the Mitla buildings and tombs 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 we have seen the mortar sockets in which formerly rested the ends of wooden ceiling beams. Unfortunately these sockets have been filled in by the Inspector of Ancient Monuments in his repairs and restorations at the ruins.

In the Mayan remains outside of Yucatan, for example in Palenque, where much stucco was employed in embellishing the rough stone walls of the buildings, and at Copan, Honduras, where sculptured monoliths are the chief feature, this mosaic work is not found. Stucco was sparingly used in Yucatan, and

¹ Stephens, *Incidents of Travel in Yucatan*, II, p. 398, 299. His description is interesting, and as the ruins of Tuloom have not been visited by archaeologists 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 temples.

SAVILLE—CRUCIFORM STRUCTURES

PLATE XIII



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Section of facade of "House of the Governor," Uxmal "Hall of the Mosaics," Temple of the Columns, Mitla
WALLS AT UXMAL AND MITLA

there are but slight traces of it in Mitla. Moreover, there is but little separate stone sculpture in Yucatan, and, with the exception of small stone idols and amulets, none is found at Mitla. The absence of carved stone monoliths and stelæ at Mitla is striking, when we consider the great monolithic lintels of one of the temples (where there are single stones nearly twenty feet in length), and the great size of the separate stones used in the construction of the upper Guiaroo structure.

In conclusion, it may be said to be highly probable that the Mitla and 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 done by the Nahuas, and that the Zapotecan occupancy was the result of conquest. This is borne out by the character of the mural paintings at Mitla, which are Nahuan in character. Furthermore, our extensive excavations carried on around the principal buildings and in different parts of the Mitla valley, failed to bring to light any traces of Zapotecan pottery or the characteristic features of the tombs discovered in the Oaxaca valley. The material from the vicinity of Mitla resembling Zapotecan workmanship has all been found on or near the surface of the ground.

Regarding the significance of the cruciform shape of the Mitla tombs, which are by far the most elaborate and important burial chambers in the New World, both in size and beauty of stonework, we may state that the cross is not uncommon in ancient Mexican remains, and had a deep significance with the ancient peoples of this portion of our continent. Brinton writes concerning the cross in ancient America as follows: "As the

emblem of the winds who dispense the fertilizing showers it is emphatically the tree of our life, our subsistence and our health. It never had any other meaning in America, and if, as has been said, the tombs of Mexicans were cruciform, it was perhaps with reference to a resurrection and a future life as portrayed under this symbol, indicating that the buried body would rise by the action of the four spirits of the world as the buried seed takes on a new existence when watered by the vernal showers.”¹ Diguet attributes the cruciform plan to the cult of the Nahuan deity Tlaloc, the God of Rain. Undoubtedly the form of a cross in these structures was connected with the cult of Quetzalcoatl, and is proof of the widespread range of the Nahuan pantheon, for we find his worship throughout the area of Mayan culture, as well as in different parts of Mexico.

COLUMBIA UNIVERSITY
NEW YORK CITY

¹ Brinton, *Myths of the New World*, p. 116.

